

2022

China Airlines Sustainability Report



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Guidance for Reading the Report



COVID-19 Icon
Explanation of actions implemented in response to the pandemic



2050 Net Zero Carbon Emissions Special Column Icon
Explanation of actions implemented to attain net zero carbon emissions by 2050



Event Icon
Explanation of special incidents



Performance Icon
Represent our achievements and performance



GRI Icon
The corresponding GRI disclosure items



Refer to Icon
More information on other pages of the Report



ESG Icon
The icon is used to specify environmental / social / governance issues



China Airlines



Mandarin Airlines



Tigerair Taiwan

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1 Sustainability Management

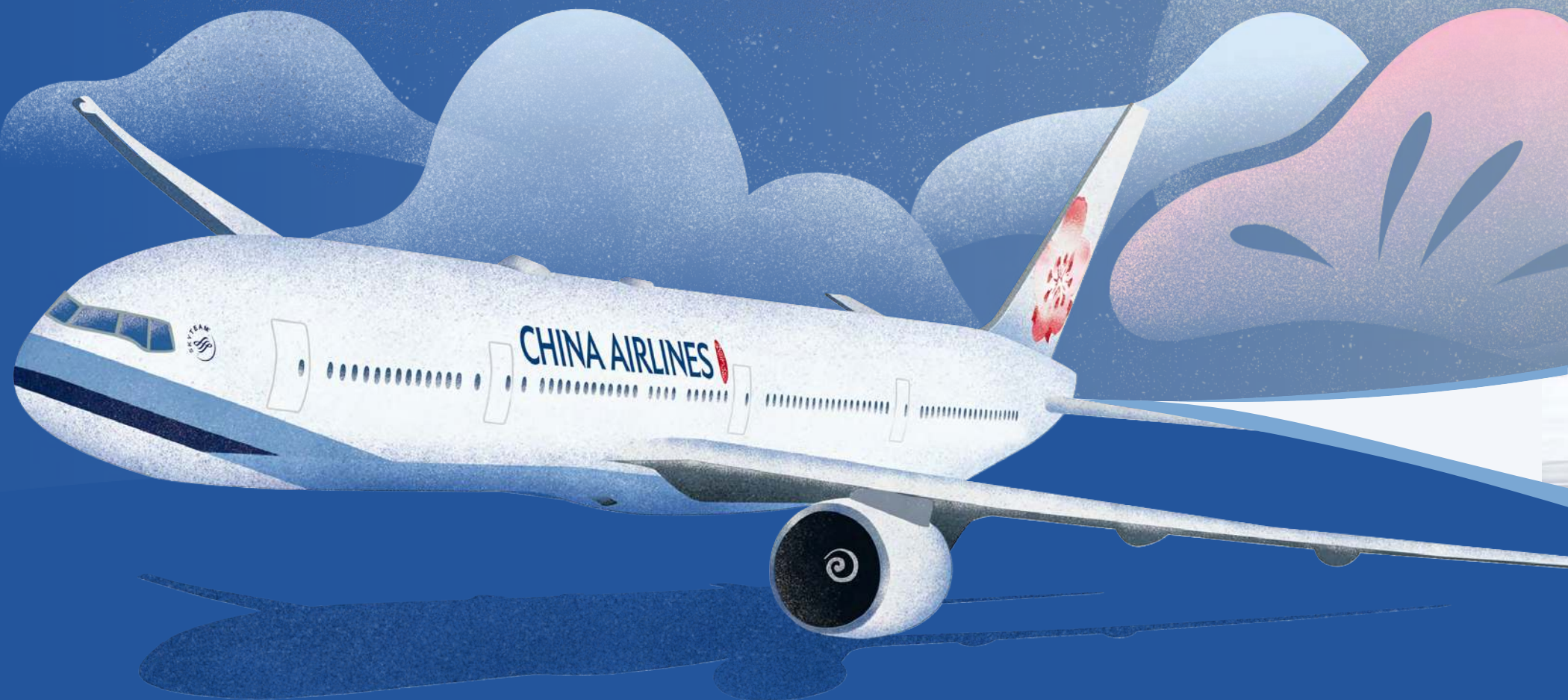
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About the Report (GRI 2-1, 2-2, 2-3, 2-5)

China Airlines (hereinafter referred to as "CAL") publishes corporate sustainability reports and discloses related information on its corporate sustainability website on a regular basis to maintain good and smooth communications with all stakeholders. During the novel coronavirus disease (COVID-19) pandemic, CAL remained committed to its mission and sense of responsibility for corporate sustainable development, and continued to promote sustainable environmental, social, and governance (ESG) practices. In the midst of the global pandemic, CAL continued to employ a flexible business strategy of focusing more on cargo than passenger operations, which demonstrated the resilience of its sustainable business operations. CAL provided assistance with multiple chartered and quasi-chartered passenger and cargo flights

and took on the burden of the transportation lifeline for Taiwan's economy and the fight against the pandemic. CAL became the only operator that sustained profits for three consecutive years despite the impact of the pandemic. CAL also continuously focused on climate change issues and became the first and only signatory of the Task Force on Climate-Related Financial Disclosures (TCFD) in the domestic aviation industry. To attain the target of net zero carbon emissions by 2050, CAL implemented the first large-scale carbon neutrality action with the "Net Zero Carbon Flights" in Taiwan in 2022 to jointly protect and pass on sustainable development of our home planet.



Cover Story



We used the return of passenger transportation in the post-pandemic era as the main theme of the design. Patterns of auspicious clouds trail from the empennage of the aircraft and famous sights from across the world adorn the design. They symbolize CAL's routes across the globe and communicates the idea that CAL has and always will take passengers to their dream destinations and into unknown excitement and adventures.

The cabin crew stretch out their arms as an invitation to everyone who yearns to travel. Join us and create unique and wonderful memories. Start your journey now! Collect and create your own travel stories from all corners of the world.

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Reporting Principles & Standard Disclosures

The Report is prepared in accordance with the International IR Framework published by the International Integrated Reporting Council (IIRC), Rules Governing the Preparation and Filing of Sustainability Reports by TWSE Listed Companies, the GRI Standards Core Option published by the Global Sustainability Standards Board in 2021, the sustainability metrics of the Sustainability Accounting Standards Board published by the IFRS Foundation, Task Force on Climate-related Financial Disclosures (TCFD), and the United Nations (UN) Global Compact. The GRI Content Index, SASB Comparison Table, and UN Global Compact Comparison Table are described in the ESG Data and Appendix.

Basis of Report and Guidelines

- ✓ GRI Standards of the Global Sustainability Standards Board
- ✓ Sustainability metrics of the Sustainability Accounting Standards Board (SASB) by the IFRS Foundation
- ✓ Task Force on Climate-Related Financial Disclosures (TCFD)
- ✓ United Nations Global Compact
- ✓ United Nations Sustainable Development Goals (SDGs)
- ✓ Rules Governing the Preparation and Filing of Sustainability Reports by TWSE Listed Companies
- ✓ Sustainable Development Best Practice Principles for TWSE/TPEX Listed Companies
- ✓ Corporate Governance 3.0
- ✓ Sustainable Development Guidemap for TWSE and TPEX Listed Companies

Note: The contents of the report follow the 8 major reporting principles of the GRI Standards: Accuracy, balance, clarity, comparability, integrity, sustainability, timeliness, and verifiability.



Report Period & Boundary

• Report Period

CAL discloses information from January 1, 2022 to December 31, 2022 in accordance with the GRI Standards. Some material information up to April 30, 2023 is also reported.

• Report Boundary

Considering commercial correlation between CAL and its subsidiaries and the financial materiality (Note), the Report discloses all information with a focus on CAL while information on Mandarin Airlines and Tigerair Taiwan is also disclosed and specified in certain parts of the Report. In consideration of future changes in the operations of the organization (e.g., mergers, acquisitions, and disposal), where it is necessary to display information for minority stakes in which CAL does not hold a controlling stake, a consistent methodology shall be adopted for information disclosure.

Note: China Airlines, Mandarin Airlines, and Tigerair Taiwan account for the 96% of the consolidated revenue.



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Guarantee of Truthful Reporting

Internal Audit

All data and information disclosed in the Report are provided by the responsible departments of CAL, included in the internal control system in accordance with the procedures for the preparation and verification of the Corporate Sustainability Governance Regulations and quality documents, proofread and examined by the Executive Secretary (Corporate Development Office), Corporate Sustainability Committee, submitted to the Chairman for review and approval, and then reported to the Board of Directors according to CAL Sustainable Development Best Practice Principles.

External Assurance

The Report has been verified by KPMG Taiwan in accordance with the GRI standards and the limited assurance of ISAE 3000. The truthfulness of the Report is guaranteed. Please refer to the ESG Data and Appendix for the Independent Limited Assurance Report

Data Quality Management

Financial data in the Report and data relating to ISO quality, information security, privacy information, environmental and energy management, greenhouse gas emissions, and occupational safety and health have been certified or verified by independent third parties.

Financial Data	Deloitte Taiwan
ISO 9001 Quality Management System	DNV GL
ISO 27001 Information Security Management System	TCIC
ISO 27701 Privacy Information Management System	TCIC
ISO 14001 Environmental Management System	DNV GL
ISO 50001 Energy Management System	DNV GL
ISO 14064-1 Greenhouse Gas Emissions	DNV GL
ISO 45001 Occupational Health and Safety Management System	SGS
TOSHMS Taiwan Occupational Safety and Health Management System	SGS



Publication History

This Report is published in both Chinese and English every year and available on the CAL's corporate sustainability website. The dates of release are as follows:

First edition release date	August 2014
Previous edition release date	June 2022
Current edition release date	June 2023
Next edition release date	June 2024

Note: CAL notifies GRI of the use of its Standards and the statement of use after the release of the Report each year.



Feedback

If you have any suggestions or questions about this report, please contact:

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Corporate Sustainability Website

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Letter from Management

(GRI 2-22)



Create Business Opportunities with New Ideas

Since the start of the pandemic, CAL has taken on the role of transporting pandemic prevention supplies such as masks, rapid test kits, and more than 120 million doses of COVID-19 vaccines between Europe, the Americas, Asia, and Oceania. Our commitment to providing high-quality transportation for medicine and outstanding services have not been hindered by the pandemic and we have worked hard with manufacturers of high-tech products and cargo distributors to ensure that all cargo shipments arrive at their destinations on time. CAL's performance in the global cargo transportation market in the two previous years was spectacular. As the world shook under the impact of the pandemic, we made full use of our advantages with continuous cargo flights that ensured non-stop delivery and maintained the economic connection between Taiwan and the world. CAL began developing cold chain logistics for pharmaceuticals in 2013 and took the lead in launching containers with active temperature control in 2014. CAL became the first aviation company in Taiwan to obtain the IATA CEIV Pharma certification in 2019 and renewed the certification in 2022, which ensured high-quality and stable cold chain transportation services. CAL is a pioneer in Taiwan's air cargo transportation market and has a wealth of experience in transporting precious antiquities, precision instruments, vehicles, large equipment, aviation materials, works of art, live animals, and other special goods.



中華航空
CHINA AIRLINES



Chairman
Su-chien Hsieh

President
Shing-hwang Kao



CAL is the designated carrier for precision instruments and machinery for renowned major manufacturers in Taiwan and abroad. During the pandemic, CAL quickly shifted its focus to cargo operations and fully utilized the capacity of its cargo aircrafts and belly cargo capacity on passenger aircrafts to attain outstanding cargo transportation records in the past two years. CAL also received international awards such as the Air Cargo Excellence Award from Air Cargo World and Air Cargo Executive of the Year Award for its professional services. CAL recently introduced the next-generation 777F cargo aircrafts to create a fleet of 22 aircrafts with the existing 747-400F cargo aircrafts. CAL continues to expand cargo operations and now serves 36 destinations across the globe.

As countries reopen, passenger transportation volume gradually recovered in the fourth quarter of 2022. The IATA estimates that the number of passenger flights in 2023 will return to 66% of pre-pandemic levels in 2023 and will fully recover in 2025. CAL continues its fleet renewal with the replacement of 737-800 by A321neo and replacement of A330-300 by 787-9 to target business opportunities in the recovery of the aviation market and optimize the flight network. We shall create business opportunities with new ideas to respond to the gradual recovery of the passenger travel market and business requirements.

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Sustainability Concepts and Implementation

CAL has always supported the United Nations Sustainable Development Goals (SDGs) and incorporated them into the Company's core philosophy and sustainability strategies to actively promote ESG and sustainability actions. During the pandemic, CAL took on its role of transporting pandemic prevention supplies, emergency medical care supplies, and COVID-19 vaccines. We transported a total of 120 million doses of vaccines across the world. CAL also obtained the IATA CEIV Pharma certification, which demonstrated CAL's capacity for high-quality transportation of pharmaceuticals. CAL's sustainability performance improves each year and the Company received the highest rating in the 2022 Dow Jones Sustainability Indices (DJSI). CAL distinguished itself among the 57 aviation companies included in the evaluation and ranked first overall in the global aviation industry. According to the results of the DJSI evaluation, CAL received the highest score in the global aviation industry in environmental and social categories. CAL received the highest possible score for environmental reporting, social reporting, human capital development, corporate citizenship and charity, passenger safety, sustainable marketing, and brand awareness, and received the highest score in the aviation industry in 10 categories including the environmental policy and management systems, efficiency of business and ecology, climate strategy, food waste and general waste disposal. The scores showed that CAL has successfully integrated its business strategy with sustainability and showed the sustainability of Taiwan's transportation industry to the world.

CAL has received wide acclaim in Taiwan and foreign countries for its long-term commitment to ESG and sustainability. In 2022, CAL received the "National Sustainable Development Award" from the Sustainable Development Committee of the Executive Yuan, the "National Enterprise Environmental Protection Award - Master Award" from the Environmental Protection Administration, and Silver Class in the S&P Global 2022 Sustainability Yearbook. CAL has also been selected consecutively as a constituent stock of the FTSE4Good Index Series and Taiwan ESG Index, and received recognition in the Global Corporate Sustainability Awards (GCSA) and Taiwan Corporate Sustainability Awards (TCSA). CAL pays close attention to climate change. We became Taiwan's first airline to sign and adopt the Task Force on Climate-Related Financial Disclosures (TCFD) and we published the first TCFD independent report in the global aviation industry. CAL also signed the Science-Based Target initiative (SBTi) and plans to complete target setting in 2023. In recent years, CAL accelerated the introduction of next-generation aircrafts that

are more environmentally friendly such as 777-300ER, A350, A321neo, 777F, and 787-9, optimized flight operations and ground service efficiency, used sustainable aviation fuel, set up renewable energy, enhanced aircraft repairs and performance maintenance, reduced the weight of aircrafts, and developed electric vehicles. We expanded our ESG sustainability management to the Group and the supply chain, and focused on improving flight efficiency and reducing the overall carbon footprint of operations to attain the highest carbon efficiency in the Asia Pacific aviation industry and actively pursue the goal of net zero carbon emissions by 2050.

CAL Takes to the Sky Against All Difficulties

As the global pandemic subsides, CAL continues its fleet renewal to increase market competitiveness. In addition to the brand-new 777F cargo aircrafts, CAL added brand-new A321neo narrow-body passenger aircrafts and plans to purchase 16 Boeing 787-9 passenger aircrafts to expedite business growth in the post-pandemic era. CAL provides services with a brand-new fleet and continues innovations to optimize the passenger experience such as upgrading the cabins of the 737-800 fleet to the first "in-flight wireless streaming video service" in the domestic aviation industry. Compared to narrow-body aircrafts of the previous generation, the A321neo fleet reduces fuel consumption by 15-20%, noise by 75%, and NOx emissions by 50%. It is also equipped with a cargo loading and unloading system, which increases cargo volume by 10-20%, free high-speed Wi-Fi text messaging, and upgraded cabin software and hardware services. When the eight new A321neo aircrafts were delivered to Taiwan, CAL made arrangements to use sustainable aviation fuels, as it did for A350 aircrafts to protect the environment. Sustainable aviation fuels reduce carbon emissions by 8% when compared with traditional fuel. CAL takes real actions to save fuel and reduce carbon emissions to support its commitment to net zero emissions by 2050, reduce greenhouse gas emissions, and protect the environment. CAL optimizes the expansion of routes to target the business opportunities in the economic recovery. We actively develop potential destinations in Southeast Asia and restore routes to Northeast Asia to satisfy citizens' demand for travel. We also gradually restore long-haul flights and increase the revenue from the six freedoms of the air. CAL is ready to take to the sky against all difficulties in the post-pandemic era.

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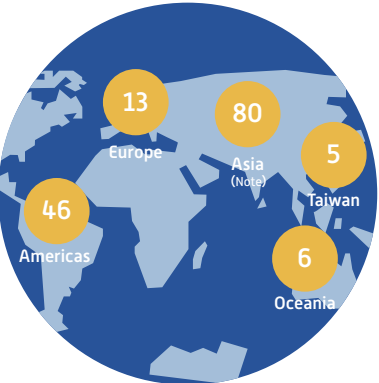
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Business Overview (GRI 2-1, 2-6)

CAL (2610) is the largest airline in Taiwan. Based in Taiwan Taoyuan International Airport, CAL mainly provides international passenger and freight air transport services. CAL has two subsidiary companies: Mandarin Airlines (serving domestic and regional markets) and Tigerair Taiwan (offering a low-cost business model). With three airline companies for market segmentation, shared resources, and mutual support, CAL provides a variety of options for customers. For more information on the business development of the fleet and route network, refer to Business Overview in [CAL's Annual Report](#). Through codeshare agreements with other airlines, the CAL and Mandarin Airlines offered flights to / from 29 countries and 150 destinations

worldwide, and Tigerair Taiwan served 28 destinations and 32 routes in 2022. The aviation industry faced tremendous challenges in 2022. With slowed global economic growth, geopolitical tensions, global inflation due to rising energy and food cost, tightened monetary policies implemented by central banks, resurgence of the pandemic, and interruption of the supply chain due to extreme weather events, and rising oil prices and wages have significantly increased overall operating costs (fuel, manpower, and quarantine costs). CAL Group's consolidated net profit was TWD 2.661 billion, and final profit after tax attributable to the parent company was TWD 2.86 billion. [Refer to 3-2 Operational Achievements](#)

Number of Destinations



Note: Excluding Taiwan

Passenger Load (including the CAL Group)

China	32.7%
Hong Kong	31.1%
Northeast Asia	34.1%
Southeast Asia	38.2%
Oceania	44.4%
America	52.3%
Europe	44.9%



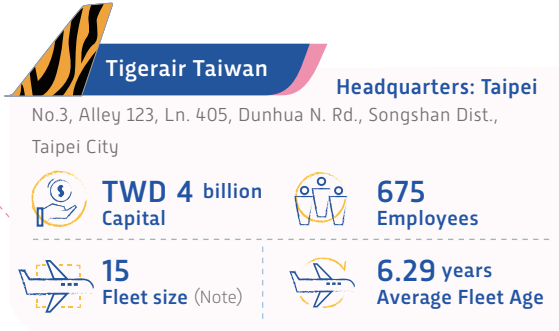
Destinations

(including the CAL Group and code-shared routes)

Destinations	150
Countries	29

Note 1: Statistics as of December 31, 2022.

Note 2: The latest destinations please refer to the [CAL website](#).



Note: As of April 30, 2023. For the latest operating fleet size and age, please refer to the [CAL website](#).

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2022 ESG Performance and Recognition



7th time selected for DJSI Emerging Markets Index

The only Taiwanese airline selected for DJSI Emerging Markets for six consecutive years and ranked in 1st place among the world's airlines.



7th time selected for FTSE4Good Index Series

Selected in the FTSE4Good Index Series for seven consecutive years.



Selected for the MSCI Index

Selected as a constituent stock of the MSCI Global Standard Indexes in 2022.



4th time in GCSA Award

CAL won the Sustainability Reporting Award for the fourth time and won the Gold Award in 2022.



9th time in TCSA Award

CAL won the Taiwan Corporate Sustainability Award for the 9th consecutive year and won the Sustainability Report - Best Report of the Year Award (Service Industry) for 2022.



4th time selected for FTSE4Good TIP Taiwan ESG Index

Selected in the FTSE4Good TIP Taiwan ESG Index for the fourth time.



6th time selected for the Sustainability Yearbook

CAL became the only airline company in Taiwan that was selected for the Sustainability Yearbook for the 6th time, won the Silver Award of the Sustainability Yearbook in 2022, and was ranked among the top 1% among aviation companies in the Sustainability Yearbook in 2023.



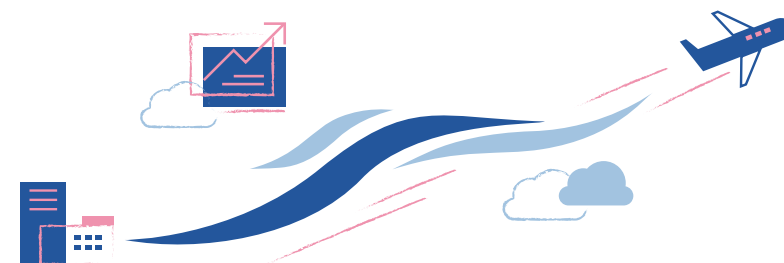
Taiwan Ratings maintained "stable" outlook

Despite the severe challenges to the industry during the pandemic, CAL demonstrated its resilience in operations in 2021 and the EBITDA remained positive, which was a stark contrast to the severe losses sustained by other international airline companies. In October 2022, Taiwan Ratings announced that CAL's long-term and short-term credit ratings were "twBBB+/twA-2" and the outlook remained "stable".



1st National Sustainable Development Award

Received the "Corporate Sustainable Development Award" in the first National Sustainable Development Awards organized by the Executive Yuan in 2022.



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Governance ©



Top 6%-20% of TWSE / TPEX listed companies

Selected as the top 6%-20% of the excellent corporation award in the Eighth Corporate Governance Review.



6th time selected for Taiwan EMP 99 Index and Taiwan HC100 Index

Selected in the Taiwan Employment Creation 99 Index and the Taiwan High Compensation 100 Index for six consecutive years.



1st Taiwanese airline to conduct and continuously enhance supplier sustainability audits

First Taiwanese airline to perform and continuously enhance supplier sustainability audits.



92 points In 2022, the score of supply chain sustainability risk assessment was 92 points

CAL has continuously implemented sustainable risk assessments for key suppliers since 2015. In 2022, the score of supply chain sustainability risk assessment was 92 points.



Core cyber security system passed certification

In 2019, the core information systems passed the "Information Security Management System (ISMS) ISO 27001: 2013 and obtained a certificate with a validity period of three years. CAL applied for and passed the recertification in 2022.



Added diverse payment functions

To provide passengers with more convenient and diverse payment methods, CAL started offering online LINE Pay payment functions on the CAL website and CAL app starting from July 19, 2022. CAL also offered LINE Pay services in marketing activities in the International Travel Fair (ITF) in Taipei for the first time and received enthusiastic responses from passengers.



11th time IOSA safety certification

CAL met the IATA Operational Safety Audit (IOSA) standards for the 11th time and continues to meet the highest international standards.



Co-organized the 2022 International Ground Safety Seminar

CAL organized the 2022 International Ground Safety Seminar in collaboration with the China Aviation Development Foundation, Flight Safety Foundation - Taiwan, and ROC Civil Aviation Society under the guidance of the Civil Aeronautics Administration of MOTC. The Seminar facilitated the sharing of experience and exchange of ideas between the industry, government, and academia to enhance the safety risk awareness of ground service personnel and continuously improve safety and quality in ground operations.



Co-organized the 2022 Aviation SMS Summit and 2022 Flight Operations and Safety Seminar

China Aviation Development Foundation and CAA organized the "2022 Aviation SMS Summit and 2022 Flight Operations and Safety Seminar" with the support of CAL to continue to promote effective operations of the flight safety management system in Taiwan and build a safe and stable air transportation service system.

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Environmental ⑥



The only winner of the “National Enterprise Environmental Protection Award – Giant Thumb Award” in the transportation industry

CAL received the highest honor of the Master Award in the fourth “National Enterprise Environmental Protection Award” of the Environmental Protection Administration, Executive Yuan.



DJSI

Highest scores in the global aviation industry in environmental performance of DJSI

CAL was selected in DJSI emerging markets index seven consecutive times and received the highest total score in the world for environmental performance, highest possible score in the environmental reporting evaluation, and the highest score in the aviation industry for the environmental policy and management systems, operational eco-efficiency, climate strategy, food waste and general waste disposal.



TCSA

9th Time in TCSA Climate Leadership Award

CAL has received the Climate Leadership Award for nine consecutive years since 2014, an unrivaled feat in Taiwan’s transportation service industry.



CDP

4th consecutive year with CDP SER Leadership rating

CAL has responded to the CDP climate change questionnaire for 11 consecutive years since 2012 and actively promotes and implements supply chain / value chain management.



1st company in Taiwan’s transportation industry to announce the “Forest and Biodiversity Conservation Commitment”

CAL became the first company in Taiwan’s transportation industry to announce the “Forestry and Biodiversity Conservation Commitment”.



Received green procurement in the private sector award from Taipei City Government

Mandarin Airlines implements environmental and energy management and encourages and promotes green procurement. It received an award for green procurement in the private sector from Taipei City Government in 2022.



Only airlines in Taiwan to use 10% sustainable aviation fuel (SAF)

CAL set a voluntary target for adding SAF and demonstrated its resolve for attaining net zero emissions by 2050.



1st to demonstrate “sustainable flights” and “net zero carbon flights” in Taiwan

CAL supported the SkyTeam in the “Sustainable Flight Challenge” by launching demonstrative sustainable flights and received the “Innovation Award – Best Sustainable Innovation Cargo” and “Collaboration Award – Best Employee Engagement.” To celebrate CAL’s 63rd anniversary, CAL launched the first “Net Zero Carbon Flights” for all flights departing from Taiwan and purchased carbon credits for all passengers and cargo departing from Taiwan on the same day to attain carbon neutrality.

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Social



Over TWD 39.4 million in charity activities

CAL invested TWD 39,401,046 in charity activities in 2022.



10.8 million in donations

When the Russo-Ukrainian War broke out in 2022, CAL donated TWD 10 million in the name of the Group and the donation benefited approximately 4 million people. The TWD 800,000 in donations from the Pikachu Jet CI charity mini-tour was given to the Taiwan Fund for Children and Families and benefited approximately 50,000 people.



70,000 medical supplies transported

CAL transported relief supplies including 10,000 test kits and 60,000 masks to the people of Palau during the pandemic in 2022.



Over TWD 6.96 million in charity procurement

To support Taiwan's high-quality agricultural products and products of charity organizations, CAL purchased 2,443 cartons of pineapple sugar apples and 800 cartons of pomelos with a value of approximately TWD 2.11 million. CAL also purchased TWD 4.85 million in gift certificates of the Children Are Us Foundation to increase job opportunities and economic support.



Over 1,100 students

In 2022, the CAL Volunteers Club and Remote Rural Efforts Club voluntarily taught aviation courses in remote rural areas in full compliance with pandemic prevention regulations. The activities benefited 1,129 students.



370 senior citizens

senior citizens: Provided care for 370 disadvantaged senior citizens at three events in 2022.



98.41% union participation

98.41% of employees participating in corporate union.



Signature of the "Letter of Intent for Promoting Business and Human Rights in Taiwan"

In November 2022, CAL supported the government business and human rights campaign and signed the "Letter of Intent for Promoting Business and Human Rights in Taiwan".



Continuous Support for "TALENT in Taiwan"

CAL continued joining 2023 "TALENT in Taiwan" to jointly promote sustainable talent development with "CommonWealth Learning", and many other companies in Taiwan.

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2022/01

CAL has won 29 awards since its debut in the "Rose Parade" in the United States in 1987. This year, CAL worked with the Ministry of Foreign Affairs and the Tourism Bureau of the Ministry of Transportation and Communications to continue to promote cultural diversity in Taiwan. The float designed based on the theme of "Biking Around Taiwan" won the International Award in the Rose Parade.



2022/02

Received "Aviation Industry Silver Class" rating from global ratings institution S&P Global with a second-place ranking in the S&P Global Sustainability Yearbook.

Sustainability Award
Silver Class 2022
S&P Global

2022/05

CAL won the "Best Cargo Sustainability Innovation Award" and "Best Employee Participation Award" in The Sustainable Flight Challenge (TSFC) of SkyTeam.



2022/06

Selected in the Taiwan High Compensation 100 Index for six consecutive years since 2017.

2022/07

Selected in the Taiwan Employment Creation 99 Index for six consecutive years since 2017.

2022/10

Selected as the Best Cargo Airline – Asia by Air Cargo News.



2022/11

Won the APEX Five Star Global Airline in 2023 from the Airline Passenger Experience Association (APEX) for the 7th consecutive year.



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2022/11



Received the highest honor of the Master Award in the fourth "National Enterprise Environmental Protection Award" of the Environmental Protection Administration, Executive Yuan.

The Administration Building of CAL Park received the "Diamond Green Buildings Label" from the Ministry of the Interior.

Won the Sustainability Report Awards in the Taiwan Corporate Sustainability Awards (TCSA) for the 9th consecutive year and the Global Corporate Sustainability Awards (GCSA) for the 4th consecutive year.



2022/12

Rated the "Best Airline in North Asia" by the renowned American travel magazine Global Traveler in the 19th annual reader survey.



Selected as a constituent stock of the Dow Jones Sustainability Index (DJSI) for the 7th consecutive year, which ranked first in the global aviation industry.



Received the "Corporate Sustainable Development Award" in the first National Sustainable Development Awards organized by the Executive Yuan in 2022.



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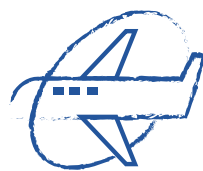
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2050 Net Zero Carbon Emissions Special Column

Attain Net Zero by 2050

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. CAL also outlined short, medium, and long-term objectives for flight operations, ground operations, and use of sustainable aviation fuel. In addition, CAL has participated in discussions regarding SBTs since 2017 and discussed the reduction targets for the aviation industry through the IATA platform. CAL signed the Science Based Targets initiative (SBTi) in 2022 to ensure that related carbon reduction targets meet the global carbon reduction targets set in the Paris Agreement of the UN.



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 (as shown in the figure above; the area of each strategy represents its contribution to carbon reduction). 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), timely introduction of new technologies (e.g., continuous introduction of energy-efficient aircrafts, and the monitoring and evaluation of developments of hydrogen-fueled aircrafts / short-range electric aircrafts, aiming to strive for the best price and timing of entry introduction). CAL also continuously strengthens international cooperation with IAGOS-PGGM. The data and information it collected help support international climate change research by the United Nations and strengthens CAL's route management and climate resilience in operations. CAL establishes a climate governance framework using its Sustainability Committee, Environmental Committee, and the TCFD operation platform. Key results are reported to the Board of Directors each year for supervision and management, ensuring the company's continuous progress on its decarbonization pathway towards achieving the 2050 net-zero carbon emission target.

Refer to **2-3-2 Climate Change Mitigation and Adaptation for the management framework and procedures**

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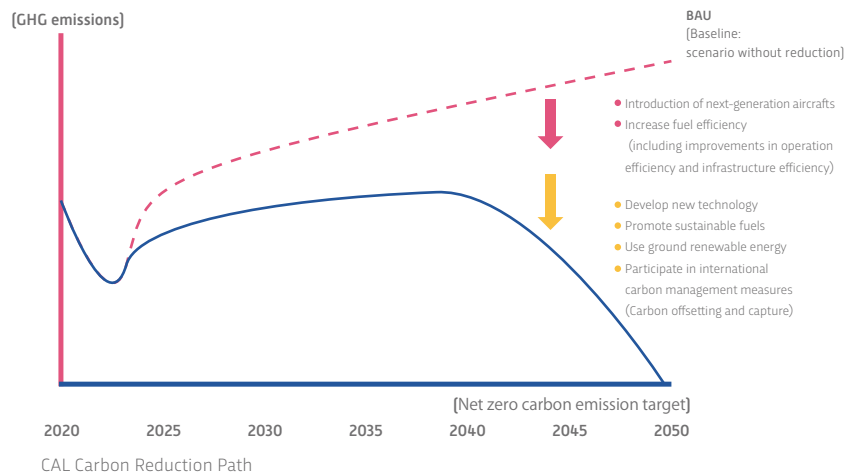
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Net Zero Carbon Flights – Invite Customers to Value Low-carbon Flights

CAL celebrated its 63rd anniversary (December 16, 2022) with “Net Zero Carbon Flights”. The “ECO Travel” carbon offsetting platform developed by CAL in collaboration with Climate Impact Partner, a British professional environmental protection organization, provided “Net Zero Carbon Flights” for all passenger and cargo flights departing from Taiwan by offsetting 7,000 tons of carbon emissions. CAL has partnered with professional environmental protection organizations to support the development of renewable energy projects and promote global energy transformation by selecting high-quality carbon credits with the international certification. We also hope that the large-scale “carbon neutrality” initiative, the first-ever of its kind in Taiwan transportation industry, can help us attain ESG sustainability and we invite passengers to support low-carbon travel by taking the first major step. We encourage passengers to take public transportation to the airport, use the Internet to check-in, pre-select meals, and bring their own duty-free eco-bags to support carbon reduction and reduce the burden on the Earth.



Net Zero Carbon Flights

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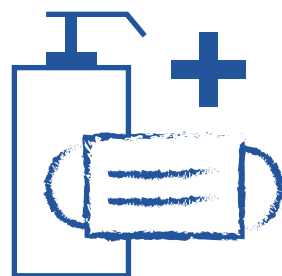
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COVID-19 Special Column

The “National Team of the Sky” Flying on for You — Transportation of COVID-19 Vaccines and Medical and Relief Supplies

CAL took on its role as the “National Team of the Sky” and delivered disease prevention supplies and emergency medical supplies, and transported COVID-19 vaccines Taiwan needed from Europe, the Americas, Asia, and Oceania. CAL made the highest number of COVID-19 shipments to Taiwan and transported 120 million doses of COVID-19 vaccines. Despite the progress made in response to the COVID-19 pandemic in 2022, CAL continued to serve as one of the main operators in the global aviation industry. CAL supported the policies of the Ministry of Foreign Affairs and transported relief supplies including 10,000 test kits and 60,000 masks to the people of Palau. In response to the outbreak of the Russia-Ukrainian War in 2022, CAL upheld the motto of “Taiwan Can Help” as a global citizen and took on the social responsibility by donating TWD 10 million in the name of the CAL Group. The donation benefited approximately 4 million people and demonstrated CAL’s commitment to international humanitarian aid.

Refer to **2-5 Society**

CAL complied with epidemic prevention principles during the pandemic, followed epidemic prevention regulations in all countries, and took on the air transportation of epidemic prevention supplies and emergency medical supplies during the epidemic. We adopted new ideas to create business opportunities and provided shipping services to support the economic growth of Taiwan. We focused more on cargo than passenger operations and optimized passenger and cargo transportation plans. As border control restrictions are lifted across the globe and passenger load gradually improves in the post-pandemic era, we leave the hardships of the pandemic behind and reconnect passengers to the world.



CAL Transported Relief Supplies

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COVID-19 Special Column

Protecting Public Health and Safety — Care for Passengers in Post-Pandemic Travel

CAL had set up a "Coronavirus Service Information" section on its website to provide passengers with epidemic prevention information and related services during the pandemic. It integrated major functions including quarantine hotel and taxi reservations, PCR test hospital information, mobile Wi-Fi hotspot devices, and immigration requirements of different countries. In response to the arrival of the post-pandemic era when border controls are lifted, CAL replaced the "Coronavirus Service Information" section on its homepage to "COVID-19 Service Information" section and continues to provide entry regulations of different countries and other information for passengers with the aim of providing the most updated border control measures and travel information in all parts of the globe.

Refer to [2-1 Trust](#)

Refer to [2-4 Human Resources](#)



Consolidate and Reactivate Passenger and Cargo Services — Internal Training and Consolidation for Future Growth

CAL adopted diverse strategies in operations in response to the pandemic, including making full use of air cargo transportation advantages, flexible adjustments of passenger routes, optimization of the scale of fleet operations, maintenance of finance stability, and obtaining relief. By adopting the business strategy of focusing on cargo instead of passenger transportation, we used passenger aircrafts for transporting large or special cargo to strengthen our position as a hub in Asia Pacific cargo transportation. We leveraged our operational resilience in times of high demand for cargo transportation. As border control restrictions are lifted across the globe and passenger load gradually improves in the post-pandemic era, we leave the hardships of the pandemic behind and reconnect passengers to the world.

Refer to [1-3 CAL's Sustainability Value](#)

Refer to [2-1 Trust](#)



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1-1 Sustainability Vision and Strategies

1-1-1 CAL's Sustainability Vision

CAL upholds its value of "Believe we can always do better" and embraces the mission to "Create more wonderful moments through flying" to "Become the preferred airline in Taiwan". CAL supports the 17 Sustainable Development Goals (SDGs) announced by the United Nations in 2016 and follows the SDG Compass and related sustainability reports of the International Civil Aviation Organization (ICAO), the Air Transportation Action Group (ATAG), and the international transportation industry. We originally focused on 11 SDGs and we added 2 SDGs (SDG 14 Marine Ecology and SDG 15 Land Ecology) in 2023 with the increase in international awareness of the loss of biodiversity. We now focus on 13 SDGs that form the basis of CAL's sustainability efforts for achieving sustainability and creating value for stakeholders.

13 Sustainable Development Goals Focused from CAL



1-1-2 Sustainability Strategy

CAL aims to "Become the preferred airline in Taiwan" and embraces the mission to "Create more wonderful moments through flying". We adopted "Safety" and "Governance" as the basis for sustainable development and incorporated our main strategies of "Fleet and Network", "Products and Services", and "Group Business" to continue to enhance CAL's "Brand Awareness" in the minds of customers. We initiated three action plans to enhance our sustainable development image including "Smart Resilience: resilient operations to combat extreme weather and changes in the business environment", "Localized Global Operations: taking Taiwan's local culture to the world", and "Youth Innovation: connect with the innovative generation with youthful thinking". The action plans reflect our lasting commitment to environmental, social, and economic / governance. The six sustainability strategies also support the UN's SDGs and we establish implementation strategies to create a strategic framework for sustainable development. The Sustainability Strategy is spearheaded by the Corporate Sustainability Committee under the guidance of the President and overseen by the Board of Directors, which is the highest governance body.



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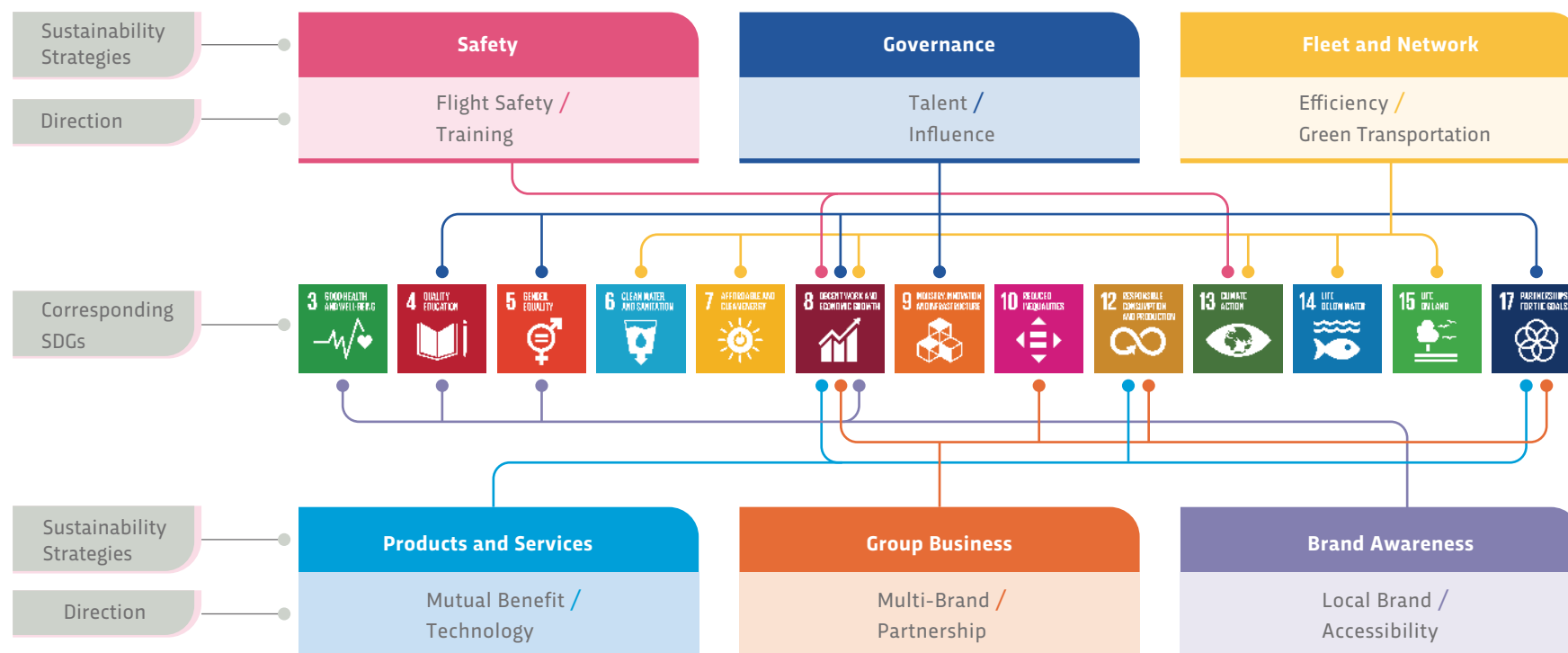
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Sustainability Strategy Framework



1-2 Sustainability Management Structure (GRI 2-9, 2-12, 2-13, 2-14, 2-16, 2-18)

1-2-1 Corporate Sustainability Committee

The Company established its Corporate Sustainability Committee in 2014, and established ESG Office in 2023 as the executive secretary, the highest governance body of sustainability promotion, to take charge of the development, authorization, and update of the vision, missions, and values, and to determine and manage the Company's impact on the economy, environment, and people (including human rights). The Corporate Sustainability Committee convenes at least two meetings each year. The Chairman of the Board of Directors attends the meetings and the President of the Company serves as the chair. The Corporate Sustainability Committee comprises six task forces and a risk management team which are responsible for setting and implementing sustainable development goals to enforce the sustainable development. It also reports the results of corporate sustainability governance and ESG as well as external communication to the Board of Directors each year to strengthen the connection between the Corporate Sustainability Committee and the Board of Directors and improve sustainability actions. As the highest governance body of the Company, the Board of Directors supervises and identifies CAL's impact on the economy, environment, and people (including human rights). It also established internal control and audit for due diligence of ESG information.

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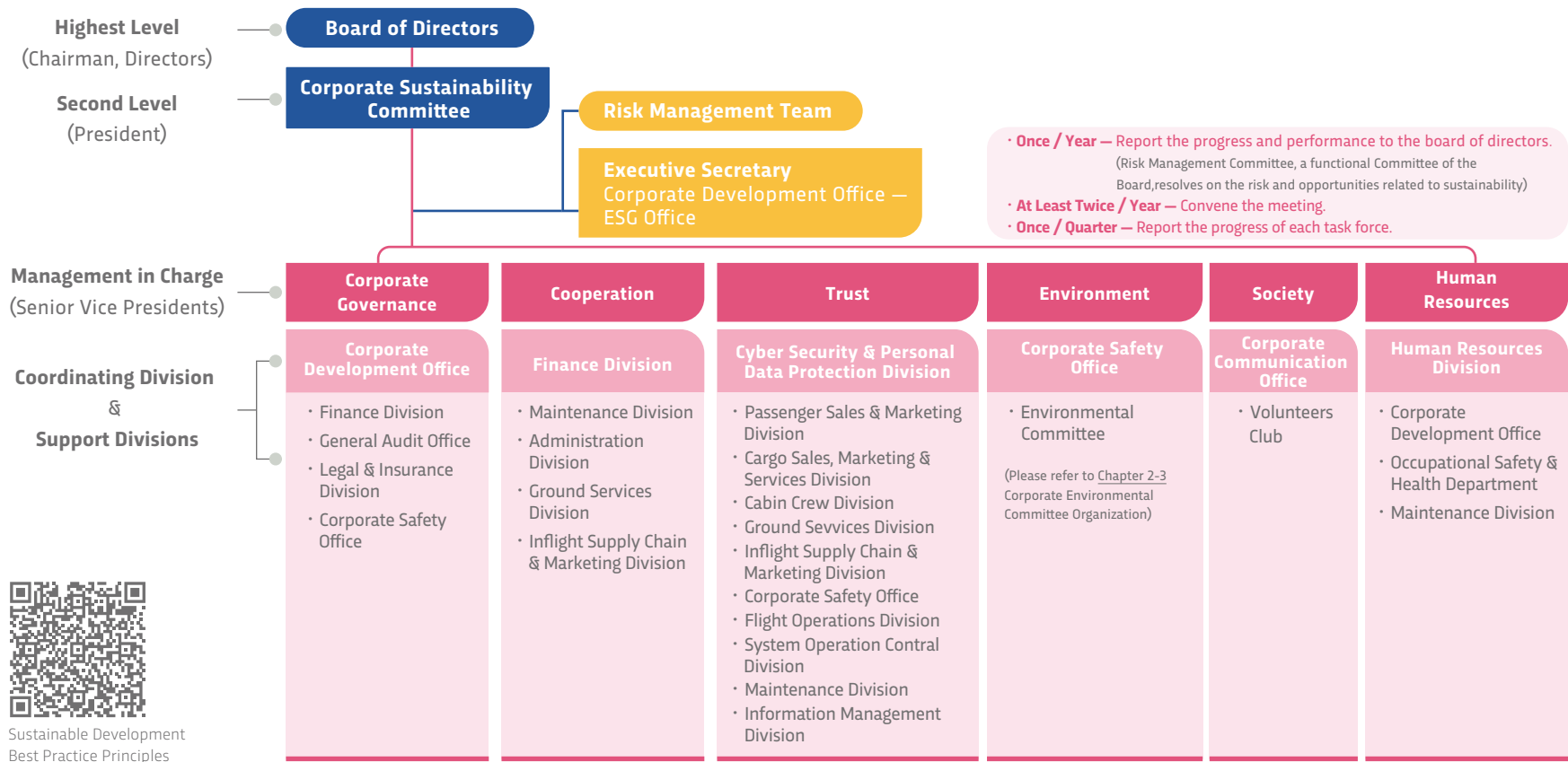
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The Board of Directors assigns senior executives to engage stakeholders through multiple communication channels and platforms to identify the impacts, which are detailed in [1-4-1 Stakeholder Engagement](#). In 2022, the Board of Directors held eight meetings to oversee the Company's due diligence and impact reporting on critical material events (Note), security management, operational risk management, financial conditions, greenhouse gas inventory and verification, climate governance report, human rights risks, and information security and personal risks, and to review the results of stakeholder engagement. CAL also established the performance evaluation procedures for the Board of Directors' supervision of the Company's impact on the economy, environment, and people (including human rights). It convenes at least two meetings of the Remuneration Committee each year to regularly review the overall compensation and benefits policies of senior executives. Refer to [3-1 Governance Framework](#)

Note: Critical and significant events include those that are communicated to stakeholders through the grievance mechanism. Material incidents that are verified are communicated and reported to the Board of Directors based on the nature of the events.

Corporate Sustainability Committee Organization



Sustainable Development
Best Practice Principles

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1-3 CAL's Sustainability Value



COVID-19 Special Column

Consolidate and Reactivate Passenger and Cargo Services — Internal Training and Consolidation for Future Growth

In 2022, CAL actively supports the health management operations of the competent authority of health. The Company's operations focused on cargo services as the main business and passenger transport as an added service. The Company adopted diverse strategies in response to rapid changes in the passenger and cargo market after the pandemic:



Optimization of Fleet Operations

CAL continues to optimize fleet operations and revitalize aircraft assets. To expand the high-efficiency and low-fuel-consumption fleet, CAL expanded both the passenger and cargo fleets. New A321neo aircrafts have arrived in Taiwan since late 2021 and they will be used for flights to Northeast Asia, Southeast Asia, and China. CAL also purchased 16 Boeing 787-9 passenger aircrafts which are expected to be delivered starting from 2025. They will be used as the main next-generation medium-load wide-body aircrafts. In terms of overall plans for the flight network, CAL flexibly schedules long-haul, medium-haul, and regional short-haul routes to support the dispatch of the fleet, increase market competitiveness, and support the continuous expansion of medium to long-haul passenger transportation networks. The next-generation fleets are now operational for expediting business growth in the post-pandemic era. They offer advantages in terms of aircraft design, operating performance, and product acceptability. They offer passengers a high-quality travel experience. Their outstanding fuel economy significantly reduces the cost and support CAL's plans to attain net zero carbon emissions by 2050. Five 777F cargo aircrafts were delivered in 2022 and new aircrafts will continue to be delivered to increase the cargo fleet to 23 aircrafts and provide momentum for the growth of a strong cargo fleet. New 777F cargo aircrafts will be delivered starting from 2023 and delivery will be completed by 2024. CAL will enjoy advantages of the largest passenger and cargo fleet in Taiwan and benefit from its dense flight network, which will continue to increase profitability.



Flexible Adjustments of Passenger Flight Capacity

In terms of passenger transport, CAL actively prepares to meet travel demand. As the pandemic subsided and countries relaxed border control, CAL planned additional flights and will flexibly adjust passenger flights in accordance with the government's regulations. CAL uses the A321neo aircrafts to optimize regional routes and enhance revenue from third / fourth freedoms to meet market and passenger expectations. In response to new developments in services due to the pandemic, CAL joined SkyTeam in the development of zero-contact services to optimize the airport check-in procedures and reduce contact during transfers. These measures help facilitate safer travel and increase passengers' confidence in air travel.

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Making the Best Use of Air Cargo Transport Advantages

CAL began developing cold chain logistics for pharmaceuticals in 2013 and took the lead in launching containers with active temperature control. CAL became the first aviation company in Taiwan to obtain the IATA CEIV Pharma certification in 2019 and renewed the certification in 2022, which ensured high-quality and stable cold chain transportation services. Since the start of the pandemic, CAL has taken on the role of transporting pandemic prevention supplies such as masks, rapid test kits, and more than 100 million doses of COVID-19 vaccines between Europe, the Americas, Asia, and Oceania. Our commitment to providing high-quality transportation for medicine and outstanding services have not been hindered by the pandemic. CAL is a pioneer in Taiwan's air cargo transportation market and has a wealth of experience in transporting precious antiquities, precision instruments, vehicles, large equipment, aviation materials, works of art, live animals, and other special goods. CAL is the designated carrier for precision instruments and machinery for renowned major manufacturers in Taiwan and abroad. During the pandemic, CAL quickly shifted its focus to cargo operations and fully utilized the capacity of its cargo aircrafts to attain outstanding cargo transportation records. CAL continues to expand its dense cargo flight network with 35 destinations across the globe. The Company also continues to optimize the cargo fleet and formulate strategies to meet market development trends and operational requirements and start a new chapter in the post-pandemic world.



Prioritize Disease Prevention to Ensure Flight Safety

CAL continued to use the COVID-19 information services section on its official website to respond to passenger needs. The platform provides passengers with regulations and information for entering and exiting different countries. It also strives to provide passengers with a safe, relaxing, and comfortable journey. CAL adopts enhanced measures from pre-flight preparation to arrival at the destination. In terms of the improvements of software and hardware equipment onboard in 2022 Q3, CAL offered online pre-selection of meals for premium business class / business class and premium economy class passengers, and launched an exclusive online menu for premium business class / business class passengers departing from Taiwan. The in-flight entertainment "Dynasty Sky Reading" cloud library and the "Fantasy Sky Wireless Entertainment System" of the 737-800 fleet create a personal reading and video experience. We have completed preparations for post-pandemic travel to make every journey comfortable.



Stable Finance and Sustainable Development

As the global economy gradually recovers in the post-pandemic era, there remains many uncertainties. In response to the severe impact of the pandemic, rapid changes in market challenges, and rising aviation fuel prices, CAL's management team remains cautious and adopts flexible response to changes in market conditions. We adjust the passenger and cargo sales plans to respond to market changes and leverage the advantages of our cargo operations to capture niche markets. CAL continues to promote sustainable corporate practices with proactive management of risks and creation of response strategies. We continuously adjust our management system in accordance with international standards for corporate governance and market conditions. We intensify the Company's voluntary culture of sustainable governance and continue to make progress and grow despite difficulties.

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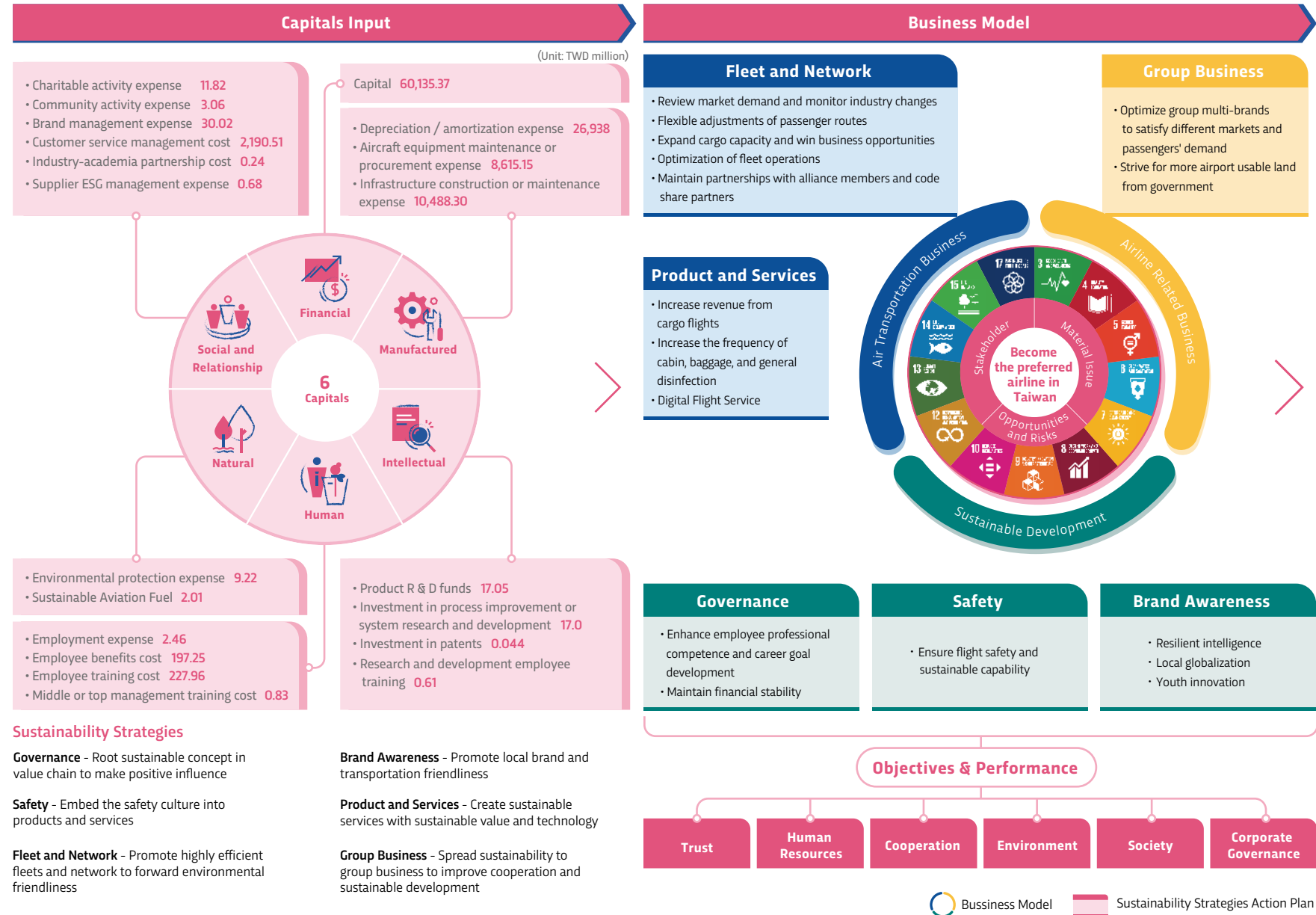
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1-3-1 Business Model and Value Creation



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Value Creation			
	Output	Outcome	Corresponding Chapter
Financial	Operating revenue: TWD 141,069.85 million	Revenue increased by 7% compared to 2021, the EBITA rate decreased by 20% compared to 2021.	3-2 Operational Achievements (P.177)
Manufactured	- New aircrafts in the fleet in 2022: 777F : 2 + A321neo: 8 - New passenger transport capacity created by the new aircrafts 1,440 seats - Punctuality rate of high-level repair and maintenance service: 100% - Number of incidents causing casualties or flight crashes: 0 - Number of existing destinations (including new ones): 72 passenger destinations / 36 cargo destinations - Number of passengers / Cargo world: 4,728.65 (million passengers-kilometers)/ 5,862.00 (million ton-kilometers)	- The 777F cargo aircraft is equipped with the GE90 engine, which is the same as that used in passenger aircrafts. This helps with engine management optimization and the lowering of maintenance costs. - The A321neo is a new narrow-body passenger aircraft with improved fuel consumption, unit cost, range, loading, and noise level. The fuel-efficient aircrafts will help reduce carbon emissions and protect the environment. - The A321neo has a brand-new cabin design and provides a diverse range of new software and hardware equipment that demonstrate CAL's unique brand and product competitiveness advantages. - Achieved the target punctuality rate of high-level repair and maintenance service (100%) - Promote a safety culture based on the spirit of "safety awareness, full participation, active management, and implementation" to achieve zero safety incidents - Number of new destinations: 1 passenger destination / no cargo destination in 2022 - Compared to 2021, global passenger transport increased by 744% while cargo transport decreased by 22.36%	3-2 Operational Achievements (P.177)
Intellectual	- Revenue / number of passengers (seats) created by improved products or services: 1,620 - Number of cost-saving patents: 200 - Number of patents obtained: 1 - Number of R&D employees trained: 44	- The 787 new aircraft project started the design and development of cabin equipment for 16 aircraft, and the first aircraft will be delivered in 2025Q1. - The A321neo new aircraft project provides 9 aircraft with in-flight video and audio services for passengers - Manpower saved 27.25 man-month / year - Saved TWD 368.8 million in cost - CAL's intellectual property rights were continuously maintained - The skills of information employees were enhanced in response to the development of or updates to information systems	2-1 Trust (P.53)
Human	- Number of new employees: 324 - New hire / recruitment retention rate in 2022: 91.05% - Retention rate of employees hired before 2022: 96.98% - Employee turnover: 4.95% - Total number of employee training hours: 451,309 - Total number of middle or top management training hours: 3,854	- The number of new employees in 2022 will increase by 232 compared with 2021 - Compared to 2021, the retention rate in 2021 increased by 8.01% - Compared with 2021, despite the impact of large-scale recruitment of talents in other industries such as technology, the turnover rate only slightly increased by 0.15%, remaining stable - Related training was organized based on the needs of business operations - Job-related training was organized to improve management knowledge and consensus	2-1 Trust (P.53)
Natural	- Electricity consumption: 32,464.1 kWh - Carbon reduction: 5,454,970.906 tons - Waste reduction: 2,346,250 kg - Water consumption: 99.21 thousand tons - Number and percentage of green buildings: 2 / 66.67% - Solar photo voltaic investment: Power generated: 110,205 kWh - Sustainable aviation fuel : 18,465L	- The number of new employees in 2022 will increase by 232 compared with 2021 - Compared to 2021, the retention rate in 2021 increased by 8.01% - Compared with 2021, despite the impact of large-scale recruitment of talents in other industries such as technology, the turnover rate only slightly increased by 0.15%, remaining stable - Related training was organized based on the needs of business operations - Job-related training was organized to improve management knowledge and consensus	2-4 Human Resources (P.129)
Social and Relationship	- Number of charitable activities: 12 - Number of beneficiaries: 4,048,790 - Number of community activities: 18 - Number of participants: 335 - Number of sponsorships: 19 - Number of brand promotion: 4 - Result of brand promotion: TWD 57.28 million - Passenger transport customer satisfaction rate: 90.5 - Number of passenger transport customer complaints: 3,746 - Freight customer satisfaction rate: 89.5 - Number of cargo customer complaints: 0 - Number of industry-academia partnerships: 2 - Number of industry-academia partnership projects: 1 - Number of participants: 2 - Coverage of sustainable supply chain management: 75.00% - The overall proportion of supplier ESG audits in the past three years: 100%	- Electricity saved through a sound energy management system: 1,185,899 kWh - Carbon emission reductions achieved through various carbon reduction measures: 38,970 tons - Waste reduction achieved through improved waste management: 543,391kg - Water saved through continuous water management: 3,970 - Elevator power recycled with power regeneration system: 11,213 - Power saved in 2022 : 110,205 kWh - Annual carbon reduction : 46 Tons CO₂e	2-4 Human Resources (P.129)
		- CAL makes good use of the unique resources and expertise of aviation and takes practical actions to care for and help the socially disadvantaged to improve their quality of life. Whether it is taking care of the elderly, disadvantaged schoolchildren, supporting small farmers in Taiwan through subscription actions, or international aid donations, etc., we hope to achieve Commitment to equal social well-being - CAL has long been investing in improving the development of local communities. Through volunteer teaching, students are encouraged to develop an international outlook. They also organize tree planting, beach cleaning, and respond to life-saving activities for associations with used shoes, hoping to promote environmental protection and regeneration, and the concept of sustainable love for the earth - In 2022, when COVID-19 is stabilizing, CAL is still responsible for the delivery of anti-epidemic materials, including the delivery of relief supplies, reagents and masks, and donating supplies to Taiwan's frontline medical staff, aviation police, anti-epidemic taxis and other units; in addition, it demonstrates the humanity of international rescue spirit, donate money to help the refugees affected by the war between Russia and Ukraine to be reborn; in addition, continue to support the development of Taiwan's tourism activities, sports players and competitions, and promote the international visibility of Taiwan's local brands - The company has been selected as a company in the DJSI for 7 consecutive times. In 2022, it won the highest honor in the TCSEA sustainability report category for the first time - the best report of the year, actively promoting the ESG in all aspects of sustainability, from core values to business strategies to implement the concept of corporate sustainability and produce a press release for the 2022 DJSI award-winning publicity - To meet the recovery of the air passenger transport market, assist business units in domestic and foreign regions to promote the China Airlines brand, and use "beautiful journeys start with us" as the main axis of publicity to produce travel image print advertisement drafts. The design of the advertisement combines the in-flight services of the company's flight attendants with the characteristics of the landscape, showing that the journey has already started from the time of boarding the plane, attracting more passengers to choose to take China Airlines - With the opening of Taiwan's borders on 10/13, international travel is expected to start to flourish. To grasp the timing of the recovery of the aviation industry after the epidemic, the company will participate in the 2022 Taipei International Travel Fair ITF - In response to the gradual easing of the new crown pneumonia epidemic and the opening of border policies in various countries, in order to welcome the recovery of the air passenger transport market and trigger the public's desire to travel abroad, assist business units in domestic and foreign regions to promote the China Airlines brand, and produce tourism image videos. The film advocates: It's time to explore the world again, "Let's go, write your travel story" - The score in 2022 is slightly lower than that in 2021 by 0.2 points. According to the analysis, it is because at the end of 2022, due to the slowdown of the epidemic situation, the border control of various countries will be gradually unsealed, and the number of passengers will increase. Or the support manpower is not in place at the same time, and passengers have higher requirements for cabin cleanliness, which affects satisfaction - Although it has slowly entered the post-epidemic era, the outstation is still affected by special circumstances such as manpower shortages due to the impact of the epidemic or flight delays due to sterilization operations, which in turn affects customer satisfaction - The pandemic has affected the balance of supply and demand in the air cargo market as well as the prices and cargo services. Customers' satisfaction with cargo services dropped slightly due to the changes in prices and cargo services - The purpose of industry-academia partnerships was to develop national aviation professionals - The coverage of sustainable supply chain management increase 21% in 2022 compared to 2021 - Supplier audits shall be conducted at least once every three years, with a 100% completion rate from 2020 to 2022	2-3 Environment (P.99)
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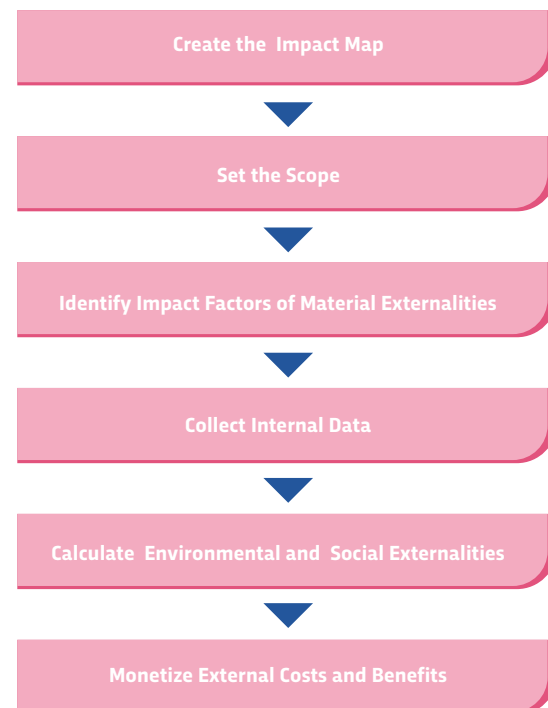
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1-3-2 True Value of China Airlines

In order to embrace mutual prosperity along with our stakeholders and endeavor to create sustainable value for all stakeholders, CAL based on China Airlines' economic, environmental, and social reporting boundaries has integrated six forms of capital (financial, natural, manufactured, intellectual, human, and social) to its corporate vision and strategy, introducing the concepts of true value to monetize the environmental and of social externality's costs and benefits. This true value is viewed as an important reference point for corporate sustainability, and it helps all stakeholders understand the Company's sustainability performance.

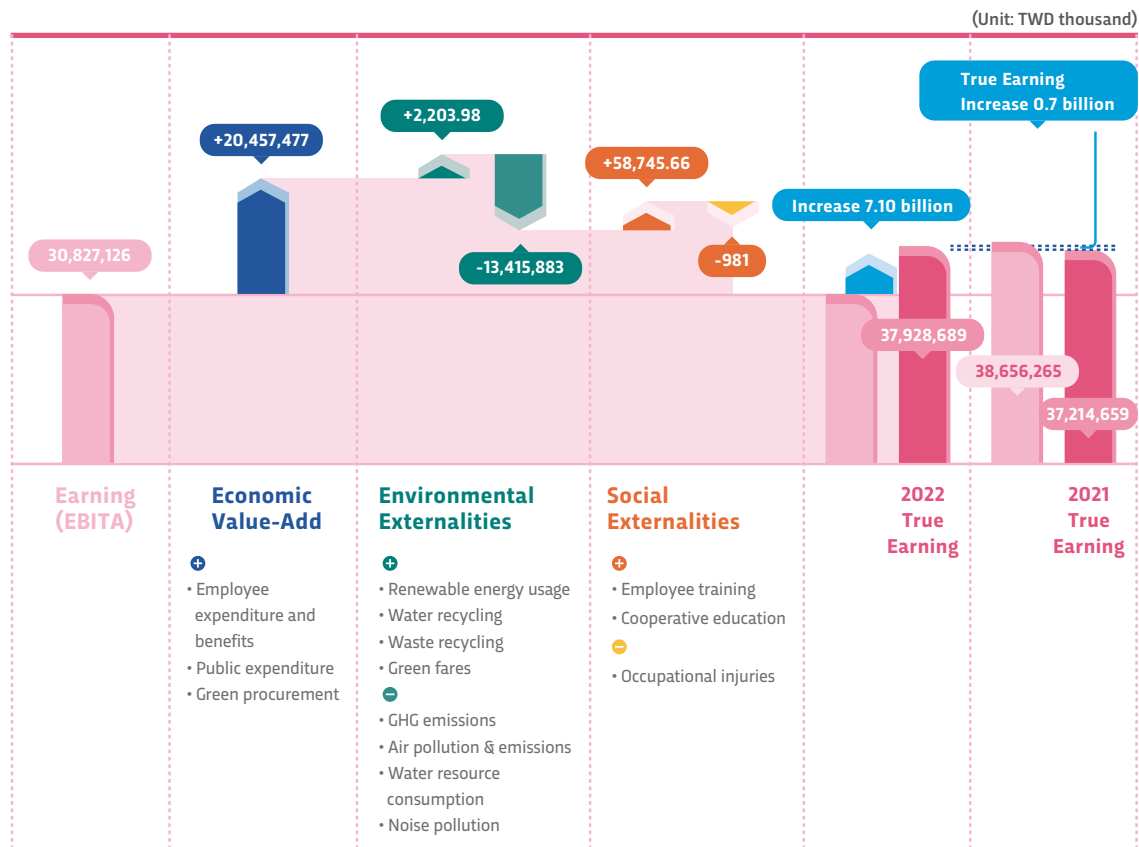
Procedures for Assessing True Value



True Value

According to the results, CAL's traditional financial performance (EBITA) was reduced by 20% to TWD 30.8 billion in 2022 compared to 2021. The true earnings generated in economic, environmental, and social aspects came to around TWD 37.93 billion in 2022, reflecting a increase of TWD 7.10 billion and TWD 0.71 billion compared to EBITA and true earnings in 2021 respectively due to the positive benefits created by the respective increases of 100% and 96% in "Water recycling" and "Green fares." In line with the characteristics of the aviation industry, "Greenhouse gas (GHG) emissions" and "Noise pollution" were the main sources of external costs. The negative benefits of GHG emissions and noise pollution were reduced by 19% and 27% respectively in 2022 from 2021, showing CAL's active engagement in environmental sustainability initiatives such as "GHG reduction," "Noise pollution," "Water recycling," and "Green fares." In CAL's true earnings in 2022, environmental external costs totaled TWD 13.41 billion, and positive benefits created by additional economic value and social externalities totaled TWD 20.52 billion.

True Value of China Airlines



1-4 Stakeholder Communication and Materiality Analysis

1-4-1 Stakeholder Engagement (GRI 2-26, 2-29)

CAL identified eight major stakeholders including Employees, customers, investors, government, partners (suppliers and contractors), community, media and associations (including aviation organizations). We include a diverse range of stakeholders such as business partners, non-government organization (NGOs and trade organizations), and disadvantaged groups when we evaluate the materials topics of concern to stakeholders. To understand our stakeholders' needs and expectations, we have established relevant, unimpeded communication channels and platforms based on stakeholders' attributes and needs. We also report to the Board of Directors in the first quarter of each year, to disclose details of communications with stakeholders, including key points and frequency of communication.

 On demand	 Daily	 Yearly
 Monthly	 Four to six times a year	 Once every year
 As needed every month	 Quarterly	 Twice every year
 At least once every 6 months	 As needed	 Once every three years
 Regularly		

Employees



We view our employees as our most valuable assets. CAL has improved and optimized working conditions and the working environment to establish a safe and growing workplace. CAL is dedicated to maintaining harmonious labor-management relations through unimpeded communication channels, thus creating a win-win situation

Material Issues

Customer Satisfaction

Positive impact topic: Maintain high customer satisfaction rate

Occupational Safety and Health

Negative impact topic: Occupational injuries

Attracting, Cultivating, and Retaining Talent

Positive impact topic: Employee Training and Hiring
Negative impact topic: Workplace discrimination and inequality

Labor Relations and Communication

Negative impact topic: Deterioration of labor-management relations

Communication Channels and Frequency

-  1. Labor-management meetings
-  2. Labor Unions
-  3. Employee suggestion boxes
-  4. Employee feedback website
-  5. China Airlines newsletter
-  6. China Airlines Retirees Portal
-  7. Meetings of the Occupational Safety and Health Committee

Corresponding Chapter Section

2-4 Human Resources | 2-3 Environment

Key Points of Communication

- Recruitment and Retention
- Employee development, rights and interests, healthy and safe workplace

Communication Results

Customer Satisfaction

The employee engagement survey was conducted in December 2022 and the score was 7.8 (score out of 10), which was higher than the score in the previous survey

Occupational Safety and Health

Reduced the Frequency-Severity Indicator (FSI) from 0.14 to 0.10, a decrease of 28.57%

The operations of the Head Office in Taoyuan passed the regular re-inspections for ISO 45001:2018, CNS45001:2018, and TOSHMS in 2022

Attracting, Cultivating, and Retaining Talent

The Company spares no expenses in employee training and development and invested approximately TWD 230 million in employee training in 2022

Labor Relations and Communication

In addition to prohibiting discrimination in its policies and setting up diverse communication methods, the Company also established regulations for registering complaints. The Company also discloses the statistics of processed complaints. The Company convened 6 labor-management meetings in 2022. The process were smooth and harmonious and there was no deterioration of relations

Highlights of Communication Results

On December 16, 2021, CAL and the China Airlines Employees Union signed a collective bargaining agreement which was the 6th agreement. They reached a consensus with 79 items and the agreement shall be valid for 3 years. Both parties shall maintain the existing labor conditions and benefits and will not be affected by the pandemic. They shall continue positive labor relations on the existing foundations. Both parties demonstrated their good will in the negotiations and worked together to take care of all employees. After CAL concluded negotiations with the Pilots Union, they signed a collective bargaining agreement on December 29, 2021. CAL has established the Occupational Safety and Health Committee in accordance with laws. It convenes a meeting every three months to review and coordinate occupational safety and health issues. The discussions are compiled into meeting minutes which are announced on the Intranet

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Customers

Customers are our main source of revenue. CAL listens to customers and protects their rights and interests in order to meet customers' expectations



Material Issues

- **Fleet Development and Innovation**
Positive impact topic: Increase the efficiency of fleet services and fuel consumption
- **Green Services and Sustainable Catering**
Positive impact topic: Green Services and Sustainable Cateringsumption
- **Information Security**
Negative impact topic: Failure of the information system
- **Flight Safety Management**
Negative impact topic: Flight safety incident risks
- **Privacy Management**
Negative impact topic: Leak of private and confidential information

Communication Channels and Frequency

- | | |
|--|--|
| 🕒 1. Customer satisfaction survey | 🕒 5. CAL's website, CSR website, Facebook / Instagram, e-mail, text messages |
| 1/Y 2. Global business meetings | 🕒 6. Customer-service hotline |
| 2/Y 3. Taiwan business meetings | +X 7. Corporate customer visits |
| +X 4. Discussions with travel agencies
(Note: adjusted in response to COVID-19) | |

Corresponding Chapter Section 2-1 Trust | 2-3 Environment

Key Points of Communication

- Customer Relations Management
- Protecting customers' rights and interests: privacy, food safety, and in-flight drinking water quality
- Providing an information integration platform for flight changes during the pandemic

Communication Results

- Passenger satisfaction rate was 90.5%
- Cargo satisfaction rate was 89.5%
- Maintenance factory satisfaction rate was 8.8 (score out of 10)

Highlights of Communication Results

The CAL websites continuously review the demand for transportation of different destinations from the perspective of passengers. We optimize the flight schedule information on the website and display the flights in aircraft icons to provide passengers with friendlier and better-visualized flight information

Investors

Regardless of amount, all investors are contributors to CAL. CAL treats all investors equally, and makes the information available to each investor as consistent as possible



Material Issues

- **Governance and Business Integrity**
Positive impact topic: Sound corporate governance
Negative impact topic: Corruption
- **Fleet Development and Innovation**
Positive impact topic: Increase the efficiency of fleet services and fuel consumption
- **Financial Performance**
Positive impact topic: Sound economic performance
Negative impact topic: Poor business operations
- **Climate Change Mitigation and Adaptation**
Negative impact topic: Exacerbation of climate risks

Communication Channels and Frequency

- | | |
|-------------------------------------|-------------------|
| Y 1. Shareholders' meeting | 1/Y 3. Road shows |
| 🕒 2. Shareholders hotline / mailbox | +X 4. Interviews |

Corresponding Chapter Section 3-1 Governance Framework | 2-1 Trust | 2-3 Environment

Key Points of Communication

- Operating results
- Flight safety and passenger transport
- Risk management model

Communication Results

Continue to announce and respond with operation-related results according to laws, regulations, and investors' demand

Highlights of Communication Results

- CAL held the shareholders meeting on May 26, 2022. During the meeting, shareholders raised questions regarding the conversion of the Company's passenger aircrafts to cargo aircrafts, stock prices, and employee welfare. All questions were answered and clarified by the chairman or designated staff. Please refer to the 2022 shareholders meeting minutes for details
- CAL was invited to road shows hosted by securities dealers on June 10 and December 9 in 2022. CAL presented an overview of the Company's business and the plans and outlook in post-pandemic operations. Please refer to the first and the second road show presentations in 2022 for details
- Despite the severe challenges to the industry during the pandemic, CAL demonstrated its resilience in operations in 2021 and the EBITDA remained positive, which was a stark contrast to the severe losses sustained by other international airline companies. In October 2022, Taiwan Ratings announced that CAL's long-term and short-term credit ratings were "twBBB+/twA-2" and the outlook remained "stable"

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Government



CAL is Taiwan's largest civilian airline. Supervised by the Ministry of Transportation and Communications
The China Aviation Development Foundation is the largest shareholder of CAL and exerts influence on CAL's operations

Material Issues

● Fleet Development and Innovation

Positive impact topic: Increase the efficiency of fleet services and fuel consumption

● Governance and Business Integrity

Positive impact topic: Sound corporate governance

Negative impact topic: Corruption

● Climate Change Mitigation and Adaptation

Negative impact topic: Exacerbation of climate risks

● Privacy Management

Negative impact topic: Leak of private and confidential information

Communication Channels and Frequency



1. Missives



2. Visits



3. Participation in projects



4. Participation in public hearings, seminars, and negotiation forums



5. Organization of or participation in business seminars and audits



6. Participation in initiatives



7. Audits

Corresponding Chapter Section

3-1 Governance Framework | 2-1 Trust | 2-3 Environment

Key Points of Communication

- Communication and implementation of relevant laws and regulations
- Sharing of important industry information
- Supporting campaigns for business development, establishment, and research activities in civil aviation

Communication Results

- Selected as the top 6%-20% of the excellent corporation award in the Eighth Corporate Governance Evaluation
- CAL was selected for the Taiwan High Compensation 100 Index and the Taiwan Employment Creation 99 Index
- Discussed flight safety issues and exchanged information in through seminars to improve flight safety
- Discussed and deliberated environmental sustainability issues on the industry and government communication platform

Highlights of Communication Results

- CAL organized the 2022 International Ground Safety Seminar in collaboration with the China Aviation Development Foundation, Flight Safety Foundation - Taiwan, and ROC Civil Aviation Society under the guidance of the Civil Aeronautics Administration of MOTC. The Seminar facilitated the sharing of experience and exchange of ideas between the industry, government, and academia to enhance the safety risk awareness of ground service personnel and continuously improve safety and quality in ground operations.
- China Aviation Development Foundation and CAA organized the "2022 Aviation SMS Summit and 2022 Flight Operations and Safety Seminar" with the support of CAL to continue to promote effective operations of the flight safety management system in Taiwan and build a safe and stable air transportation service system
- CAL attended six CAA meetings on the global carbon market working group, carbon offsetting and reduction plan review and training, and CORSIA training.
- Participated in the public hearings regarding CORSIA requirements in the "Regulations of Civil Air Transport Enterprise" of the CAA
- Supported and participated in the expanded meetings (seminars) of large-scale ICAO conferences organized by the Ministry of Foreign Affairs to share the Company's experience in aviation safety and sustainability governance

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Partners (Suppliers and Contractors)



Service provided by suppliers and contractors is one of the key factors for CAL to provide services that satisfy customers

Material Issues

- **Sustainable Supply Chain Management**
Positive impact topic: Sustainable Procurement
Negative impact topic: Sustainable Supply Chain Management
- **Information Security**
Negative impact topic: Failure of the information system
- **Privacy Management**
Negative impact topic: Leak of private and confidential information
- **Occupational Safety and Health**
Negative impact topic: Occupational injuries

Communication Channels and Frequency

- | | |
|----------------------------|--------------------------|
| ✕ 1. Telephone | ✕ 4. Business visits |
| ✕ 2. e-mail | 1-6M 5. Site inspections |
| ✕ 3. Coordination meetings | |

Corresponding Chapter Section

2-1 Trust | 2-2 Cooperation | 2-3 Environment

Key Points of Communication

- Sustainable Supply Chain Management

Communication Results

- The score of sustainability risk surveys averaged 92 in 2022, higher than CAL's target, and a general supplier conference was held at the end of 2022
- In 2022, CAL convened a meeting to communicate the Company's value chain environmental protection operations

Highlights of Communication Results

- A general supplier conference was held in December 2022. A total of 37 representatives of 24 suppliers attended the event. It served to raise sustainability awareness and knowledge among suppliers. We distributed the briefing materials of the event in Chinese and English to tier-1 suppliers in Taiwan and overseas who could not attend the meeting so that all suppliers can gain a better standing of CAL's sustainability philosophy
- CAL participated in the communication meeting organized by the international carbon management and verification company Verifavia to monitor and exchange ideas on the overall international aviation carbon market and sustainable aviation fuel



2022 Supplier Conference

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Social

Social support is the key to our success. As an economic entity in society, CAL continuously contributes to the economy while fulfilling our corporate social responsibilities.



Material Issues

● Social Feedback and Engagement

Positive impact topic: Charity and public welfare

● Environmental protection benefits and resource management

Negative impact topic: Environmental pollution caused by operations

Communication Channels and Frequency

- | | |
|---|---|
|  1. Charity events |  3. News releases |
|  2. Community activities |   4. Online mailbox |

Corresponding Chapter Section

2-1 Trust | 2-3 Environment | 2-4 Human Resources | 2-5 Society

Key Points of Communication

- Support for social development
- Assumption of social responsibility
- Create a sustainable society

Communication Results

- A total of 4,853,610 individuals benefited from charity and public welfare activities with CAL contribution in 2022
- CAL regards environmental protection as a key business operation. There were no major environmental pollutions in 2022. We also actively promote energy conservation and carbon emissions reduction and invite passengers to join the "ECO Travel" carbon exchange program to fulfill environmental protection ideals and policies

Highlights of Communication Results

Despite the progress made in response to the COVID-19 pandemic in 2022, CAL continued to carry its critical responsibilities for transporting epidemic prevention supplies during the pandemic as one of the main operators in the global aviation industry. CAL supported the policies of the Ministry of Foreign Affairs and transported relief supplies including 10,000 test kits and 60,000 masks to the people of Palau. In response to the outbreak of the Russo-Ukrainian War in 2022, CAL upheld the motto of "Taiwan Can Help" as a global citizen and took on the social responsibility by donating TWD 10 million in the name of the CAL Group. The donation benefited approximately 4 million people and demonstrated CAL's commitment to international humanitarian aid.

Media

Media reports and comments on CAL affect CAL's reputation and image.



Material Issues

● Green Services and Sustainable Catering

Positive impact topic: Green Services and Sustainable Catering

● Flight Safety Management

Negative impact topic: Flight safety incident risks

● Governance and Business Integrity

Negative impact topic: Corruption

● Labor Relations and Communication

Negative impact topic: Deterioration of labor-management relations

● Financial Performance

Negative impact topic: Poor business operations

● Privacy Management

Negative impact topic: Leak of private and confidential information

Communication Channels and Frequency

- | | |
|--|---|
|  1. News releases |  3. Interviews |
|  2. Press conferences |  4. Active communication of industry information |

Corresponding Chapter Section

2-1 Trust | 2-3 Environment | 2-4 Human Resources

Key Points of Communication

Collection of issues of stakeholders' concern and promotion of transparent communication

Communication Results

Released 123 announcements (including press releases, statements, revenue reports, and news announcements) in 2022

Highlights of Communication Results

As countries relaxed border control measures, travel demand rose quickly and CAL actively announced new destinations and increased flights to prepare the flight network and provide passengers with a diverse range of flight options. CAL launched the "Dynasty Sky Reading" electronic publication service on all aircrafts and all routes to cater to post-pandemic zero-contact requirements and provide safe passenger services. The Company created a new fleet, introduced the next-generation environmentally friendly aircrafts A321neo, and ordered additional 777F cargo aircrafts and 787-9 passenger aircrafts. Cargo transport continues to play a key role in the post-pandemic era. CAL renewed the IATA CEIV Pharma certification. CAL received major domestic and international awards, including the selection as a constituent of the Dow Jones Sustainability Index (DJSI) for the 7th consecutive year and received 1st place ranking in the global aviation industry. CAL continued to promote environmental sustainability and supported the SkyTeam in the Sustainable Flight Challenge by launching demonstrative sustainable flights. The Company also launched "Net Zero Carbon Flights" for all flights departing from Taiwan to celebrate CAL's 63rd anniversary and actively pursue the goal of attaining net zero carbon emissions by 2050.

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Associations (including Aviation Organizations)



CAL participates in association, international organization, and aviation alliance meetings and seminars, to exchange opinions and get an early grasp on changes to aviation-related laws and regulations, thus ensuring compliance of our business activities

Material Issues

- **Environmental protection benefits and resource management**
Positive impact topic: Effective use of resources and circular economy
Negative impact topic: Environmental pollution caused by operations
- **Energy Management**
Positive impact topic: Energy conservation and electricity savings
- **Labor Relations and Communication**
Negative impact topic: Deterioration of labor-management relations
- **Governance and Business Integrity**
Positive impact topic: Sound corporate governance
Negative impact topic: Corruption

Communication Channels and Frequency

- M** **+**✕ 1. Participation in project meetings
- +**✕ 2. Participation in work seminars
- R** **+**✕ 3. Organizing or participating in summits, executive summits, committees, and coordination meetings
- R** **+**✕ 4. Participation in government-convened meetings
- +**✕ 5. Telephone, e-mail, and exchange platforms

Corresponding Chapter Section 2-1 Trust | 2-3 Environment

Key Points of Communication

- Collection of trends at home and abroad and promotion of business operations
- Coordination of business relationships and promotion of mutual benefits
- Improvement of flight safety through discussions on safety issues, information exchange, and sharing security management experience

Communication Results

In 2022, CAL participated in meetings and projects organized by domestic and international organizations and aviation alliances such as IATA, SkyTeam, AAPA, and Taipei Airlines Association, including 8 professional seminars and conferences on environmental issues, to continue strengthening cooperation with airlines at home and abroad

Highlights of Communication Results

- CAL stayed in close contact with aviation alliances on flight safety and health topics during the COVID-19 pandemic in order to ensure effective safety management and health measures
- CAL communicated with TAA to request MOTC to extend airline relief programs and received positive support. The site usage fees, noise charges, land usage fees, property usage fees, maintenance hangar usage fees, and air traffic service charges for domestic civil aviation industries in the first half of 2022 were deferred
- When the epidemic subsided and Taiwan relaxed border controls, TAA lobbied the Central Epidemic Command Center to increase the total number of people permitted to enter Taiwan to increase the number of passengers between Taiwan and foreign countries to support the recovery of the aviation industry in Taiwan
- TAA lobbied government agencies to focus on the use of sustainable aviation fuel (SAF) for Taiwan's pathway and strategy for attaining net zero carbon emissions by 2050, and incorporate the challenges of the domestic SAF industry chain, future demand, and alternative solutions into consideration
- CAL expressed its support for the SkyTeam in promoting sustainable development and participated in the Sustainable Flight Challenge. CAL received the "Best Cargo Sustainability Innovation Award" and "Best Employee Participation Award"
- CAL attended 3 meetings of the IATA Sustainability and Environment Advisory Council (SEAC) and AAPA Environmental Working Group (EWG) for discussions and formulation of strategies for issues such as the targets and action plans for net zero carbon emissions of the international aviation industry by 2050, climate change, cabin waste, and sustainable aviation fuel (SAF)
- CAL participated in the IATA CO2 Connect flight carbon footprint calculator test program to monitor the improvements in international carbon footprint calculation tools
- CAL participated in 3 IATA meetings on environmental protection issues to discuss issues such as cabin waste and environmental protection knowledge centers
- CAL attended monthly meetings of the Taoyuan International Airport to discuss issues such as the recycling of coffee grounds, heat recovery in the incineration plant, and the construction of vehicle charging facilities

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1-4-2 Initiatives and Organizations (GRI 2-26, 2-28)

CAL maintains politically neutrality and has never provided lobbying fees or political donations to prevent lobbying expenditures or donations to other tax-exempt organizations that may damage the Company's reputation and incur corruption risks. CAL's policies for participation in initiatives and organizations and investment of resources and membership fees are mainly focused on international environmental protection initiatives and organizations as well as NPOs such as trade associations with the power to influence public policies in the international aviation industry. We aim to leverage our participation in initiatives and organizations to facilitate the exchange of ideas in the industry and create contributions and benefits. CAL therefore actively participates in business development, corporate sustainability, environmental and other specialized initiatives and organizations in the airline industry. As the COVID-19 pandemic slows down, CAL invested TWD 36.94 million to participate in initiatives (96.12% or TWD 35.51 million in business development for the airline industry and the other 3.88% or TWD 1.43 million in corporate sustainability, and environmental and other specialized initiatives) in 2022. Refer to [the ESG Data and Appendix - Organizations, Initiatives, Policies, Contributions and Other Expenses](#) for the actual expenses.

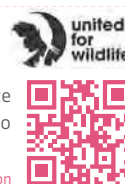
External Initiatives

2017-2022

Buckingham Palace Declaration

At the 73rd IATA Annual General Meeting in June 2017, CAL signed the Buckingham Palace Declaration against illegal wildlife trafficking. CAL has worked with 60 other airlines to stamp out the transport of illegal wildlife in conformity with the UN's SDGs.

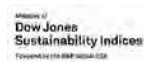
Signing of the Buckingham Palace Declaration



2016-2022

Dow Jones Sustainability Indices (DJSI)

Since 2015, CAL has taken the initiative to respond to the Dow Jones Sustainability Indices (DJSI) questionnaire, disclosing our management objectives, strategies and practices in terms of the environment, society, and economy/governance. In 2022, CAL was selected for the DJSI Emerging Markets for the seventh consecutive year. CAL ranked first in the global aviation industry and was only airline company in Taiwan to be selected. CAL was also ranked among the top 1% of the aviation industry in the 2023 Sustainability Yearbook.



2012-2022

Pacific Greenhouse Gases Measurement (PGGM)

Since 2012, the Company has participated in the PGGM by installing the In-service Aircraft for a Global Observing System (IAGOS) Package-1 in its aircraft cabins to collect trans-Pacific high-altitude gas data for global warming and climate studies conducted by science agencies around the world. As of December 31, 2022, CAL has collected high-altitude gas data from 16,456 flights. To strengthen greenhouse gas monitoring operations and collect more data on the types of high-altitude air and changes for global atmospheric and greenhouse gas research, CAL commenced collaboration with National Central University, In-service Aircraft for a Global Observing System (IAGOS) of the EU, and Japan Aerospace Exploration Agency (JAXA) to install Package-2, the add-on components for Package-1 in 2023. It will monitor changes in the concentration of NO_x, CO₂, and CH₄. CAL became the second airline company in the world and the first airline company in Asia to be fitted with laser sensors for precision detection of CO₂ and CH₄. The project also promoted collaboration in scientific research between Taiwan, Japan, and the EU.



2012-2022

Carbon Disclosure Project (CDP)

CAL is Taiwan's first service provider to independently review greenhouse gas emissions generated from its operations and respond to the CDP questionnaire. Since 2012, CAL has conducted greenhouse gas inventory training and surveys of greenhouse gas emissions for its affiliates on a regular basis and disclosed its climate governance, strategies, management of risks and opportunities, indicators and targets, greenhouse gas emissions, and reduction management and performance. CAL has been recognized as a benchmark enterprise. In the future, CAL will continue to review and improve carbon management strategies through participation in the CDP. Ranked Leadership in CDP Supplier Engagement Rating (SER) for the fourth consecutive year.



2008-2022

Earth Hour

CAL has supported the event since 2008 by working with the Group's partners, providing support through concrete actions, and urging the public to take notice of the impact of global warming and climate change through media outlets.



2018-2022

TCFD Climate-Related Financial Disclosures

CAL became Taiwan's first airline to publicly sign and adopt the Task Force on Climate-Related Financial Disclosures (TCFD) in 2018. CAL works actively to make TCFD part of the company's management system. In 2019, CAL assisted in completing the translation of TCFD to Traditional Chinese, and participated in several industry / government / academic campaigns to promote it. In January 2021, 2022 and 2023, CAL went on to publish annual independent TCFD reports. Results of management internalization are presented through press releases and social media.



TCFD Report

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Memberships

IATA Airline Development

International Air Transport Association

CSR Work Group, Carbon Offsetting and Reduction Scheme for International Aviation Work Group (CORSIA), Air Freight Carbon Footprint Work Group; observer of the Industry Affairs Advisory Council (IAAC)

CAL's Role and Participation

CAL kept in close touch with IATA headquarters and IATA North Asia and participated in meetings, industry committees and task forces; and served as a member of Sustainability and Environment Advisory Council. It was also involved in environmental discussions relevant to international civil aviation, and supports research and studies of related environmental subjects.

Contributions and Benefit

- CAL helped the Executive Committee under IATA plan, supervised and implemented the policies and strategies for environmental management and sustainable development of the global aviation industry to ensure that related carbon reduction targets meet the global carbon reduction targets set in the Paris Agreement of the UN.
- CAL kept itself updated with the development of international carbon management mechanisms, cabin waste, and sustainable aviation fuels, provided information for national legislation, and continued to implement industry training programs.
- CAL participated in the IATA CO₂ Connect flight carbon footprint calculator test program to monitor the improvements in international carbon footprint calculation tools.
- CAL participated in the IATA 25BY2025 program to periodically monitor aviation industry professionals, improve the gender balance, and enhance gender equality in the industry.

AAPA Airline Development

Association of Asia Pacific Airlines

Founding Member

CAL's Role and Participation

As a founding member of the AAPA, CAL has endeavored to connect airlines in the Asia-Pacific region and speak for them.

Contributions and Benefit

- In 2022, AAPA continued to monitor environmental issues and collected information on the implementation of CORSIA and difficulties from members. It also held video conferences to facilitate the exchange of ideas on response measures of the members.
- In 2022, AAPA continued to monitor environmental issues and convened several rounds of video conferences to obtain the opinions of members on the carbon reduction statement. It also worked with international aviation organizations to urge governments to adopt unified health certification mechanisms and prepare for health management of the industry in the post-pandemic era.

SkyTeam Airline Development

SkyTeam

Alliance Board and Executive Board Member

CAL's Role and Participation

CAL became the fifteenth member of SkyTeam on September 28, 2011, and was the first airline in Taiwan that joined SkyTeam. To optimize services and markets in the aviation industry, CAL attends working meetings at all levels, as well as annual meetings held by the Executive Board and the Alliance Board on a regular basis.

Contributions and Benefit

- SkyTeam helps CAL consolidate and strengthen our global flight network and cooperation with other member airlines enables CAL to connect Taiwan and major destinations around the world.
- In response to traveler's expectation related to safety on air travel in the post-pandemic era, CAL launched a series of contactless passenger services to improve public health and safety for passengers.
- IATA's 25BY2025 program included female manager training to help member airlines increase the ratio of female managers in the aviation industry.
- CAL participated in The Sustainable Flight Challenge (TSFC) to increase the Company's international visibility.
- CAL participated in the establishment of environmental protection and sustainability strategies and plans of the Alliance.



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TAA Airline Development

Taipei Airlines Association

Director

CAL's Role and Participation

CAL is one of the founding members of TAA. Established in March 1990, TAA acts as an advisor and coordinator which connects the government and the industry. CAL participates in annual general meetings, as well as director, supervisory board meetings. CAL also participate in regular activities organized by TAA and attends meetings with governments to protect the rights and interests of the aviation industry.

Contributions and Benefit

- In response to the relaxation of border controls by the Central Epidemic Command Center, CAL advocated an increase in the quota of entries for domestic airlines to increase the number of passengers transported.
- In response to the net zero emissions by 2050 target, CAL lobbied the government to include sustainable aviation fuel (SAF) as a pathway for attaining net zero carbon emissions, and plan related measures and alternatives at the same time.



FSFT Airline Development

Flight Safety Foundation-Taiwan

Managing Director, Technical Regulation Committee - Convener, Educational Training Committee - Convener

CAL's Role and Participation

CAL serves as the managing director and the conveners of the FSFT's Technical Regulation and Educational Training Team, to participate in governance decision-making, establish government-industry-university-institute cooperation mechanism to promote international regulations studying, strategic research and engagement related to international aviation safety and environmental sustainability.

Contributions and Benefit

CAL is responsible for the promotion and establishment of mechanisms for collecting and studying laws and regulations, educational promotion related to international aviation safety and environmental sustainability, and to give advice on amendments or countermeasures for improving national legislation and aviation industry competitiveness.

AAPT Corporate Sustainability

Association of Atmosphere Protection in Taiwan

Director

CAL's Role and Participation

CAL participates in the decision-making of organizational management, and promote the strategic engagement of the government-industry-university-institute in response to the issues of global atmospheric protection and climate change.

Contributions and Benefit

CAL helped facilitate the communication between the industry, the government, and the academia about policies, laws, academic research, technology research and development, counseling, and services pertaining to atmosphere protection and climate in Taiwan.

TCCS Corporate Sustainability

Taiwan Center for Corporate Sustainability

Advisory Director

CAL's Role and Participation

CAL acted as one of the advisory directors to participate in the training and operation of the Center for Corporate Sustainability. CAL served as the lecturer to communicate the Company's actions for sustainability from time to time based on the themes of the Center's meetings. CAL participated in a series of training courses on corporate sustainable competitiveness and seminars on the corporate sustainability report and related issues organized by the Center for Corporate Sustainability to improve its knowledge of industrial practice and latest trends.

Contributions and Benefit

The Advisory Council is the highest decision-making organization of the Center for Corporate Sustainability. Becoming a member and acting as a director of the Center for Corporate Sustainability allowed CAL to be aware of latest laws and regulations, policy review, technical regulations, and standards for sustainability and to have influence.



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1-4-3 Materiality Analysis (GRI 3-1, 3-2, 3-3)

CAL identified eight stakeholders in accordance with the five major principles defined in the AA1000 Stakeholder Engagement Standard (SES), and followed the Reporting principles of GRI Standards (accuracy, balance, clarity, comparability, completeness, sustainability context, timeliness and verifiability) to evaluate the significance of material issues every year in terms of their impact on the economy, environment, and other social challenges. They are used as the basis for planning the sustainable development strategies to identify material issues of stakeholders' primary concern. Different channels of communication are also established to respond to stakeholders' needs and expectations.

Step 1

Analyze the Organization

We analyzed the main activities of CAL and the airline industry, business relationships in the value chain, and risks and challenges of the industry in terms of the external legal environment, economy, environment, and human rights. We also identified stakeholders related to CAL's sustainability issues and referenced material issues related to the sustainability evaluations and standards of the aviation industry to measure CAL's potential impact on the economy, environment, and people.

Step 2

Identify Actual and Potential Impact

CAL analyzed the organization and consulted experts to identify 16 sustainability issues related to CAL (divided into 21 sustainability topics with positive/negative impact). The members of the task forces of CAL's Corporate Sustainability Committee and unit managers discuss the opinions and feedback of stakeholders and identified the level of impact of CAL on the economy, environment, and people in each sustainability issue. They also identified business relationships with negative/positive impact and actual and potential impact to effectively manage the impact of material issues.

Step 3

Evaluate the Significance of Impact

After establishing sustainability issues, the Company conducted an internal identification of material issues and survey. In terms of external entities, CAL consulted key partners at its annual supplier conference and conducted a survey to effectively incorporate internal and external perspectives. We organized a survey on our sustainability website to collect feedback and assess the impact on the economy, environment, and people (including human rights). We evaluate positive and negative impacts through different approaches based on their actual and potential as well as positive and negative impact and probability of occurrence. In the process, we also used the principle of double materiality to assess the scale and severity of an individual impact of on each part of the value chain. We also assessed the financial impact on China Airlines based on whether the impact was actual or potential. After scoring, we analyzed and compiled a list of material, minor, and ongoing issues of concern.

- Negative impact: Evaluate impact based on the severity and probability of occurrence and consider the negative impact of human rights violations
- Positive impact: Evaluate impact based on the scale and scope of the impact and the probability of occurrence

Step 4

Set Priorities for the most Significant Impact

The representatives of the Corporate Sustainability Committee issued questionnaires to evaluate the level of impact of sustainability issues, connected them to related material issues in the sustainability ratings and standards of the aviation industry, and discussed with experts to identify the top three significant material topics with the highest positive and negative impact and produced the results of the 2022 materiality analysis. The Corporate Sustainability Committee, the highest governing organization of corporate sustainability, passed a resolution on the materiality analysis and used the chapters of the report to explain the material topic management policies and respond to the material issues of concern to stakeholders on CAL's Corporate Sustainability Site for external disclosure.



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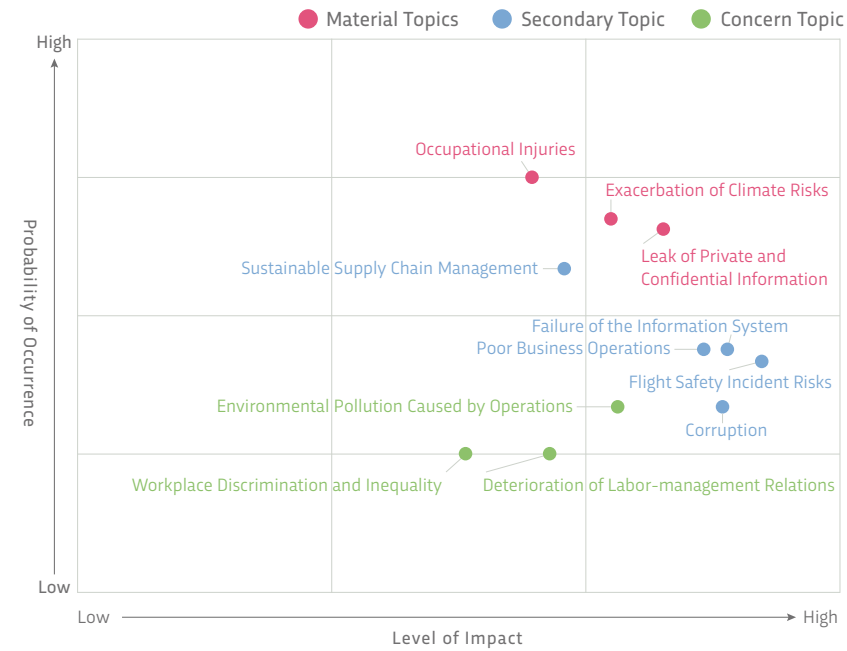
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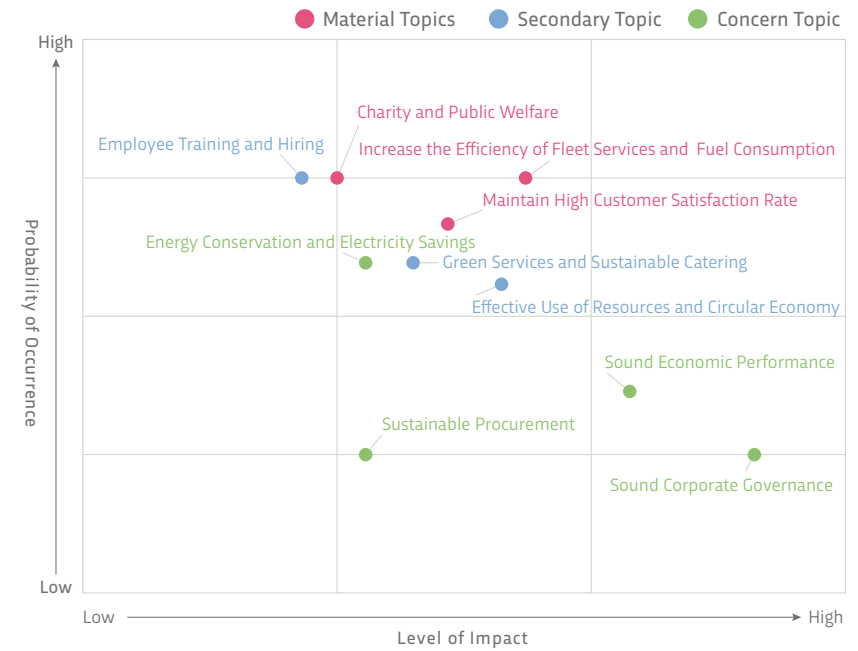
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2022 Materiality Analysis Matrix

2022 Materiality Analysis Matrix - Negative Impact



2022 Materiality Analysis Matrix - Positive Impact



Note: CAL identified, assessed, and adjusted the rankings of material issues in terms of the two aspects according to the reporting principles for material issues in GRI 2021. The X axis shows the level of impact (including negative impact and positive influence); the Y axis shows the probability of occurrence. CAL identified 3 material topics with positive impact, 4 secondary topics, and 3 topics of concern that require continuous monitoring; 3 material topics with negative impact, 5 secondary topics, and 3 topics of concern that require continuous monitoring. The 21 material topics were placed on the materiality matrix with material topics labeled in red.

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Importance of and Changes in Material Topics for 2022

	Sustainability Issue No.	Sustainability Issues for 2022	Issues of Concern to Human Rights at CAL	Positive / Negative Impact of Sustainability Issues		Significance of Impact	Corresponding Sustainability Topics in 2021
Environment	1	Climate Change Mitigation and Adaptation		⊖	Exacerbation of Climate Risks	Failure to effectively control greenhouse gas emissions will exacerbate global climate change and increase climate risks, resulting in a deterioration of the business environment for the aviation industry	Climate Change Mitigation and Adaptation
	2	Energy Management		⊕	Energy Conservation and Electricity Savings	The aviation industry consumes a vast quantity of fuel in its operations and it uses electricity in its ground operations. Energy management can help companies to effectively monitor the current state of energy use and adopt energy conservation measures	Energy Management
	3	Environmental protection benefits and resource management		⊕	Effective Use of Resources and Circular Economy	If a lifecycle model is adopted to effectively manage water and waste resources, it would help reduce environmental risks and increase the benefits for the ecology in the Company's operations	Environmental Risks and Business Efficiency Management
				⊖	Environmental Pollution Caused by Operations	Air pollution, wastewater, and waste from business operations impact biodiversity	Resource Management
People	4	Green Services and Sustainable Catering		⊕	Green Services and Sustainable Catering	Promote green consumption, implement green and local procurement, introduce innovative ideas to optimize services and operations to reduce the amount of product and food waste and its associated disposal costs, and remain committed to increasing the environmental friendliness of services	Green Services and Sustainable Catering
	5	Flight Safety Management	✓	⊖	Flight Safety Incident Risks	The highest level of achievement in the aviation industry is having zero flight safety accidents. Any severe flight safety accident can cause tremendous losses in human life and properties as well as customer trust.	Flight Safety Management
	6	Attracting, Cultivating, and Retaining Talent		⊕	Employee Training and Hiring	CAL establishes a sound training system and structure to attract and train aviation professionals; we value the development of employee competency in order to promote sustainable employment	Sustainable Employment and Talent Attraction
			✓	⊖	Workplace Discrimination and Inequality	Create an equal, diverse, and inclusive workplace environment, including equal pay for men and women, and a friendly work environment for minorities or disadvantaged groups	
	7	Labor Relations and Communication	✓	⊖	Deterioration of Labor-management Relations	If the Company cannot effectively communicate with employees and learn about their opinions, it will be difficult to maintain harmonious labor-management relations and provide a secure work environment for employees	Labor Relations and Communication
	8	Occupational Safety and Health	✓	⊖	Occupational Injuries	The problems of occupational accidents or health hazards for employees as a result of a poor workplace environment and labor conditions may affect the quality of services over time	- Occupational Safety and Health Management - Public Health and Safety

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	Sustainability Issue No.	Sustainability Issues for 2022	Issues of Concern to Human Rights at CAL	Positive / Negative Impact of Sustainability Issues	Significance of Impact	Corresponding Sustainability Topics in 2021
People	9	Privacy Management	✓	— Leak of Private and Confidential Information	If the Company fails to protect the personal information of employees and consumers and protect customer privacy, the security of personal information will be at risk and customer privacy will be infringed	Privacy Management
	10	Social Feedback and Engagement		+ Charity and Public Welfare	The Company uses its professional capabilities and devote themselves to social welfare and social responsibility to win the support of the society	Social Feedback and Engagement
Economy	11	Governance and Business Integrity		+ Sound Corporate Governance	A robust corporate governance framework and sound ethical corporate management are fundamental to corporate sustainability. We must strengthen corporate governance, implement ethical corporate management, protect the company's reputation and positive image, and gain the trust of investors and customers.	Governance and Business Integrity
			✓	— Corruption	Corruption and unethical business practices or advertising may result in loss of assets or damage to the Company's reputation, affect upstream and downstream suppliers, shareholders' equity, or harm human rights	Brand Management
	12	Financial Performance		+ Sound Economic Performance	The purpose of companies is to continuously improve business performance, increase profitability, and support capital market operations to contribute to the local, national, and global economies	Financial Performance
				— Poor Business Operations	Poor business operations will affect the Company's smooth operations and even cause losses to investors	
	13	Fleet Development and Innovation		+ Increase the Efficiency of Fleet Services and Fuel Consumption	By continuing to participate in aviation organizations and enhancing the CAL's influence in aviation organizations, we can help reduce greenhouse gas emissions by launching new aircrafts and new services, improving fleet efficiency, and retiring older aircrafts that consume large quantities of energy	- Fleet Development and Management - Sustainable Innovation and Development - Market Competitiveness - Passenger Services Management - Cargo Service Management
	14	Customer Satisfaction		+ Maintain High Customer Satisfaction Rate	Use comprehensive customer relationship management to optimize and improve the customer experience and increase customer retention and loyalty	Customer Relationship and Satisfaction
	15	Sustainable Supply Chain Management	✓ ✓	+ Sustainable Procurement — Sustainable Supply Chain Management	By implementing a fair and equitable selection procedures, we consider factors such as quality, delivery time, local raw material priority sourcing, and the ESG performance of suppliers to create positive feedback in the overall value chain When the Company selects suppliers, it must avoid environmental and human impacts caused by their activities, such as environmental pollution, child labor, forced labor, occupational accidents, and labor relations	Sustainable Supply Chain Management
	16	Information Security		— Failure of the Information System	An inadequately equipped information security system may cause the entire system to crash or be vulnerable to attacks by hackers, which may result in the leak of information and interrupt all business operations	Information Security Management

● Impact on the Environment ● Impact on People ● Impact on the Economy + Positive — Negative

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Sustainability Issues Corresponded to GRI Standards

	Sustainability Issue	Sustainability Topic	Corresponding to GRI Topic-Specific Standards	Positive / Negative Impact of Sustainability Issues	Initiatives and Organizations	Position of the Sustainability Issue on the Value Chain			Management Strategies (Corresponding Chapters and Page Number)
						Upstream (e.g., Suppliers and Contractors)	CAL Internal	Downstream (e.g., Customers and Travel Agencies)	
Environment	Climate Change Mitigation and Adaptation	Exacerbation of Climate Risks	GRI 305-1 Direct (Scope 1) GHG emissions GRI 305-2 Energy indirect (Scope 2) GHG emissions GRI 305-3 Other indirect (Scope 3) GHG emissions GRI 305-4 GHG emissions intensity GRI 305-5 Reduction of GHG emissions GRI 305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	—	Pacific Greenhouse Gases Measurement (PGGM), Task Force on Climate-Related Financial Disclosures (TCFD), Earth Hour, Carbon Disclosure Project (CDP), IATA, AAPA, AAPT	●	●	●	2-3 Environment - ESG Data and Appendix - Environmental Performance
	Environmental protection benefits and resource management	Effective Use of Resources and Circular Economy	GRI 303-1 Interactions with water as a shared resource GRI 303-2 Management of water discharge-related impacts GRI 303-3 Water withdrawal GRI 303-4 Water discharge	+		●	●		2-3 Environment - ESG Data and Appendix - Environmental Performance
	Environmental protection benefits and resource management	Environmental Pollution Caused by Operations	GRI 303-5 Water consumption GRI 306-2 Water discharge by quality and destination GRI 306-3 Waste by type and disposal method	—	Buckingham Palace Declaration	●	●		2-3 Environment - ESG Data and Appendix - Environmental Performance
	Green Services and Sustainable Catering	Green Services and Sustainable Catering	-	+	United Nations Global Compact (UNGC)	●	●	●	2-3 Environment - ESG Data and Appendix - Environmental Performance
	Energy Management	Energy Conservation and Electricity Savings	GRI 302-1 Energy consumption within the organization GRI 302-2 Energy consumption outside of the organization GRI 302-3 Energy intensity GRI 302-4 Reduction of energy consumption GRI 302-5 Reductions in energy requirements of products and services	+		●	●		2-3 Environment - ESG Data and Appendix - Environmental Performance

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						Upstream (e.g., Suppliers and Contractors)	CAL Internal	Downstream (e.g., Customers and Travel Agencies)	
People	Privacy Management	Leak of Private and Confidential Information	GRI 418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	—	United Nations Global Compact (UNGC)	●	●	●	2-1-6 Privacy Management
	Occupational Safety and Health	Occupational Injuries	GRI 403-1 Occupational health and safety management system GRI 403-2 Hazard identification, risk assessment, and incident investigation GRI 403-8 Workers covered by an occupational health and safety management system GRI 403-9 Work-related injuries GRI 403-10 Work-related ill health	—	United Nations Global Compact (UNGC)	●	●		• 2-4 Human Resources • ESG Data and Appendix - Relevant Data Statistics of Human Resources
	Social Feedback and Engagement	Charity and Public Welfare	-	+			●	●	2-5 Society
	Flight Safety Management	Flight Safety Incident Risks	GRI 404 Training and Education	—	FSFT		●	●	2-1 Trust
	Labor Relations and Communication	Deterioration of Labor-management Relations	GRI 2-30 Collective bargaining agreements GRI 201-3 Defined benefit plan obligations and other retirement plans GRI 401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employee GRI 401-3 Parental leave GRI 402-1 Minimum notice periods regarding operational changes GRI 405-2 Ratio of basic salary and remuneration of women to men GRI 2-23 Policy commitments GRI 2-25 Processes to remediate negative impacts GRI 406-1 Incidents of discrimination and corrective actions taken GRI 412-1 Operations that have been subject to human rights reviews or impact assessments	—	United Nations Global Compact (UNGC)		●		• 2-4 Human Resources • ESG Data and Appendix - Relevant Data Statistics of Human Resources

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	Sustainability Issue	Sustainability Topic	Corresponding to GRI Topic-Specific Standards	Positive / Negative Impact of Sustainability Issues	Initiatives and Organizations	Position of the Sustainability Issue on the Value Chain			Management Strategies (Corresponding Chapters and Page Number)
						Upstream (e.g., Suppliers and Contractors)	CAL Internal	Downstream (e.g., Customers and Travel Agencies)	
People	Attracting, Cultivating, and Retaining Talent	Employee Training and Hiring	GRI 404-1 Average hours of training per year per employee GRI 2-7 Employees GRI 2-8 Workers who are not employees GRI 202-2 Proportion of senior management hired from the local community GRI 401-1 New employee hires and employee turnover	+	United Nations Global Compact (UNGC)		●		2-4 Human Resources - ESG Data and Appendix - Relevant Data Statistics of Human Resources
	Attracting, Cultivating, and Retaining Talent	Workplace Discrimination and Inequality	GRI 405-1 Diversity of governance bodies and employees	-	United Nations Global Compact (UNGC)		●		2-4 Human Resources - ESG Data and Appendix - Relevant Data Statistics of Human Resources
Economy	Fleet Development and Innovation	Increase the Efficiency of Fleet Services and Fuel Consumption	GRI 2: General Disclosures 2021 2-1 Organizational details 2-6 Activities, value chain and other business relationships	+	IATA, SkyTeam, AAPA	●	●		Preface, Business Overview
	Customer Satisfaction	Maintain High Customer Satisfaction Rate	-	+			●	●	2-1-4 Customer Relations Management - ESG Data and Appendix - Customer Satisfaction Table in 2022
	Sound Corporate Governance		GRI 2-9 Governance structure and composition GRI 2-10 Nomination and selection of the highest governance body GRI 2-11 Chair of the highest governance body GRI 2-15 Conflicts of interest GRI 2-17 Collective knowledge of the highest governance body GRI 2-19 Remuneration policies GRI 2-20 Process to determine remuneration	+	TAA, TCCS, United Nations Global Compact (UNGC)		●		3-1 Governance Framework 3-4 Regulatory Compliance - ESG Data and Appendix - GRI Content Index
	Governance and Business Integrity	Corruption	GRI 2-23 Policy commitments GRI 2-24 Embedding policy commitments GRI 2-25 Processes to remediate negative impacts GRI 2-27 Compliance with laws and regulations GRI 412-2 Employee training on human rights policies or procedures GRI 205-2 Communication and training about anti-corruption policies and procedures GRI 206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	-	TAA, TCCS, United Nations Global Compact (UNGC)	●	●	●	3-4 Regulatory Compliance - ESG Data and Appendix - Management of Material Human Rights Issues in 2022

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Sustainability Issue	Sustainability Topic	Corresponding to GRI Topic-Specific Standards	Positive / Negative Impact of Sustainability Issues	Initiatives and Organizations	Position of the Sustainability Issue on the Value Chain			Management Strategies (Corresponding Chapters and Page Number)
					Upstream (e.g., Suppliers and Contractors)	CAL Internal	Downstream (e.g., Customers and Travel Agencies)	
Financial Performance	Sound Economic Performance	GRI 201-1 Direct economic value generated and distributed	+			●		3-2 Operational Achievements - ESG Data and Appendix - Financial Performance
	Poor Business Operations		-			●		3-2 Operational Achievements - ESG Data and Appendix - Financial Performance
Sustainable Supply Chain Management	Sustainable Procurement	2-6 Activities, value chain and other business relationships GRI 204-1 Proportion of spending on local suppliers	-	United Nations Global Compact (UNGC)	●	●		2-2 Cooperation
	Sustainable Supply Chain Management	GRI 308-2 Negative environmental impacts in the supply chain and actions taken GRI 407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk GRI 414-2 Negative social impacts in the supply chain and actions taken	+	United Nations Global Compact (UNGC)	●	●		2-2 Cooperation
	Information Security	Failure of the Information System	-		●	●	●	2-1-5 Information Security Management

● Impact on the Environment
 ● Impact on People
 ● Impact on the Economy
 + Positive
 - Negative

Note: The sustainability topics impact assessments cover all CAL internal, upstream and downstream operation activities of the value chain, with a coverage rate of 100%.

1-5 Achieving Sustainable Development Goals

Sustainable Development Goals for Six Value Task Forces

Task Force Corresponding SDGs	2022 Objectives	Illustration of Progress	Key Results and Performance	Short-term Goals (2023)	Medium-term Goals (2025)	Long-term Goals (2030)
Foundations for Sustainability Development  ● Governance and Business Integrity ● Financial Performance ● Fleet Development and Innovation	Achieving 100% of sustainability tasks for the year and establishing the employee awareness improvement plan	✓	• Provided employee CSR awareness training and added mandatory online courses for new employees	Achieving 100% of sustainability tasks for the year and implementing the employee awareness improvement plan	Regularly reporting progress on CSR tasks to the Corporate Sustainability Committee and holding at least two CSR training sessions for affiliates	Disclosing sustainable development of airline transport affiliates
	Implementing operating mechanisms for SDGs	✓	• Reviewed SDGs for each task force on a rolling basis • The Corporate Sustainability Committee reviewed the progress of each task force every year • The task forces delivered status reports on a quarterly basis	Implementing operating mechanisms for SDGs	Assisting industry partners in building up capacity for sustainable development	Supporting global sustainability initiatives to expand the industry influence
Trust  ● Customer Satisfaction ● Information Security ● Flight Safety Management ● Privacy Management	Implementing personal data management systems, in accordance with GDPR and personal data protection laws	✓	• Created a personal information management system • Conducted personal data inventory and personal data risk assessments • Encouraged all employees to complete personal data training • Created a personal information audit system • Organized a personal data management review meeting	Implementing personal data management systems, in accordance with GDPR and personal data protection laws	Receiving ISO 27701 Privacy Information Management certification in the collection, processing, and use of personal data in the Passenger Service Management Procedure (including Taiwan and EU headquarters)	Maintaining validity of ISO27701 Privacy Information Management certificate Keeping a score of 90 or higher in the DJSI personal data protection criteria
	Increasing the cargo service customer satisfaction to 88%	✓	The cargo service customer satisfaction was 89.5% in 2022	Cargo service customer satisfaction		
				88%	89%	90%
	Continuously participating in aviation organizations and increasing influence	✓	CAL attended 13 meetings of international aviation organizations and domestic flight safety seminars in person or via video conference or telephone • International Civil Aviation Organization 2022 AAPA CaSWG meetings (3 times), 2022 AAPA FOSWG meetings (3 times), 2022 International Air Safety Summit (IASS), IATA Safety, Flight and Ground Operations Advisory Council (SFGOAC) meeting, Building a Sustainable Aviation System: Safe and Green seminar • Domestic flight safety seminars "2022 Aviation SMS Summit", "International Ground Safety Seminar", "2022 Flight Data Analysis and Application Seminar", "Flight Operations and Safety Seminar"	Performing aviation data study and analysis for future release	Publishing the results of flight operations studies to improve the technical capacity of the aviation industry	Developing innovation plans with other airlines to drive innovation momentum

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Trust ● Customer Satisfaction ● Information Security ● Flight Safety Management ● Privacy Management	Strengthening the promotion of a just culture	✓	- CAL administered e-learning online courses for building a just culture in accordance with the recommendations in the 2020 safety culture evaluation to create a positive culture of safety. A total of 10,747 employees in domestic and foreign units completed the training. - Organized the “Taoyuan Metro Corporation Visit and Communication Event” to build upon the spirit of management by walking around. The in-person visit helped employees learn about the daily operations and safety management of the Company and share experience. - Organized the “Civil Aviation Legislation and Practice Seminar” to help unit managers of flight operations strengthen their knowledge, understanding, and applications of aviation standards and regulations. We invited a senior technical specialist from the Flight Standards Division of the CAA to give a speech on aviation operations titled “Amendments of Civil Aviation Legislation and Avionics”.	Continuing to pass IOSA certification standards and improve safety risk management	Continuing to pass IOSA certification standards and improve the safety management system	Continuing to pass IOSA certification standards and improve corporate safety culture
	Optimize internal operating procedures and customer service mechanisms	✓	- Continued to promote robotic process automation and related applications - Continued to optimize the customer service bot to answer questions	Securing development of core business information application systems and infrastructures, organizing annual disaster recovery exercises, and launching innovative application services as needed to increase revenue and reduce costs for the company and increase work efficiency	- Promoting a smart airport: Establish a smart airport at Terminal 3 of Taiwan Taoyuan International Airport and increase customer satisfaction with digital and innovative technology application - High-speed ICT network: Set up a dedicated optical fiber and terminal system network to increase data and audio connection performance and increase operating efficiency - Continuous improvement of disaster recovery plans: Provide on-site redundancy with sufficient hardware and software capacity to respond to anomalies in the core database system and ensure high availability of the database system	- Promoting smart tourism: Achieving horizontal and vertical integration of tourism-related industries to provide a one-stop smart travel eco-system - Evaluate the adoption and applications of new technologies and continuously optimize and expand the disaster recovery capacity

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Task Force Corresponding SDGs	2022 Objectives	Illustration of Progress	Key Results and Performance	Short-term Goals (2023)	Medium-term Goals (2025)	Long-term Goals (2030)
Human Resources ● Attracting, Cultivating, and Retaining Talent ● Labor Relations and Communication ● Occupational Safety and Health	Organizing four expert seminars that provide an opportunity for internal cross-disciplinary networking	⬆	Due to the continuous impact of the pandemic in 2022, we only completed three expert seminars (on aviation-related topics including asset management, hospitality, management of aviation materials, and cargo operations) in 2022. A total of 722 people attended the events. However, we have organized 7 sessions from 2021 to 2022, and we are set to complete the short-term goal of “organizing 8 expert seminars” for 2021 to 2023.	Organizing eight expert seminars that provide an opportunity for internal cross-disciplinary networking	Completing the establishment of all internal online training materials for all specialties	Applying to Taiwan's aviation talent development
	Establishing CAL's aviation management talent pool	✓	Optimizing talent pools for different levels of management (including a master talent pool, management training courses, and advanced management courses) and related training mechanisms to develop talent for the company over the long term and lay the foundation for passing on knowledge and experience	Optimizing CAL's aviation management talent training mechanisms	Establishing the optimal learning path for CAL's aviation management talent pool	Promoting Taiwan's aviation talent development
	Percentage of female managers reaching 24.5%	★	The percentage of female managers has risen to 28.46% in 2022	Percentage of female executives reaching		
Cooperation ● Sustainable Supply Chain Management	Maintain SAQ score at 87 points	✓	5 high-risk suppliers were identified in the 2022 sustainability self-assessment questionnaire - The average annual score was 92 in 2022	Maintain SAQ score at		
				87 points	87 points	89 points
	Optimize risk management for sustainable supply chain, implement SAQ, and audit 30% of critical tier-1 suppliers	✓	Met the target of auditing 78% of the 56 key first-tier suppliers in 2022 Completed auditing all 5 high-risk suppliers in 2022	Optimize risk management for sustainable supply chain, implement the SAQ, and audit 70% of critical tier-1 suppliers and 50% of critical tier-2 suppliers by 2023	Optimize risk management for sustainable supply chain, implement the SAQ, and audit 100% of critical tier-1 suppliers and 100% of critical tier-2 suppliers by 2025	Providing supply chain training, improving assistance mechanisms, and implementing ongoing SAQs

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Environment  - Climate Change Mitigation and Adaptation - Energy Management - Environmental protection benefits and resource management - Green Services and Sustainable Catering	Improving annual aviation fuel efficiency by 1.5% (flight operations)	⬆️	Maintain leading position among Asia Pacific airlines with fuel efficiency at 0.2409 tons per 1,000 RTK Used 10% SAF for the delivery flights of new aircrafts Implemented 12 SAF improvement plans	Improving annual aviation fuel efficiency by 1.5% and achieving carbon-neutral growth (CORSIA CNG2020) (Attain net zero emissions by 2050)		
	A 39% reduction in carbon emissions from ground operations compared to 2009	✓	Reducing carbon emissions in ground operations by 43% compared to 2009 Implemented 78 environment and energy improvement plans	41%	44%	50% (net zero emissions by 2050) with renewable energy installed capacity reaching 10% of the contract capacity
	Implement TCFD management and disclosure operations	✓	Reported climate governance reports to the Risk Committee of the Board of Directors Continued to publish climate-related financial information	Enhance the integration of decision-making mechanisms with climate-related financial information	Implement and optimize internal carbon pricing operations	Formulate a sustainable aviation fuel strategy for Taiwan
	Reducing general waste (non-recyclable) by 3% compared with 2018	⬆️	Increased output in 2022 by 15% compared to 2018	5%	7%	12%
	Increasing industrial waste recycling ratio to 41%	★	Industrial waste recycling ratio reached 70% in 2022	Industrial waste recycling ratio		
	Reducing water consumption from ground operations by 2.2% compared to 2018	★	Reduced water consumption from ground operations in 2022 by 33% compared to 2018 Implemented equipment updates, pipeline inspections, and employee education	Reduced water consumption from ground operations compared to 2018		
	Reducing paper consumption by 8% compared to 2018	★	Reduced paper consumption in 2022 by 43% compared to 2018 Expanded the digitalization of services and administrative operations	Reduced paper consumption compared to 2018		
				14%	30%	50%

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Task Force Corresponding SDGs	2022 Objectives	Illustration of Progress	Key Results and Performance	Short-term Goals (2023)	Medium-term Goals (2025)	Long-term Goals (2030)
Environment       ● Climate Change Mitigation and Adaptation ● Energy Management ● Environmental protection benefits and resource management ● Green Services and Sustainable Catering	Embargoing transport of endangered species and prohibiting use of illegal species as food ingredients	☑	CAL did not transport illegal wild animals and plants and planted 143 trees Continued the practice of embargoing transport of endangered species and prohibiting the use of illegal species as food ingredients; expanded advocacy campaigns to increase customers' ecological conservation awareness	Embargoing transport of endangered species and prohibiting use of illegal species as food ingredients		
	Reduction of total in-flight waste compared to 2018	☆	Reduce total in-flight waste in 2022 by 68.09% compared to 2018	25%	50%	65%
	Reducing use of disposable plastics for in-flight services	☑	Reduce use of disposable plastics for in-flight services by 30%	Reduction in the number of disposable plastics		
	Reducing average food waste produced per person for in-flight services from 2020 levels	☆	Reducing average food waste produced per person for in-flight services by 74.23% from 2020 levels	Reduction of average food waste produced per person compared to 2020		
				5%	10%	25%
Society    ● Social Feedback and Engagement	Organizing at least one long-term charity project	☑	CAL continued to provide support in 2022 and organized 3 long-term charity projects. CAL also continued to support international relief initiatives by transporting relief supplies to Palau and donations to Ukraine to help improve the health and benefits for Ukrainian refugees.	Supporting international initiatives and organizing at least one long-term charity project	Supporting international initiatives and organizing at least one long-term charity project	Supporting international initiatives and organizing at least one long-term charity project
	Organize at least one education charity event in a remote rural area	☑	CAL volunteers taught aviation courses in 5 nearby elementary schools and 3 junior high schools/elementary schools in remote rural areas in Taitung to spread truth, good, and beauty in society and empower children's growth.	Organize at least one education charity event in a remote rural area	Developing opportunities for students to receive international education	Improving the quality of education in underdeveloped areas / developing countries
	Organize at least one charity event in collaboration with a local Taiwanese brand	☑	CAL organized a charity basketball camp with the Taoyuan Pilots of P. LEAGUE+ CAL organized a charity baseball camp with baseball stars Wei-Yin Chen and Wei-Chung Wang. Both charitable activities involved the sharing of personal experience which encouraged young athletes to pursue their dreams with courage.	Developing PR gifts in collaboration with indigenous peoples or local independent farmers and empower the disadvantaged to gain equal social opportunities	Promoting economic growth and employment assistance in underdeveloped areas / developing countries and improving social well-being	Enhancing the benefits of sponsorships

● Environmental ● Social ● Governance ☆ Goal Exceeded ☑ Goal Attained ⊖ Goal Not Attained

Note: The importance of material issues to CAL may correspond to more than one task force; table lists only most relevant task force.

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HIGHLIGHTS



Core information security system passed certification

In 2019, the core information systems passed the "Information Security Management System (ISMS) ISO 27001: 2013 and obtained a certificate with a validity period of three years. CAL applied for and passed the recertification in 2022. The Company shall continue to implement monitoring, review, maintenance, and improvements to ensure the validity of the certificate and regulatory compliance.



Added diverse payment functions

To provide passengers with more convenient and diverse payment methods, CAL started offering online LINE Pay payment functions on the CAL website and CAL app beginning to July 19, 2022. CAL also offered LINE Pay services in marketing activities at the International Travel Fair (ITF) in Taipei for the first time and received enthusiastic responses from passengers.



Adjusted rules for free checked-in baggage to a system based on the number of bags

To increase CAL's market competitiveness and align with international practices, the Company changed the free checked-in baggage and switched to a system based on the number of bags on August 2, 2022. It provides passengers with more favorable free checked-in baggage to help passengers make better use of their permitted weight.



Organized the 2022 International Ground Safety Seminar

CAL organized the 2022 International Ground Safety Seminar in collaboration with the China Aviation Development Foundation, Flight Safety Foundation - Taiwan, and ROC Civil Aviation Society under the guidance of the Civil Aeronautics Administration of MOTC. The Seminar facilitated the sharing of experience and exchange of ideas between the industry, government, and academia to enhance the safety risk awareness of ground service personnel and continuously improve safety and quality in ground operations.



Co-organized the 2022 Aviation SMS Summit and 2022 Flight Operations and Safety Seminar

China Aviation Development Foundation and CAA organized the "2022 Aviation SMS Summit and 2022 Flight Operations and Safety Seminar" with the support of CAL to continue to promote effective operations of the flight safety management system in Taiwan and build a safe and stable air transportation service system.



11th IOSA safety certification

CAL met the IATA Operational Safety Audit (IOSA) standards for the 11th time and continues to meet the highest international standards.



Learning together to inspire teamwork

The "Cabin Crew Book Club" provides themed-based guidance, promotes openness and tolerance, helps crew members unleash their potential in their teamwork, and thus form a consensus to attain customer satisfaction targets.

Management Approach

Material Issues

- Customer Satisfaction
- Information Security
- Flight Safety Management
- Privacy Management

Importance of Material Issues

Zero accident is the foundation for creating sustainable value for customers. Therefore, providing reliable and safe service is not only the core value of CAL, but also our way to sustainability. As a professional transportation service provider, the sustainable operations of CAL depend on the quality of transportation service provided. To create sustainable value for customers, CAL is dedicated to protecting customers' privacy, providing premium service that meets their expectations and needs, and continuing optimizing the quality of service.

As a multinational airline company, CAL understands that information security and personal privacy protection are critical in all operations. In addition to continuous enhancement of personal data protection mechanisms, CAL also complies with the requirements of personal data protection legislation in different countries and continuously amends the personal data operation regulations and specify a reasonable scope of personal data collection. We also use the latest encryption technologies and regular inspections

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to implement management. CAL provides contact information in accordance with laws to help passengers exercise their legal rights granted in the Personal Data Protection Act. If there is a suspicion of a breach of personal data, CAL immediately takes action to preserve and protect the rights and interests of the parties.

CAL has always valued customer satisfaction with our services and their willingness to recommend CAL flights to their friends and relatives. In addition to distributing the survey to all members on flights, we also set up links at prominent locations on CAL's official website and app for all passengers to fill out. We continuously analyze related data from the survey and regularly review the service performance to remind ourselves to improve service quality based on passenger feedback.

Commitment and Long-term Goals



Commitment

Flight safety is CAL's most solemn and important commitment to customers and the public in its 63 years of history. We are committed to compliance with regulations and zero flight safety accidents and we pledge that we shall do all we can to ensure the safety of all passengers and cargo on each journey. We shall also uphold our consistent service ideals of respect for customers and protecting customer rights during the global COVID-19 pandemic by monitoring international development while complying with national policies and full consideration of customer interests to create a reliable and high-quality service experience. In the post-pandemic era, we shall uphold the motto of "Carve a Perfect Arc as You Reach for New Horizons" and create new stories with passengers on their journeys.



Long-term Goals



2023

1. Implementing personal data management systems, in accordance with GDPR and personal data protection laws
2. Increasing the cargo service customer satisfaction to 88%
3. Performing aviation data study and analysis for future release
4. Continuing to pass IOSA certification standards and improve safety risk management
5. Securing development of core business information application systems and infrastructures, organizing annual disaster recovery exercises, and launching innovative application services as needed to increase revenue and reduce costs for the company and increase work efficiency

2025

1. Receiving ISO 27701 Privacy Information Management certification in the collection, processing, and use of personal data in the Passenger Service Management Procedure (including Taiwan and EU headquarters)
2. Increasing the cargo service customer satisfaction to 89%
3. Publishing the results of flight operations studies to improve the technical capacity of the aviation industry
4. Continuing to pass IOSA certification standards and improve the safety management system
5. Promoting a smart airport: Establish a smart airport at Terminal 3 of Taiwan Taoyuan International Airport and increase customer satisfaction with digital and innovative technology application
6. High-speed ICT network: Set up a dedicated optical fiber and terminal system network to increase data and audio connection performance and increase operating efficiency
7. Continuous improvement of disaster recovery plans: Provide on-site redundancy with sufficient hardware and software capacity to respond to anomalies in the core database system and ensure high availability of the database system

2030

1. Maintaining validity of ISO27701 Privacy Information Management certificate Keeping a score of 90 or higher in the DJSI personal data protection criteria
2. Increasing the cargo service customer satisfaction to 90%
3. Developing innovation plans with other airlines to drive innovation momentum
4. Continuing to pass IOSA certification standards and improve corporate safety culture
5. Promoting smart tourism: Achieving horizontal and vertical integration of tourism-related industries to provide a one-stop smart travel eco-system
6. Evaluate the adoption and applications of new technologies and continuously optimize and expand the disaster recovery capacity

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Unit in Charge

Corporate Sustainability Committee — Trust Value Task Force, Corporate Safety Committee

Management Mechanisms

- The meeting of Corporate Sustainability Committee, at least twice every year
 - The meeting of Corporate Safety Committee, every quarter on a regular basis
 - The quality review and target setting meeting, every year on a regular basis
 - The Trust Value Task Force reports the KPI progress to the Corporate Sustainability Committee, every quarter
 - The information security and personal data review meeting, every year on a regular basis

Objectives and Plans

Key Point	SPI (Note 1) / KPI	2022			2023 objectives
		Objectives	Performance	Achievement	
Flight Safety	Fatal & Hull loss Accidents (Accidents Rate)	0	0	100%	0
	Runway Excursions (RE)	0	0	100%	0
	Controlled Flight into Terrain (CFIT)	0	0	100%	0
	Loss of Control in Flight (LOC-I)	0	0	100%	0
Customer Service	Overall Passenger Satisfaction	87.8	90.5	100%	90
	Overall Cargo Service Satisfaction	88	89.5	100%	88
	Overall Maintenance Satisfaction	8.4	8.8	100%	8.4

Note 1: SPI refers to Safety Performance Indicators.

Grievance Mechanism

Passenger: Passenger Branch Offices — Website
Cargo: Passenger Branch Offices — Website
Maintenance: Engineering & Maintenance Organization —
E-Mail: emo.customer@china-airlines.com



Stakeholder Contact



Cargo Service



Passenger Branch Offices



Aircraft Maintenance

2-1-1 Flight Safety

Safety is the core value of CAL and our absolute commitment to customers. We always take a consistent and uncompromising stand on flight safety. With a zero tolerance on flight safety accidents, CAL has comprehensive control over flight safety through management systems. CAL continuously improves overall flight safety and endeavors to reinforce the corporate culture of safety to make sure that securities are fully in place to provide passengers with safe and reliable flights.

Safety Management System (SMS)

CAL follows the requirements in the civil aviation regulations of Taiwan and references the guidelines in the International Civil Aviation Organization (ICAO) DOC. 9859 Safety Management Manual (SMM). CAL has implemented the Safety Management System (SMS) since 2007. After more than a decade, we continue to meet international standards and national regulations with excellent results. CAL met the IATA Operational Safety Audit (IOSA) standards for the 11th time in 2022 and continues to meet the highest international safety standards. The core of CAL's SMS is safety risk management. CAL analyzes and manages operational risks systematically through continuous risk identification and management. We also set Safety Performance Targets (SPTs) for comprehensive tracking, control, and risk mitigation.

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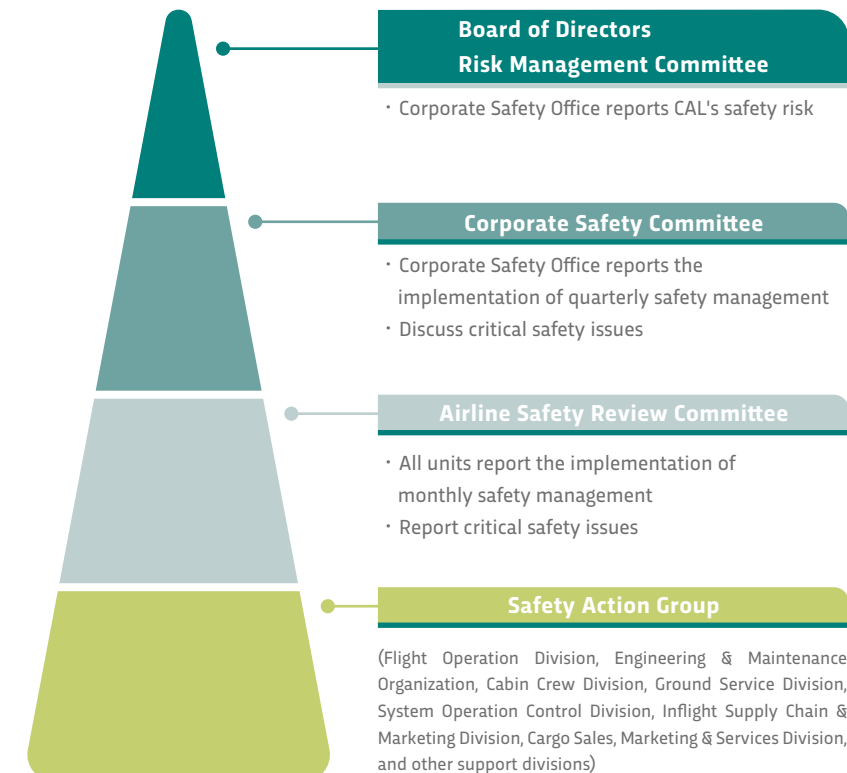


Safety Risk Management

1. Setting and Monitoring Safety Performance Indicators / Targets (SPI / SPT)

Based on past performance and Safety Reporting System, requirements of authorities in charge of civil aviation, plus official safety reports provided by international organizations, CAL sets its annual SPIs/SPTs. The annual safety performance indicators are monitored in executive meetings and reviewed and discussed in review meetings of the safety task force of each unit on a regular basis, to meet flight safety management requirements to meet domestic and international safety standards and attain the highest safety standards.

Safety Management Meeting



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2. Safety Reporting System

To enhance their awareness of flight safety, CAL encourages employees to use the Safety Reporting System to proactively identify potential risks and report possible safety issues in their daily work. Through information data collection and risk management, CAL prevents unsafe incidents from occurring and increases its overall safety and security level. In addition, CAL conducts risk analysis and assessments based on seasonality, trends of flight safety, and changes in internal and external environments. Making a further effort to control risks, we also communicate safety-related discipline and conduct to our employees in announcements or meetings. CAL has a reward mechanism in place to encourage employees to report potential safety issues. In order to encourage all employees willing to report any abnormality and safety reports, CAL introduced Mobile version of the reporting application software eReports (MER) in 2022. It allows all employees can conveniently complete the submission report. A total of 742 safety reports were received in 2022 and rewards were presented 37 times, demonstrating the effectiveness of the active reporting system despite a reduction in the number of flights due to COVID-19 pandemic. The Company has been ranked first in terms of the number of hazard reports filed to Taoyuan International Airport for 4 consecutive years since 2018.



3. Safety Risk Management

Through risk identification, risk assessment, risk control, monitoring, and review, CAL not only mitigates risks to a level as low as reasonably practicable (ALARP), but also predicts potential safety issues in normal system operations and solves

them early to prevent accidents from occurring. To instill the concept of risk management into the operation units and strengthen employees' use of risk management, CAL has, since 2015, provided regular safety risk management (SRM) training and assigned frontline units to implement self-evaluations and execute risk management operations. They must implement safety risk management in accordance with internal and external information, changes in the operation environment, adjustment of regulations, and changes in procedures and equipment. CAL identifies, statistics, and analyzes the main hazards and risks in the operating procedures. In 2022, CAL conducted enhanced training on wet/slippery runways/taxiways maneuvering and enhanced situational awareness under hazardous weather conditions and the potential risk of 5G C-band signals interference to radio altimeter performance in the US. CAL had implemented risk management measures and complied with the requirements of the aviation safety bulletins issued by the CAA of Taiwan to implement supervisory actions.



Active Alertness and Compliance with Laws and Regulations

In 2022, CAL voluntarily reported violations to the CAA and received penalties in two cases. In the first case, engineering personnel failed to evaluate the maintenance plan in accordance with company procedures; in the other case, personnel of ground handling agency neglected to double-check anomalies in loading operations. Both cases were caused by human error. However, CAL reviewed and improved operating procedures based on the investigation result of the events and established preventive measures to prevent human error. Related corrective measures were all approved by the CAA, and we will continue to implement safety management and maintain flight safety.

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4. Flight Operations Quality Assurance

CAL utilizes flight data monitoring programs and the Flight Operations Quality Information System (FOQIS) developed by CAL to quickly identify the potential risks of the flight crew operations and promptly provide guidance for them to take corrective measures in compliance with the Civil Aviation Act of the R.O.C and Flight Operations Quality Assurance (FOQA) of the Convention on International Civil Aviation. Apart from producing trend analysis monthly report of FOQA for CAL’s fleet as a reference, in case of a FOQA event (e.g., an anomaly in flight operation parameters), CAL shall conduct a necessary investigation and analysis, take corrective measures, and continuously monitor the effectiveness of subsequent improvements and corrective measures in accordance with the regulations for operations, thereby lowering flight operation risks and ensuring flight safety. In 2022, CAL worked with Taiwan Transportation Safety Board and leveraged its experience in flight data collection, analysis, and investigation to increase the depth and breadth of flight data applications and improve flight safety and quality.

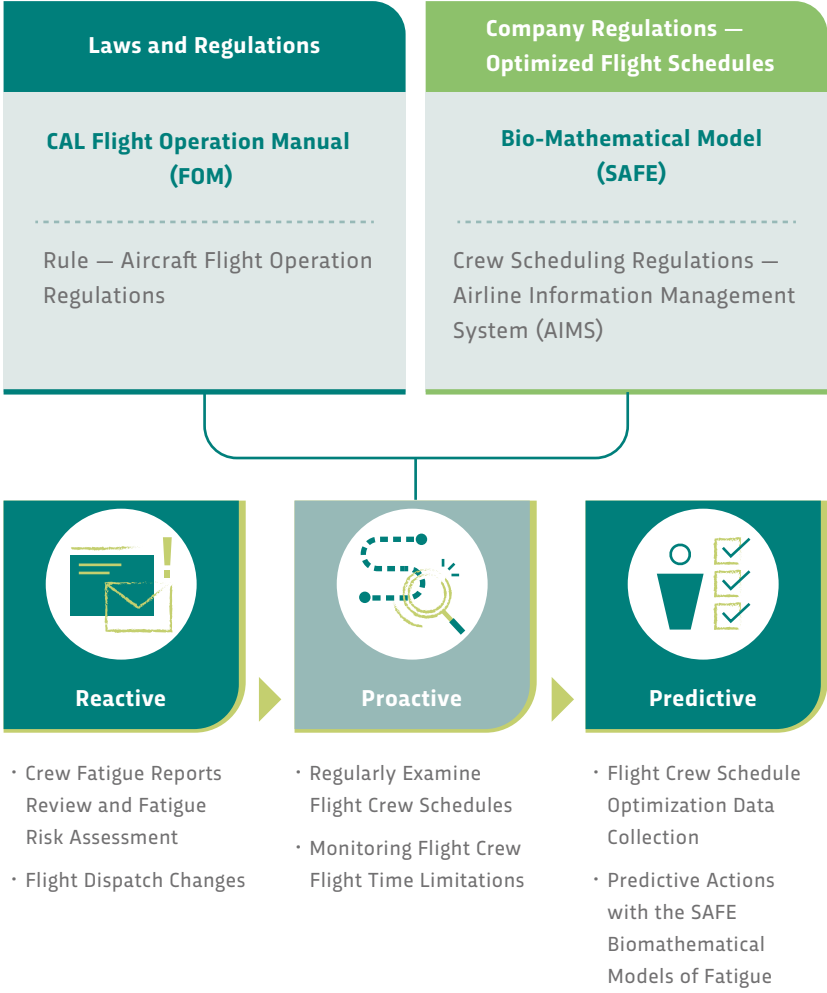
5. Fatigue Management

In addition to fatigue management regulations set forth in domestic civil aviation laws, CAL follows the Fatigue Management Guide for Airline Operators (2nd Edition) established by the International Air Transport Association (IATA), International Civil Aviation Organization (ICAO) and the International Federation of Air Line Pilots’ Associations (IFALPA) in 2015 to implement crew fatigue management mechanism using a prescriptive approach. In 2019, CAL incorporated the fatigue management system into the safety policy and introduced a new crew scheduling system (AIMS) and a flight crew fatigue management system (FRMSc-SAFE). Through predictive risk identification and proactive actions, CAL plans to optimize crew scheduling and fatigue management.

In 2022, we received 32 crew member fatigue reports and found in the review that all mission assignments complied with regulatory requirements and the Samn Perelli Seven-Point Fatigue Scale (SPS). The fatigue reports this year included changes in flight paths due to the impact of the Russia-Ukraine War which increased the flight time for flights to Europe and Americas, continuous mission assignments during the pandemic, and improvements for the environment for taking breaks at outstations. The Company has communicated with flight crew and adjusted the flight schedules

to improve the issues reported by the crew members and encouraged them to seek medical consultation for fatigue management based on their conditions to meet Taiwan’s quarantine regulations during the pandemic and the Company’s operation requirements.

CAL Fatigue Risk Management Framework and Implementation



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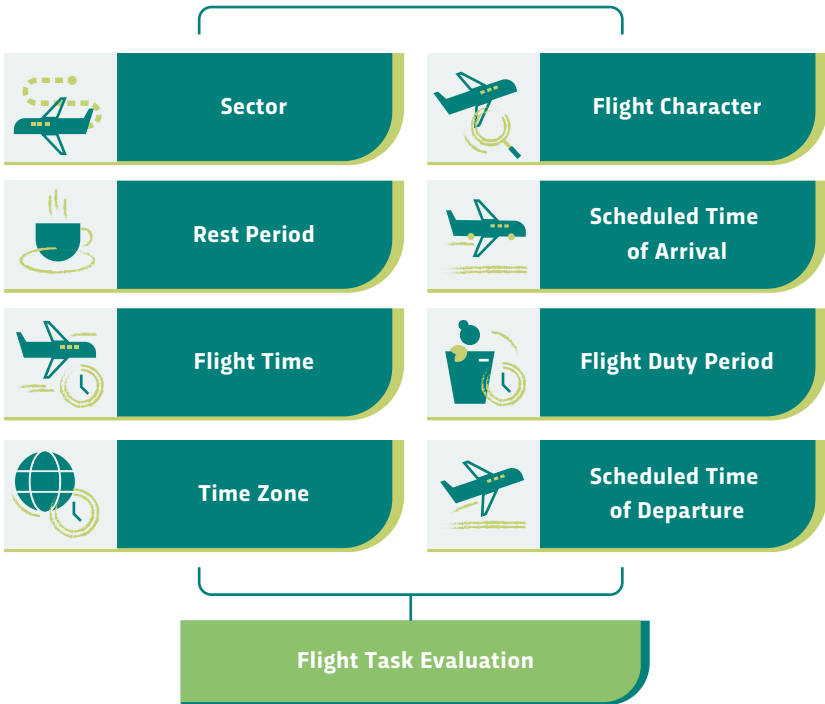
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Flight Task Evaluation



6. Alcohol Test Mechanism

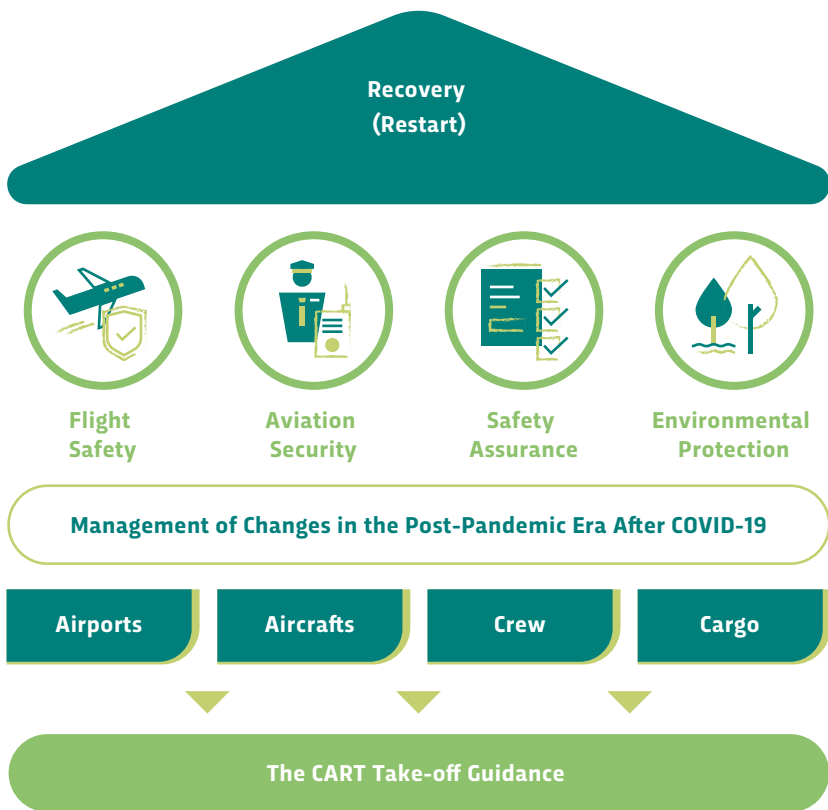
According to Article 199 of the Aircraft Flight Operation Regulations of the Civil Aeronautics Administration, CAL has established the alcohol test mechanism to conduct alcohol tests for operations personnel, such as flight crew, cabin crew, flight dispatchers, and maintenance personnel, and ensure they are not under the influence of alcohol while on duty. The number of tests on the aforementioned personnel must reach an average of 30% of the total average number of personnel each year (quarterly inspection rate of 7.5%). CAL administers alcohol tests to increase their alertness of related personnel and ensure flight safety and quality.

Implement Changes in Response to the Pandemic and Ensure Flight Safety Management

Due to the impact of the COVID-19 pandemic, the Company continued to reference the CART Take-off Guidance (TOGD) issued by the International Civil Aviation

Organization (ICAO) in 2022 for airports, aircrafts, crew, and cargo as well as the disease prevention regulations of Taiwan and disease prevention guidelines of civil aviation authorities in different countries to implement comprehensive flight safety risk management. We use comprehensive response and preparedness mechanisms to respond to the impact and changes brought forth by the pandemic. In the post-pandemic era, we use risk management to control and manage the restoration (restart) of operations in each phase. Domestic and foreign units and overseas branches have completed a total of 188 risk management evaluations based on their work duties and implemented mitigation measures based on risk trends to ensure continuous safe operations.

COVID-19 Pandemic Safety Risk Management



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Safety Promotion and Training

To ensure flight safety, CAL organizes educational and entertaining safety events every year to instill the significance of safety among all employees and constantly enhance their awareness of flight safety. The safety training activities in 2022 continued the essence of safety management for “safety identification, active implementation, participation, and continuous improvement”. We aimed to enable all employees to act safely through experiential learning and positive motivation together reinforcing the safety culture in CAL and achieve the highest flight safety standards. CAL actively promotes safety with external entities. We organized the 2022 International Ground Safety Seminar and co-organized the 2022 Aviation SMS Summit and 2022 Flight Operations and Safety Seminar with CAA.

1. Safety Promotion — Safety Experience and Safety Seminars

CAL organized the “Taoyuan Metro Corporation Visit and Communication Event” to build upon the spirit of management by walking around and share practical experience. CAL helps unit managers of flight operations strengthen their knowledge, understanding, and applications of aviation standards and regulations. We invited the competent authority of civil aviation to give a speech on aviation operations titled “Amendments of Civil Aviation Legislation and Avionics”.



Visiting Taoyuan Metro Corporation on October 6 and 13, 2022

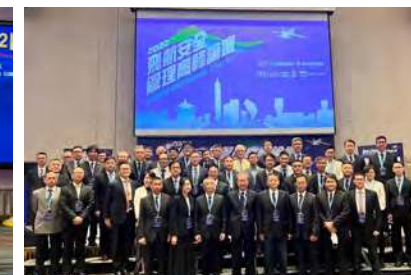


Organized the “Civil Aviation Legislation and Practice Seminar” on December 2, 2022

2. Safety Promotion — Organized International Seminars and Co-organized the 2022 Flight Operations and Safety Seminar



Organized the International Ground Safety Seminar on August 5, 2022



Co-organized the 2022 Aviation SMS Summit on March 8, 2022



Co-organized the 2022 Flight Operations and Safety Seminar on December 15, 2022



Organized the Safety Conference for Affiliated Enterprises and Agencies on March 11, 2022

3. Safety Promotion — Corporate Safety Journal

In 2022, China Airlines published a total of three quarters of corporate safety journals. Combining reader activities and special calls for papers, it promotes the acquisition of new safety knowledge for all employees by publishing domestic and foreign aviation safety information and sharing daily operational practices of each unit. The call for papers is “The Safety Impact of the Epidemic on Aviation Operations and Risk Management Actions.” Through sharing, all employees can more understand the efforts made by various units in maintaining the safety of aircraft operations and preparing for the resumption of business.

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“Corporate Safety Journal” in 2022 Q3

Flight Crew Management

Professional Training and Evaluation (GRI 404-2)

CAL recognizes risk factors and implements risk management based on the three perspectives of “prediction”, “proactive”, and “reactive” through appropriate training to respond to internal and external environmental change, such as the introduction of new airports, routes, aircrafts, systems and procedures, systematic flight training / qualification, flight operation quality assurance (FOQA), and recurrent evaluation of instructors and examiners etc. By means of pertinent training measurements to prepare flight crew members with the high level of professionalism and competency necessary to ensure passenger safety.

Note: FOQA aims to decrease the probability of accidents and hull damage by using past flight data and flight log excerpts to identify abnormal incidents and to analyze each fleet's operational characteristics. The outcomes are then assessed in order to identify and resolve any relevant safety risks.

1. Stringent Training and Objective Testing

In view of the increased demand for flight crew on the international market, CAL strictly enforces the stringent requirements of flight training and objective evaluation for flight crew in order to carry out its commitment to flight safety. To ensure solid flight training, flight crew shall complete the relevant training programs for new aircraft models, upgraded ranking, transferring between aircraft types and or requalification. In addition, cadet pilots are required to successfully complete a 10-month of ab-initial training programs at reputable flight training facilities in the United States or Australia.

CAL has implemented Evidence-Based Training (EBT) to replace the conventional proficiency training and check. The EBT is guided by risk and crisis management, and make use of data collection and analysis, individual behavior, fleet performance, operation sites, and records of incident events etc., to improve training for the capacity to handle unusual/abnormal situations. It enhances proficiency and competency of the flight crews to react to unusual and or abnormal circumstances. Since January 2018, CAL has implemented “Recurrent EBT” training and check, and achieved 100% EBT for a total of 2,305 flight crew in 2022.

2. Professional Training Facilities

As the first airline to introduce Flight Simulation Training Devices in Taiwan, CAL is equipped with various types of simulators for flight training. In addition to simulating various adverse weather conditions, simulators can incorporate a variety of contingencies for constant simulation training; they can also show the tolerance limits of aircraft designs and carry out training in any possible extreme and dangerous situations without incurring any risk during the exercise. The training process can also be recorded as a basis for reviewing and improving flight skill and expertise.

CAL has certified Full Flight Simulators approved by CAA and Cabin Emergency Evacuation Trainers which are provided for training for other domestic airlines. CAL optimizes training facilities and equipment, and launched the Logistic and Maintenance Management System in 2022. The System facilitates the digitalization of related maintenance and repairs records, work order operations, and material management, and is expected to significantly increase the operation efficiency of maintenance, repairs, and storage, and increase training equipment availability. CAL will continuously invest in and upgrade training equipment to ensure flight safety.

3. A Comprehensive Management System

In order to consolidate training course data and digitize training records, CAL unveiled the “Integrated Pilot Training System” (IPTS) in 2014, followed by completing the system connection and integration for IPTS along with the new scheduling system (AIMS) released in 2019 to ensure the efficient administration and utilization of training resources. In 2022, 336 flight crew members participated a variety of training programs for type-rating changing, upgrading, and new aircraft models.

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In response to the COVID-19 pandemic's consequences since 2020, in addition to arranging all flight crew members to regularly carry out flight simulator training, testing and actual flight in accordance with civil aviation laws and regulations. For flight crew members of the B738 model that have a greater impact on operating flights and the co-pilot of the long-haul model with relatively few landings, CAL also formulate and implement a continuous simulator flight plan to maintain their flight operation proficiency. Furthermore, CAL also evaluated and modified the training programs and course materials for the aircraft types it operated in order to enhance the standard requirements for flight operational safety.

As to the introduction of the A321neo and B777F aircraft, CAL has allocated flight crew to training for transferring between aircraft types since 2021, and 267 CAL crew members had successfully completed the program by the end of 2022. CAL also provided training programs that adhere to national civil aviation legislation, pertinent international regulations, and CAL quality standards in order to ensure that the operations of flight crew on new aircraft comply with international flight safety standards. These training programs were developed using the original airplane manufacturers' instruction manuals.

Management by Walking Around

1. Managers Implement Management by Walking Around

Fleet supervisors participate in the license inspections of flight crews and pre-flight briefings as needed to verify the completion of related operating procedures. Supervisors also conduct risk assessments for the flight operations of special sites and weather conditions, and provide operation recommendations for reference or compliance by the crew to ensure safety in flight operations.

2. Supervisory Flight (S-Flight)

Fleet supervisors and the Check Pilot (CP) conduct supervisory flights (S-Flights) as needed to review pilots' compliance with operating procedures, effectiveness in threat and error management (TEM), and their use of crew resource management (CRM) techniques. Through this process, crew's competencies which need to be enhanced could be identified and enhancement actions will be implemented accordingly to improve flight safety. 210 S-Flights were completed in 2022.

Health and Emotional Management

CAL sets strict standards not only for pilot training, but also for pilots' health and emotional management. CAL has adopted proactive planning, crew feedback and prediction in crew roster management to prevent and reduce the physical and mental stress of pilots in long-haul flight duties.

1. Life Management

To prevent and reduce the physical and mental stress of pilots in long-haul flight duties, CAL sets requirements higher than statutory ones and manages flight crew's physical and mental health so that all flight crew members are fully ready for each duty.

2. Stress and Health Management

To enhance flight crew's awareness of stress issues, human factors and crew resource management (CRM) are included in flight crew training and retraining courses. For the flight crew, appropriate stress can improve the quality of work, but excessive stress can affect attention and emotional issues. In view of this, the perception of personal stress is especially emphasized in training, and problem solving and emotional regulation are proposed for flight crew members to choose as the most appropriate way to deal with their stress. CRM training provides the concepts of teamwork and workload management to help flight crew properly face and deal with stresses caused by bad weather and schedule delays and any unexpected situation. CAL provides free psychological counseling service, where psychological consultants work with flight crew members to find feasible solutions to problems they face in their daily life.

3. Alcohol and Drug Management

CAL has established strict regulations and test procedures to prohibit the use of alcohol and drugs. This includes alcoholic beverages and food containing alcohol, as well as narcotic drugs or other drugs that may affect the normal performance of employees. CAL flight crews are not allowed to drink alcoholic beverages 12 hours prior to a flight. Since April 10, 2017, CAL has conducted alcohol test for all flight crew in accordance with the regulations of the Civil Aeronautics Administration.

4. Improved Communication and Crew Services

To improve communication with crew members and cohesion between them,

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CAL organizes all types of meetings on a regular basis to streamline the channels of communication and quickly respond to and resolve their problems and needs during flight duty period. Through improved communication, we hope to provide a comfortable and secure work environment for all crew members.

Since the outbreak of the COVID-19 pandemic in February 2020, CAL Flight Operations Division has implemented disease prevention measures so that the crew members can work in a safe environment. We also pay close attention to the mounting long-term stress accumulated by crew members on assignments, “crew member bubbles” in outstations, and home quarantine requirements when they return to Taiwan. Related response measures are as follows:

1. Ensure the delivery of the latest information

- Concentrate epidemic-related announcements for editing into electronic manuals for access by crew members at any time.
- Use diverse channels such as the Company's group email and instant messaging software to update epidemic prevention information and the Company's response measures.
- Set up a hotline and establish real time communication channels in CAL real time communication application to ensure instantaneous communication regardless of the time zone.

2. Minimize avoidable contact on assignments and in outstations

- Provide crew members with necessary disease prevention equipment when they are on duty.
- Increase in-flight bedding for crew members to prevent use of the same in-flight supplies and reduce risks of infection.
- Load meals in Taiwan for flight crews on both inbound and outbound passenger and cargo flights on the same flight.
- Plan disease prevention arrangements for outstation stays and request hotels hosting crew members to implement the Company's disease prevention requirements.

3. Implement adjustments quickly in response to changes in Taiwan's policies.

- Cooperate with Taiwan's home quarantine regulations and arrange for crew members to reside at Company's contracted hotels as the home quarantine site. Provide employees with baggage storage, uniform pick-up services, parking lot shuttle buses, and shuttle buses between Taoyuan and Taipei.

- Quickly set up comprehensive measures and logistical support in response to several rounds of significant adjustments of policies for the quarantine and test system by the competent authority in 2022.

4. Care for Crew Members

- Set up the care team and digital fence team to track crew members for epidemic prevention and digital fences and call them each day to inquire about their physical and mental health conditions.
- CAL offers a wide range of online courses and crew members under quarantine are prioritized for enrollment to support their physical and mental health.
- In addition to the Company's existing counseling services, we also added a 24-hour counseling platform for crew members.

Proactive Planning

- Monthly review and discuss next month schedules with fleet office.
- Better rosters for flight crew's dispatch and rest time.
- If crew members performed a night flight, the maximum duty duration is reduced by 2 hours.
- Monitor crew pairing by their performance in each fleet.
- Schedule a day off after a specific flight duty.
- Plan home quarantine dates in accordance with the regulations of the CDC and CAA during the pandemic.

Crew Feedback

- Investigate crew report regarding fatigue issue and mitigate by adjusting flight duty, crew number or layover as appropriate.
- The dispatcher immediately adjusts the schedule of flight crew if they report fatigue or ask sick leave. The care team also inquires about flight crew's physical and mental conditions.

Prediction

- Crew number and crew pattern for new routes will be determined by fleet office after evaluation. The evaluation will also include the regulations of different countries during the pandemic.

Inflight Monitoring and Control

To ensure that passengers can arrive safely and on time at their destinations, CAL System Operation Control Division monitors all flight-related ground operations to ensure that they are carried out promptly, monitors all flights and site operations

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in real time, and monitors the operations of aircrafts in the air. In the event of abnormal flight operations, it gathers all necessary information and formulates response plans to ensure the safety of the flight and passengers.

Timeliness of flights and reliable dispatch rates are important indicators for the Company for ensuring timely and normal flight operations. In 2022, CAL's internal flight on-time rate was 89.40%, which was 6.4% higher than the KPI on-time rate target (KPI 83%). 49,090 flights were completed in the year, with a total of 182 abnormal flights (return, diversion, ground taxi back, cancellation, etc.) and a reliable dispatch rate of over 99.62%; According to the "international and cross-strait passenger flight punctuality rate" published by the CAA, the Company's punctuality rate was 88.36% for international flights and 95.58% for cross-strait flights, which was higher than the average performance in the domestic industry (the punctuality rate of another domestic airline was 76.00% for international flights and 94.44% for cross-strait flights).

CAL System Operation Control Division monitors flight operations around the clock to ensure smooth flight operations and flight safety. It sets up designated seats for different operations and it uses communication tools to ensure real-time monitoring and control of all factors that cause abnormal flight operations (e.g., geopolitical shifts, epidemics and epidemic prevention policies of different countries, weather conditions at different airports, emergencies, and status of ground operations). The main seats in the Control Center include the air traffic control seat, weather monitoring seat, flight dispatcher seat, repair management seat, flight status monitoring seat, and Taoyuan International Airport management seat. They monitor flights and flight schedules (air traffic control seat), provide the latest hazardous weather updates for aircrafts in the air (weather monitoring seat), plan routes and fuel quantities (flight dispatcher seat), monitor flight maintenance status (repair management seat), verify the normal operations of airports (flight status monitoring seat), and supervise the inbound/outbound operations of the Company's main hub (Taoyuan International Airport management seat) to continue to effectively improve operations and meet flight control requirements. It also continues to improve the software and hardware used for monitoring and control to enhance the decision-making abilities of the Control Center. We connect with domestic and international airport CDM systems to obtain information on flight movements and we connect to aircraft tracking systems to verify the positions of aircrafts in the air. We also use TPE Airport CCTV system to ensure smooth inbound/outbound operations, and we

use the weather monitoring software WNI to monitor hazardous weather at each airport to help aircrafts avoid hazardous weather periods at airports and help pilots avoid hazardous areas. These measures are implemented for us to keep track of a variety of abnormal conditions and reduce risks in flight operations.

However, the punctuality of flights is still largely determined by local conditions and the Company will continue to rise up to the challenge. Although other countries reduced epidemic prevention requirements and relaxed or canceled quarantine requirements in 2022, CAL still supported the epidemic prevention operations of the Central Epidemic Command Center. All passenger/cargo aircrafts are disinfected upon arrival. As a result, aircrafts require an additional 30 minutes of turnaround time in domestic airports. In addition, international developments also affected flight operations. Airports in Mainland China continued to implement closed-loop management, which resulted in long turnaround time. As a result of the Russo-Ukrainian War, Russia's airspace could no longer be used and it increased the duration of flights to Europe and North America. The availability of ground service personnel dropped significantly in airports due to the impact of the pandemic. As a result, the recovery of ground service personnel could not keep up with the recovery of international travel and thus delayed flight departure operations. Although the domestic epidemic prevention policies were relaxed by the end of 2022, the domestic flights remained plagued by the lack of ground facilities at Taoyuan International Airport which led to congestion in the baggage transfer of connecting flights. The construction of Terminal 3 also reduced the available space for aircrafts and delayed departures.

As countries across the world shake off the impact of the pandemic in 2023 and gradually relax border control measures, Taiwan also relaxes border control policies and people are willing to travel abroad again. We are optimistic about the recovery of transportation capacity of passenger flights. However, international factors and ground service conditions remained the same as 2022 as airports struggle to restore their manpower and ground services to pre-pandemic standards. CAL System Operation Control Division actively embraces these challenges and pays close attention to developments and changes of the epidemic, duration of long-haul flights, and ground service for connecting passengers. It closely monitors flight operations and makes adjustments for abnormal flights to actively ensure smooth flight operations.

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Maintenance Quality

Ensuring maintenance quality is an important foundation of flight safety. With the Company's Reliability Control Program, we proactively manage the maintenance status of all aircraft. By compiling and analyzing data related to common abnormalities and technical parameters from daily operations, appropriate maintenance strategies and plans are developed. This allows us to maintain the reliability of all systems on the aircraft to enhance maintenance quality and flight safety.

1. Maintenance Quality

CAL's maintenance organization is certified by 11 countries and regions, including the European Union, the US, and China. We have the largest modernized maintenance facilities in Taiwan, including two hangers that can accommodate five wide-body aircrafts, as well as an engine test cell capable of measuring up to 120,000 lbs of thrust. The Company's maintenance capability can satisfy different level of maintenance checks for various type of aircrafts. CAL has expanded maintenance service to airlines in East Asia and East Asia since 2021 and applied for maintenance plant certification from Japan Civil Aviation Bureau (JCAB). We completed the review and obtained the maintenance plant certification in June 2022 and we will continue to expand maintenance and repairs services for customer aircrafts and third-party equipment.

2. Establishing a New Maintenance Training Center

In response to rapidly growing demand for maintenance service at home and abroad, CAL was certified to establish the CAL Technical Training Center (CTC) in 2015. In 2017, CTC also obtained certification from the Civil Aviation Administration of China. CTC was the first certified institution in Taiwan to provide aircraft maintenance training for CALEMO and other airlines. Since CTC's foundation, a total of 258 training courses have been offered, and 2,713 trainees have completed training.

3. Elevating the Quality Management System

CAL acquired ISO 9001 certification for the repairs organization in 1996 and continuously maintained the effectiveness of the system. In May 2017, the EMO

became the first repair station in Taiwan to receive certification for the AS9110 Quality Maintenance Systems - Aerospace from the International Aerospace Quality Group (IAQG). CAL continuously renewed its re-evaluation contracts with the accreditation institution each year. Consistent with its pursuit of improvement of quality, CAL-EMO will periodically conduct Plan-Do-Check-Act (PDCA) through the quality management system for continuous improvement and customer satisfaction.

Note: IAQG members include Boeing, Airbus, GE, and Rolls Royce. To manage and regulate the quality of suppliers, suppliers are required to comply with a series of established standards for quality management system, including AS 9110.



2-1-2 Passenger Service



Protecting Public Health and Safety — Care for Passengers in Post-Pandemic Travel

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Optimize Official Website Information with Thoughtfulness for Passenger Ticket Purchases

CAL had set up a "Coronavirus Service Information" section on its website to provide passengers with epidemic prevention information and related services during the pandemic. It integrated major functions including quarantine hotel and taxi reservations, PCR test hospital information, mobile Wi-Fi hotspot devices, and immigration requirements of different countries. In response to the arrival of the post-pandemic era when border controls are lifted, CAL moved the "Coronavirus Service Information" section on its homepage to "COVID-19 Service Information" section and continues to provide entry regulations of different countries and other information for passengers with the aim of providing the most updated border control measures and travel information in all parts of the globe. In addition, the travel reminders on the official website also replaced the "COVID-19 Information on Services" previously provided on the official website with entry regulations of different countries to provide passenger with more thoughtful services.

Passenger flights remained disrupted despite the relaxation of entry restrictions in different countries in 2022. The CAL website continuously optimized the flight schedule information on website to meet passenger requirements and display the flights in aircraft icons to provide passengers with friendlier and better-visualized flight information.



Official Website Service Optimization



Online Booking
Information



Focus on Professional Skills and Core Value

In response to the gradual reopening of borders and downgrade of domestic epidemic prevention alert level, the Cabin Crew Division seeks to identify the most valuable segments to reach passenger expectations. It completed organizational structure change ahead of schedule to enhance management effectiveness, strengthen disciplinary management, and uplift sustainability. All cabin crew members shall complete the recurrent training courses and assessment in a nominated cycle to maintain their qualification which complies to CAA and associated regulations. CAL plans service refresher training based on the recovery of the industry to optimize service proficiency. We use e-Learning, video conferencing, classroom courses, and evaluations to verify employees' competencies and qualifications and ensure that cabin crew members are ready to return. Cabin manager shall request for completion of In-charge cabin crew overall oral assessment by Cabin Crew Division to maintain the required competencies and coordination of cabin procedures applicable of normal, abnormal and emergency situations within the effective period. Cabin Crew Division also gradually assigns two cabin managers for long-haul flights and adopts the two-way evaluation for cabin crew members. On duty instructors perform in-flight self-inspections to comprehensively review cabin safety, aviation security, and the key performance of overall cabin services. We implement internal and external changes and take real actions for cabin crew management.

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Internal Training and Consolidation for Future Growth

As the pandemic subsided, the need for self-awareness and retraining of skills for crew members become ever more pressing than before. We initiated action plans in 2022 to help crew members enhance their professional skills and encourage them to strengthen competitiveness. We accumulated more than 95,000 hours of training for qualified crew members by practicing most tasks and associated competencies to maintain their proficiency to meet the standard requirement and organized A321 safety and service training based on the fleet renewal program. We designed the "Cabin Crew Interaction Channel" internal enhancement program, which is an inter-generational communication program conducted through scenarios, role-playing, and livestream interactions. The total number of hours of digital and remote training increased by 153% compared to 2021 as we intensified our diversity and sustainability course plans and implementation. In addition to providing abundant learning resources, we maintained the principles for employees' vacation and leave of absence during the pandemic. We also relaxed the rules for unpaid leave and allow employees to apply for leave based on their personal requirements. 533 employees applied for unpaid leave in 2022. As a gesture of appreciation for crew members' years of service and contributions, we provided customized programs for special leave of absence and approval for leave of absence with increased flexibility based on the nature of crew members' work till the end of September. A total of 743 applications were filed and 6,989 days of leave were granted. We allowed independent allocation and retention of the number of years of service and key benefits to accumulate the capacity for supporting employees. We took real actions to support crew members' work and life balance, career development, and to retain talents.



Digital Crew Member Sign-in with Real Actions for Sustainability

The Cabin Crew Division expanded digitalization from paperless operation manuals, forms, and documents to the management platform to support the Company's promotion of eco-friendly and sustainable development goals, attain carbon reduction targets, and continue to enhance competitiveness. We actively promote digitalization to reduce the risks of infections of crew members during the pandemic. As personal mobile devices and mobile apps became more popular, we allowed crew members to use the eCrew app on their mobile phones along with the eCrew portal check-in system when performing flight duty from April. After they adjusted routine processes, the number of users has increased each month. By August, the usage rate of eCrew app has reached 80%. It integrates management, dispatch, and other control mechanisms to reduce the time required for manual check-in at duty counters. It thus enhances overall operational efficiency and supports sustainability policies.



Passenger Loading has Increased Gradually as the Epidemic Haze is Waved Away

In the post-epidemic era, China Airlines is actively deploying its destinations with reviewing the travel demand by rolling basis, and allocate flight resources to destinations with high demand.

In year 2022, the long-haul and short-haul flight load factor was increased each by 33.08ppt and 20.73ppt compared to the previous year. RPK (Revenue Passenger Kilometer) was also increased by 931% in year 2022 compared to the previous year due to the gradual increase in the flights capacity and with the timely resumption of flights destinations service. As a result, passenger flight operations are gradually recovering with steady growth.



Adjusted Checked-in Baggage Regulations to Provide Passengers with Bargain Baggage Services

To increase CAL's competitiveness and collaboration with sister airlines, CAL switched the free checked-in baggage system to a one based on the number of bags on August 2, 2022. After the adjustment, passengers on routes with baggage limits originally governed by weight are eligible for additional free checked-in baggage. In addition, CAL also adjusted the payment standards for special baggage such as sporting equipment, pets, and musical instruments. We hope to satisfy passengers' needs for planning their travels with additional allowance for their checked-in baggage.



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Integrate passenger transport aircraft resources of CAL Group

As the pandemic subsided and demand for domestic travel increased in 2022, we integrated the resources of the CAL fleet and provided a total of 2,566,196 seats on domestic routes (including offshore islands such as Kinmen and Penghu) (AE/ATR-72 aircrafts: 1,504,160 seats or 59%; IT/A320 aircrafts: 1,035,540 or 40%; CI/B738: 26,496 or 1%). We also supported the Tourism Bureau's incentives for citizens to travel with discounts and subsidies to satisfy people's need for going home and travel. Mandarin Airlines launched its first Kaohsiung-Kinmen flight on January 27, 2022 to improve its flight network services for offshore islands. It immediately increased the transportation capacity for offshore islands during Chinese New Year. On September 18, an earthquake with a magnitude of 6.8 struck Taitung County. Mandarin Airlines immediately added flights between Taipei and Taitung on September 19 and 22 for passengers going to and coming from Eastern Taiwan. It also made use of the resources of CAL Group by leasing Tigerair Taiwan's 180-seater A320 to increase the size of the aircraft used to transport passengers in Eastern Taiwan.



Integrate Passenger Transport Aircraft Resources of CAL Group



First Kaohsiung-Kinmen Flight



Mandarin Airlines leased Aircrafts from Tigerair Taiwan's Fleet to Increase the Number of Flights and the Size of the Aircraft Used for Flights

Mandarin Airlines introduced the brand-new self-check-in kiosk to improve service quality and meet epidemic prevention requirements based on CAL Group's sense of mission and responsibility for sustainability. The external design was inspired by the corporate logo "baby gyrfalcon" and the fuselage was transformed into a cute baby gyrfalcon instead of a dull traditional self-check-in kiosk. The non-contact touch screen attracted many passengers to try out the new kiosk.



Brand-new Efficient Baby Gyrfalcon Self-check-in Kiosk

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Flight Punctuality

In 2022, CAL's internal flight on-time rate was 89.40%, which was 6.4% higher than the KPI on-time rate target (KPI 83%). 49,090 flights were completed in the year, with a total of 182 abnormal flights (return, diversion, ground taxi back, cancellation, etc.) and a reliable dispatch rate of over 99.62%. According to the "international and cross-strait passenger flight punctuality rate" published by the CAA, the Company's punctuality rate was 88.36% for international flights and 95.58% for cross-strait flights.

The flight punctuality rate in 2022 was lower compared to 2021 (an average of 94.43% for the year) mainly because of the gradual improvements in the global COVID-19 pandemic in 2021. As countries gradually normalized activities and opened borders, tourism travel recovered quickly. The recovery of airports from the layoffs and loss of personnel due to the cancellation and reduction of flights during the pandemic could not keep up with the growth in the number of passengers. As a result, the manpower shortages in security checks and baggage handling toward the end of the pandemic persisted and caused frequent flight delays. The need to quickly recover from the shortage of manpower in airports and restore normal ground operations remains a challenge in the post-pandemic era.

Continue to Connect with the Innovative Generation with Youthful Thinking in the Post-Pandemic Era

The Company continues to pursue the goal of increasing "Brand Awareness" in the sustainability strategy. On board the A321neo passenger aircrafts delivered in 2022, all passengers can use their mobile phones and Bluetooth headphones to connect to the in-flight entertainment system. They also have zero-contact detection faucets in lavatories and HEPA high-efficiency air filtration system for the entire cabin. The 737-800 fleet also features the upgraded Wireless Entertainment System. Passengers can enjoy a wide range of multimedia streaming services during flights with their personal devices. The travel image video "Travel for New Chapter" was released in 2022. We constantly think of new ways to travel and create more value for passengers. We connect with the innovative generation and invite passengers to "write new travel stories" together with CAL through a series of activities.



CAL operated official social media fan page to interact with passengers and maintain positive relations. It was used to remind passengers to pay attention to border control measures of different countries and flight changes. It also organized small online activities to continue to engage passengers and provide the latest information on the resumption of flights and tourist destinations after the pandemic. CAL organized travel activities in full compliance with the government's disease prevention policies. They included the Pikachu Jet CI charity micro-trip for which CAL invited healthcare workers and children from the Taiwan Fund for Children and Families (TFCF) non-profit kindergarten to take part in the micro-trip. We also participated the immensely popular International Travel Fair and the European Christmas Market. CAL also donated a total of 100 metric tons of carbon credits on behalf of all passengers to offset the carbon emissions in the mini-tour. We helped every passenger experience and attain a carbon neutral flight and we spared no efforts in social welfare and sustainable development to maximize our brand influence.

All ads and marketing materials of CAL abide by the following ethical commitments: 1. Provide accurate and balanced information for all products and services; 2. Truthfully disclose the Company's ESG actions; 3. Protect customers with weaker capacity to access information by providing accurate and sufficient information; 4. Abstain from misinforming customers on competitors' products and services. We uphold the principles of integrity and accountability to convey CAL's commitment to providing customers with a great travel experience and promoting sustainability. CAL connects with the innovative generation with youthful thinking and continues to receive international awards and recognition. CAL received the APEX Five Star Global Airline in 2023 from the Airline Passenger Experience Association (APEX) for the 7th consecutive year and was named the Best Cargo Airline - Asia by Air Cargo News.

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Customer Health and Safety and Sustainability

Food Safety

To ensure food safety and environmental sustainability, CAL requires catering service providers to strictly comply with international safety and health standards mechanisms. This covers each process from preparation, storage, and transportation at a standard temperature. Microbiological examinations are required for all products, materials, and food equipment. In addition, quality audits are carried out from time to time, and aimed at requesting catering service providers to correct nonconforming items within given time limits. If these conditions are not met, penalties will be imposed in accordance with their contracts. Training courses are also organized regarding HACCP and catering services, in order to increase employees' awareness of food safety and quality.



International In-flight Catering Certification



ISO 22000



HACCP



Malaysia Halal Kitchen
Certification

Onboard Drinking Water Safety

The quality of potable water is an important part of a premium customer's experience. The quality of potable water is strictly controlled by our industry-leading In-flight Potable Water Management Procedures, which are stricter than environmental regulations and bottling facility sanitation regulations.

- The safety of potable water is included in the preliminaries of new destinations.
- We have rigorous safety standards for our drinking water suppliers. Every year, audits are performed to ensure compliance.
- CAL conducts safety audits on potable water at outstations.
- CAL implements a maintenance plan for potable water facilities according to the manufacturer manual.

Local Procurement

CAL plans and designs meals in line with the "Responsible Consumption and Production" goal and moves toward renewable energy, carbon reduction, and local procurement to achieve "Decent Work and Economic Growth". From 2019 to 2021, we actively used local brands and high-quality products such as the procurement of large and small bottles of mineral water and sparkling water from renowned domestic brands. When the pandemic subsided in the second half of 2022, we actively expanded collaboration with domestic companies in different industries to focus on promoting local food ingredients and supporting high-quality agricultural products, local cultural and creative industries in Taiwan. For instance, we worked with Yang Ming Spring", a restaurant that specializes in creative vegetarian cuisine with a Michelin Star, for passengers to pre-order vegetarian dishes produced with domestic agricultural products. We also organized exhibitions on select flights for offering products from small-scale farms and increasing their visibility to attain the goals of responsible consumption and production and environmental protection by reducing the carbon footprint, and fulfill our social responsibility to the Earth.

Service Optimization in the Post-Pandemic Era

As the pandemic subsided and countries relaxed border controls, the number of flights has gradually recovered and we commenced restoration training for ground service personnel. In addition to increasing their familiarity with basic operating procedures and system operations, we also request employees to use polite words when interacting with passengers during check-in and boarding and provide passengers with thoughtful services.

We formulated suitable service greetings for counter and boarding gate services and strengthened the crowd diversion for boarding in waiting rooms to help guide passengers and maintain order. We assign ground service personnel to interact with passengers in the waiting room to provide boarding information, check whether there are passengers who require assistance, and improve the overall service quality.

Highlight Services

In 2022, CAL introduced a number of innovations and employee training programs to passenger services to improve service quality; in addition, CAL continuously studied sustainable practices in order to maintain customer service to the highest standards and stay in a leading position in the aviation industry; relevant achievements are listed below:

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1. Reopening of the CAL VIP Lounge after the Pandemic

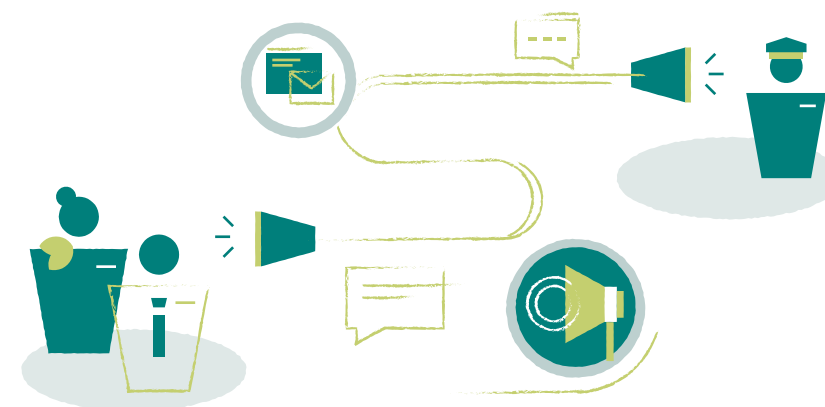
The collaboration between CAL and Novotel resulted in the low-profile luxury five-star catering services in the VIP lounge in Terminal 1. The chef made extensive use of local ingredients from Taiwan and presented the food with Western culinary styles to create an extravagant feast of the senses. Recommended five-star dishes include fried shrimp cake in bun with avocado, noodle with spicy nuts sauce, Peng-Chieh Wang's champion bread, and the vegetarian dish lion's mane mushroom soup stewed over low heat. They provide passengers with the unique culinary experience of the VIP lounge.

The design of the VIP lounge in Terminal 2 was inspired by red plums and ink wash painting. Coupled with the calligraphy wall, it shows the essence of Eastern culture and helps passengers experience the splendor and magnificence of Taiwan from a corner of the lounge. The unique fresh-made food includes the three top dishes of the CAL VIP lounge — beef noodles, sweet potatoes, and tea eggs. They form some of the most unforgettable moments in the minds of the passengers.



2. Listen to the Needs of Cabin Crew and Establish a Mutually Beneficial Partnership

In response to post-pandemic trends and passenger expectations, CAL has implemented personnel protection standards and enhanced the cleaning frequency of cabin lavatories. We also progressively adjusted our service procedures to provide an in-flight service experience that strikes a balance between "passenger-oriented approach" and "health and epidemic prevention". To build consensus and expand the effective interaction mechanisms of the "Cabin Crew Division Careing Team" provided during the pandemic. From March to April, we used digital surveys and extensive interviews to create an atmosphere of mutual respect and support employees' expression of opinions. We also announced updates to communicate changes in regulations in accordance with the adjustments of epidemic control measures in Taiwan and overseas. Since July, we have continued to hold the work shop and seminar with themed-based guidance and learning in small groups to create an open and inclusive workplace that supports diversity. Crew members could unleash their potential and attain a sense of accomplishment, and the activities also enhanced the team spirit. We used feedback and recommendations from the Customer Service System to implement continuous tracking and correction and review response measures, technical skills, and collaboration to attain high customer satisfaction.



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2-1-3 Cargo Service



Consolidate and Reactivate Passenger and Cargo Services – Internal Training and Consolidation for Future Growth

CAL responded rapidly during drastic changes in the cargo market in the early stages of the pandemic and shifted its operations to cargo transport. Starting from March 2020, we assigned passenger aircrafts to carry cargo with their belly capacity and the high demand for epidemic prevention supplies drove the rapid rebound of overall air transportation. Basic protective equipment such as masks, protective clothing, and respirators, as well as hardware equipment for the stay-at-home economy, work from home, and long-distance learning could only be delivered to users quickly by air transport. The importance of air transportation persisted during the middle and later stages of the pandemic with the widespread use of vaccines and cold-chain container. CAL was selected as the Best Cargo Airline – Asia by Air Cargo News in 2022. We also renewed the certification of the IATA Center of Excellence for Independent Validators in Pharmaceutical Logistics, CEIV Pharma with international recognition of our expertise in logistics.

Airline companies were devastated once again by the COVID-19 pandemic but the demand for epidemic prevention supplies and consumer products persisted. Air transportation became critical for the stability of supply chains, connecting international trade, and transporting goods. By adopting the business strategy of focusing on cargo instead of passenger transportation, we used passenger aircrafts as well as large cargo aircrafts for transporting large or special cargo to strengthen our position as a hub in Asia Pacific cargo transportation. We leveraged our resources and created profits due to the high demand for cargo transportation.



Ramp Loading and Unloading Operations



Cold-chain Transportation

Cargo route optimization: The Company has supported quarantine measures in many countries and adapted to changes in the market since the start of the pandemic. CAL concentrated its capacity on the Chicago and Los Angeles Airports in the United States and strengthened deployment in cross-strait and Southeast Asia. We complied with domestic border quarantine requirements and optimized crew member dispatch efficiency to increase cargo aircraft capacity to meet demand for e-commerce, consumer electronic products, and high-price charter flights. In terms of business operations, we continued to implement route revenue management and differentiated pricing strategies to satisfy the demand for transportation services of different customers.



Special Cargo (Long Cargo) Transportation

Quality Cargo Service

According to the latest IATA statistics, CAL's FTK ranked seventh worldwide and first in Taiwan in 2021. CAL is committed to green transportation. We used cargo aircrafts with higher fuel consumption to perform additional transportation tasks during the pandemic. As demand weakens, they will be gradually decommissioned due to fuel and maintenance costs. The Company is also implementing adjustments to the cargo aircraft fleet and continues to optimize fleet deployment to expand the cargo flight network, meet market development trends and operational requirements, and ensure capacity availability and cost control. CAL currently has 22 cargo aircrafts including 17 744F and 5 777F. One additional 777F will be delivered early next year and the 777F fleet will be expanded to 10 aircrafts. CAL can deploy different types of aircraft in response to different market demands while taking into account the flexibility of aircraft scheduling and crew assignments. We can thus fully utilize our advantages in cargo aircrafts to enhance the performance of cargo operations.

1. Special Cargo Service

CAL cargo aircrafts fly around the world and have a wealth of experience in carrying general goods, precision instruments, large equipment, precious antiquities, live animals, and other special goods. CAL makes good use of the Boeing 747 and 777 cargo aircrafts to transport special-sized goods to provide safe and professional transportation services under the close supervision of dedicated CAL personnel. CAL often transports critical national cultural relics and relief supplies. With its diverse experience in transportation and excellent quality of service, CAL

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has promoted cultural exchanges between Taiwan and other countries. In response to the pandemic, CAL also provides new service models such as cargo flights with passenger aircrafts and using the passenger cabin for cargo transport. These measures help ensure employee safety and support disease prevention policies as we actively develop a variety of flexible cargo transport business models to ensure continuous operations of international logistics. Since the start of the pandemic, CAL has taken on the role of transporting epidemic prevention supplies such as masks, rapid test kits, and more than 120 million doses of COVID-19 vaccines between Europe, the Americas, Asia, and Oceania. CAL upheld the spirit of “giving back to society and creating value for society” and demonstrated our commitment to providing high-quality transportation for medicine and outstanding services has not been hindered by the pandemic. In addition to supporting disease prevention, we also actively supported international relief initiatives by transporting COVID-19 vaccines and test kits to countries in need. We spared no effort in supporting social development.



Ramp Operations



Transportation of Live Animals (Day old chicken)

2. Upgraded Cold Chain Service

In response to increased demand for air transport of goods (such as pharmaceuticals and vaccines), CAL has significantly improved its cold chain service. This included transportation of temperature-controlled containers, SOP for active / passive temperature-controlled cargo, and upgraded refrigeration / freezing equipment. CAL became the first airline company in Taiwan to obtain the CEIV Pharma certification. In September 2022, CAL passed rigorous inspections for the renewal of the certification to provide diversified and quality temperature-controlled cargo service for customers around the world.

During the most difficult period in the COVID-19 pandemic from 2021 to 2022, CAL leveraged its professional competencies and sophisticated cold-chain technologies in the use of large quantities of dry ice to transport vaccines stored at extremely low temperatures through comprehensive risk assessments, staff training, and preparation of supporting measures to ensure safety. CAL developed active/passive temperature-controlled container products and actively provided logistics solutions to major vaccine and pharmaceutical companies, thereby making contributions to the protection of the

health of citizens. CAL will continue to demonstrate the innovation and flexibility of the CAL cargo transport team and support customers in the post-pandemic era.



Temperature-control Containers

3. Cargo Safety Management

CAL has strengthened risk management measures, such as Safety Report System, cargo service management platform, ground damage database, and abnormal weather reporting mechanisms. CAL has also established a risk prevention mechanism with the risk assessment of the Safety Report System to prevent irregularities. In addition, CAL implemented walk-around check to enhance the management of warehouse and apron operations. CAL also implements improvements based on the feedback provided in the quarterly service quality questionnaire for the ground service agency to ensure the quality of services.

4. e-Air Waybill & e-Freight

CAL promotes the e-Air Waybill and electronic data exchanges with forwarders, which reduces the operating costs of airlines and forwarders and avoids delays caused by air waybill input errors and missing documents. Printed copies are no longer required during the transportation process, which reduces

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paper consumption and protects the environment as well. It also stops the spread of the virus during the COVID-19 pandemic.

In addition to paperless operations for cargo flights to and from Hong Kong, Singapore, Frankfurt, and the Americas, CAL continued to carry out paperless operations for cargo service to and from Kuala Lumpur, Penang, Tokyo, Osaka, Fukuoka, Nagoya, Amsterdam, etc. CAL also implemented random inspections for the implementation of paperless operations for EAW shipment to reduce contact in the delivery of printed documents and fulfill our responsibility for environmental sustainability.

5. Apron Mobility (Ramp Operation Digitalization)

Through wireless transmission, all cargo information and loading statuses are instantly transmitted to mobile devices for users to monitor cargo status after palletized from the warehouse and whole loading and unloading operations. It prevents errors and omissions in the loading of pallets and containers in aircrafts. By using Personal Digital Assistant (PDA) as a channel of communication with GHAs, CAL has reduced the idle time of ramp supervisors and improved cargo agents' productivity.



A Ramp Supervisor Uses a PDA for Ramp Monitoring Operations

6. Professional Training

CAL organizes professional training courses, including dangerous goods regulations training / retraining, live animal and temperature-controlled goods regulations training, and load balancing on a regular basis to improve service quality and ensure that goods are carefully managed and professionally handled throughout the transportation process. To transport special goods, CAL has also trained professional handlers and formulated operational regulations to provide safe and professional transportation services. As border restrictions are relaxed, the Company will organize more in-person courses to provide training for employees and agents across the world and improve the quality of services.



Special Cargo Delivery (Automobile)

7. Embargo on Illegal Animals and Plants

CAL supports IATA and UN's Sustainable Development Goals by signing the Buckingham Palace Declaration. CAL has also taken the following four concrete actions to fight against illegal wildlife trade and achieve environmental and ecological sustainability including "expression and demonstration of agreement to tackle the illegal wildlife trade," "information sharing and detection," "practical measures to stop the

transportation of illegal wildlife products," and "new mechanisms tackling illegal wildlife trade."

8. Authorized Economic Operator (AEO)

Being an authorized economic operator (AEO) helps CAL stay competitive in expanding business in the international trade supply chain and to cooperate with trading partners. After earning the AEO certification in 2012, CAL has carried out self-inspections based on safety evaluation items and certification standards every year and applied to the Customs for a field certification and audit every three years. Since October 2022, the Cargo Sales, Marketing & Service Division has formed a management committee comprising Cargo Sales, Marketing & Service Division, Corporate Safety Office, Human Resources Division, Information Management Division, Administration Division, Cargo Sales & Service, Taiwan, Engineering Division, and Inflight Supply Chain & Marketing Division, to assist in carrying out annual self-inspection and mutual audits. The meeting also addressed matters such as the onsite certification for customs and related training programs in 2023. The inspection data for 2022 were submitted to the Customs Administration by the end of the year and they were verified as having met related regulations in the review.



Authorized Economic Operator (AEO) Meeting

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2-1-4 Customer Relations Management

Due to the impact of the COVID-19 pandemic, the global aviation industry faced tremendous shocks and challenges in air travel operations. The Company continued to employ the Net Promoter Score (NPS) survey which was started in 2017 to effective monitor customer opinions and cautiously respond to market demand. We also started to collect passenger satisfaction rate with the Company's services starting from June 2022. We hope to learn more about the passengers' satisfaction with the Company's services and their willingness to recommend CAL, and thus formulate improvement strategies.

The Company upholds the motto of customers first and maintains high-quality services of flight crews and ground service personnel. We established a dedicated unit for managing customer satisfaction. In addition to organizing regular quality review and target setting meetings to address customer service issues (e.g., reservations, airport services, cabin crew services, cabin cleanliness, catering services, and entertainment) to review the service performance of the year and set service targets on a rolling basis, we also use the TABLEAU big data analysis system to process and analyze customer satisfaction questionnaires. When passengers have positive or negative feedback, they can use the CAL Customer Service System (CSS) to provide feedback. The Company will include them as reference for improvements. CAL continues to provide heartwarming services and high-quality experience to support the Company's quality policy of pursuing excellence and to ensure the quality of service meets passengers' expectations. To better understand customers' needs, CAL integrates all customer feedback in the CSS (In 2022, 48.8% of customer feedback was provided via CAL's website and 51.2% provided in other ways) and assigns units in charge of responding to customers within a given time limit with the aim of becoming passengers' most trusted airline.

In 2022, CAL recovered 44,065 passenger satisfaction questionnaires which accounted for approximately 3% of the total number of passengers (Note 1). The overall satisfaction rate was 90.5; the passenger satisfaction rate was 95.2; the Net Promoter Score (NPS) was 65.7. The Cargo Sales, Marketing & Service Division delivers customer satisfaction surveys to cargo operation sites across the world each year and encourages customers to provide feedback. In 2022, it collected results from 235 respondents in 38 stations and the satisfaction score was 89.5 points. The Maintenance Division delivers customer satisfaction surveys to customers of hull, engine, and equipment maintenance once every six months and encourages customers to provide feedback on the quality, progress, and delivery time of repairs, supply of parts and equipment, services, and feedback. In the first and second halves of 2022, it collected results from 20 respondents and the annual satisfaction score was 8.8 points.

Customer Satisfaction Category	Item	2019	2020	2021	2022	2022 Objectives	2022 Attainment	2023 Objectives
Passenger Customer Service Satisfaction	Overall Passenger Satisfaction	87.7	88.6	90.7	90.5	87.8	100%	— (Note 2)
	Passenger Satisfaction Rate	-	-	-	95.2	-	-	90 (Note 3)
	Net Promoter Score (NPS)	65.5	68.4	74.5	65.7	-	-	65
Cargo Service Customer Satisfaction		88.6	88.5	88.3	89.5	88	100%	88
Maintenance and Repairs Customer Satisfaction		8.73	8.57	8.24	8.8	8.4	100%	8.4 (Note 4)

Note 1: A total of 250,703 passenger satisfaction questionnaires have been sent in 2022 (both respondents and non-respondents), which accounted for approximately 17.2% of the total number of passengers.

Note 2: Starting from 2023, the passenger satisfaction rate will be used in lieu of the passenger customer service satisfaction.

Note 3: Added in June 2022.

Note 4: The maintenance and repairs satisfaction score is calculated based on a ten-point system.

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Ahead of other domestic airlines, CAL has set up a variety of communication platforms for different groups of customers, including Customer Service on Facebook and bulletin board on the Instagram and WeChat, to collect problems which passengers encounter during their journeys and provide the updated information. By responding to customers' needs with empathy and sincerity, we endeavor to improve their travel experience. In terms of the operation and maintenance of the official accounts on social media, CAL uses suitable online language in line with contemporary issues to engage fans. We also held online activities with fans from time to time to expand CAL's online sales channels. We support green energy initiatives for sustainability with the aim of taking real actions instead of adopting slogans to encourage other companies to fulfill their responsibilities for sustainable development.

Communication Channels

1. Service Hotline
2. Regular Mail
3. Facebook Page: CAL has created a fan page on Facebook to understand customers' needs and problems instantly and improve service quality accordingly. It is expected to increase adhesion among members and fans and develop new customers.
4. Customer Service E-mail: Instead of calling, customers can simply send e-mails to change reservations or confirm their itineraries.
5. Customer Feedback — Online Feedback System
6. Online Customer Satisfaction Survey

To provide passengers with a brand-new experience for purchasing tickets online, CAL focused on optimizing flight operation information on the official website and providing more diverse electronic payment methods and the updated travel service information. We aim to create new opportunities for online marketing in the post-pandemic era and the ratio of sales on the official website increased to 27.81% in 2022. We will continue to develop the official website to better meet the needs of passengers and win the hearts of consumers.



Social Media Post for Promoting "Earth Hour"

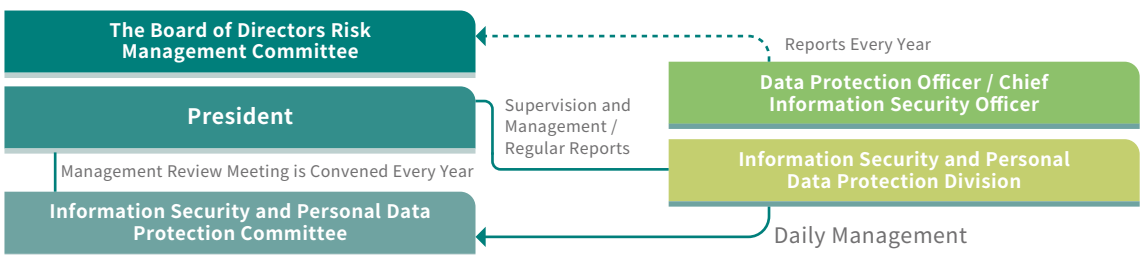


2-1-5 Information Security Management (GRI 418-1)

Information Security Framework

CAL implemented organizational adjustments in March 2022 to ensure that the Company's information security management operations meet international information security standards and domestic information security regulations. CAL established a dedicated unit for information security management and incorporated information security management into the "Information Security and Personal Data Management Division". The Data Protection Officer (DPO) and the Chief Information Security Officer (CISO) jointly lead the dedicated personal data and information security team. The CISO's duties are thus independent from the information management unit to ensure the independence of information security management. In addition, the Company periodically organizes the information security and personal data review meeting every year on a regular basis to verify the continuous and effective implementation of the information security and personal data management system. The CISO and DPO also report information security and personal data protection matters to the Board of Directors each year. Among the current board members, Independent Director Chin-Yung Huang has extensive experience in management and information. He implements timely monitoring of information operations from an independent and objective perspective.

Information Security and Personal Data Management Framework



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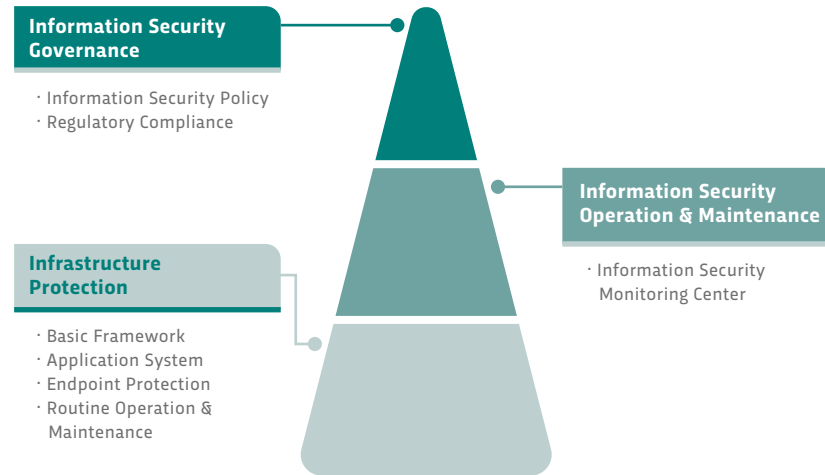
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Cyber Security Management

In response to the continuous cyber-attacks and information warfare in international developments, the Company continuously improves its cyber security defense and response capabilities and enhances the cyber security protection. We implement effective monitoring and protection to ensure the Company's stability, development, and security in the use of services.



Cyber Security Operation & Maintenance

1. Regular Evaluations and Exercises

CAL conducts risk assessment of information and information and communication systems every year, and evaluates the requirements of the cyber security system and communication systems in terms of confidentiality, integrity, availability, and compliance. We also evaluate the core information and communication systems for flight safety, flight security, and flight convenience in accordance with the Aviation Security Manual (Doc. 8973) of the International Civil Aviation Organization (ICAO), and formulate business continuity plans. In 2022, we conducted two business continuity exercises and two computer disaster backup and recovery exercises for the cyber security and backbone network equipment with the widest impact, to ensure that the Company can rapidly and effectively restore normal operations and minimize potential losses. We also reviewed and evaluated the business continuity

plan to ensure the availability and integrity of the plan.

In addition, the Company completed the annual information security inspections in October 2022 to strengthen the Company's overall information security protection. We reviewed information security matters (e.g., network architecture design logic and regional network allocation) and used the judgments of professionals to provide recommendations for improving information security and effectively reduce information security risks. We completed the core ICT system penetration tests in August 2022, which mainly includes information probing and error handling tests for meeting the requirements in the SANS 20 Critical Security Controls of the SANS Institute, the OWASP Top Ten Vulnerabilities announced by the Open Web Application Security Project (OWASP) and other standards for tests. The operations included preliminary tests and repeated tests to confirm that the vulnerabilities have been addressed.

Regular Exercises and Protection Measures	
Computer Disaster Backup and Recovery Exercise (Implemented twice)	· Scope: 39 Application Systems (completed in September) · Scope: 43 Application Systems (completed in December)
IT System Continuous Operation Exercise (Implemented twice)	· Scope: Medium network equipment (completed in January) · Scope: Backbone Router Switch (completed in September)
Information Security Examination (Implemented once)	· Scope: Infrastructure facilities and system developer computers (completed in October)
Penetration Test (Implemented once)	· Scope: Core cyber security system (completed in August)

2. Cyber Security Education and Training

Each year, all cyber security personnel receive at least 12 hours of cyber security professional program training or cyber security competence training. All employees must receive at least 3 hours of cyber security training every year. In 2022, we organized four rounds of cyber security training and four social engineering exercises for all employees (detailed in the table below) to strengthen employees' information security awareness.

The Company has adopted diverse methods for cyber security training and requires all employees to abide by the Company's internal regulations for cyber security and personal data protection. If there is any violation of regulations, the Company shall investigate in accordance with related reward and penalty regulations based on the

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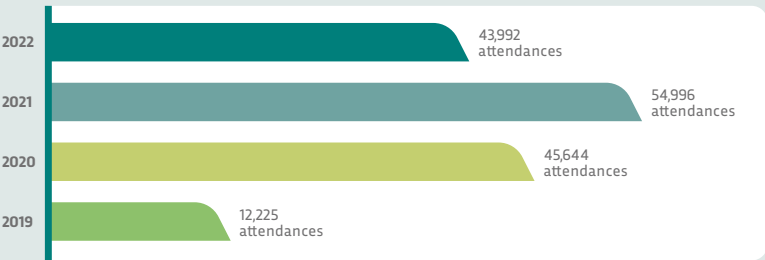
severity, and impose penalties ranging from warning to termination of employment. If such violation incurs legal liabilities, employees shall be held accountable in accordance with related regulations.

The Information Management Division conducts self-inspections and compliance assessments every six months. Audits are carried out by the audit unit independently to implement supervision and inspections ensure the operations of overall mechanisms. The results of training programs for cyber security personnel in 2022 are shown in the table below:

Training Program	Number of Trainees	Number of Trainees that Completed Training
Cybersecurity Analyst International Certification Course	1	1
Google Compute Engine Architecture Design	1	1
Microsoft Azure Administrator Certification Course	1	1
NINS Network Infrastructure and Network Services	1	1
27001:2013 Preliminary Training Courses for the Information Security Management System	4	4
ISO 27001:2013 Lead Auditor Training	4	4

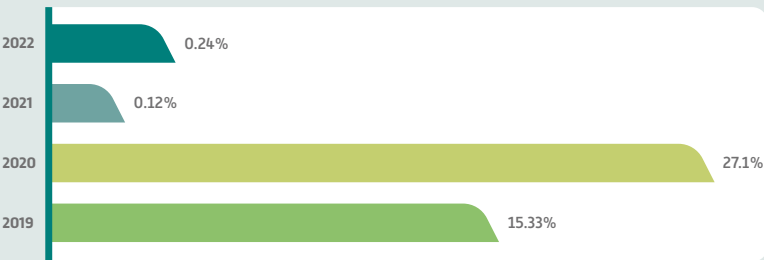
Number of Trainees in Cyber Security Education and Training

The Company organized information security training for all personnel in March, June, October, and December with 43,992 attendances to increase the information security awareness of all employees.



Social Engineering Exercise Link Click Rate

The Company conducted social engineering exercises with email four times (February, May, August, and October) and the link click rate was 3.67%, 3.2%, 0.19%, and 0.24%, respectively. We will continue to conduct exercises to increase employees' awareness and reduce information security risks.



3. Notification of Cyber Security Incidents

The cyber security incident notification, vulnerability reporting, and response mechanism is initiated based on the level of cyber security incidents to control their impact and implement post-incident recovery. Dedicated cyber security personnel determine whether there is a danger and take immediate notification and response measures when necessary. It also notifies units to implement preventive measures and share related information in the Airline Safety Review Committee and Corporate Safety Committee. To strengthen emergency response procedures and plans, develops the cyber security incident notification & contingency drill plan at the beginning of each year and completes internal cyber security exercise by the end of each year to ensure the effectiveness of incident notification mechanisms and procedures and ensure the results meet expectations.

Reporting information security threats and vulnerabilities

The Company's instant messaging software Team+ was used to send emails to all employees with 9 articles on information security awareness.



Notification Flowchart

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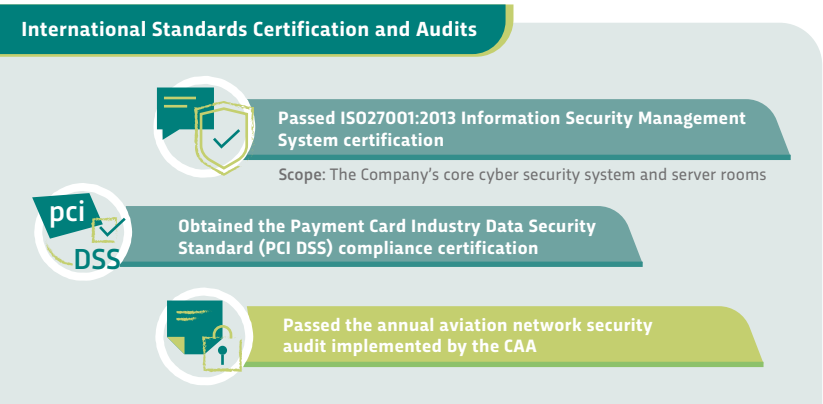
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Cyber Security Certification and Audit

The Company has established a more comprehensive management system to maintain the effectiveness of the certification. The Company completed the internal audit and re-inspection for the core ICT systems in 2022 in accordance with ISO 27001:2013 and obtained the system certificate in January 2023. The Company also obtained the Payment Card Industry Data Security Standard (PCI DSS) compliance certification in November 2022 to protect the Company's credit card transactions and protect the rights and interests of passengers. CAA conducted an annual cyber security inspection on the Company in May 2022 and there were no major discrepancies in the inspection results. Per examination by the Information Management Division in 2022, neither the monitoring or warning information from the defense system, which detects threats to cyber security, was confirmed to be a security incident caused by virus infection and were not punished by the competent authority.



Response to COVID-19

In response to the COVID-19 pandemic, the Company's Information Management Division regularly inspects firewall records and supervises network usage of virtual private network (VPN) connections in accordance with regulations. It also removes accounts without usage records, expired accounts, and accounts of transferred / former employees to reduce cyber security risks. The Company began enhancing the review of user access authority and device security starting in 2021 by taking inspection measures such as operating system security and antivirus software

code updates to strengthen risk management and block connections from unsafe devices. CAL also conducted an inventory of accounts with remote access for ground service and sales agents of foreign branches. We completed improvements for the use of shared accounts and set up a system that can identify individual accounts for use and authorization to prioritize cyber security and ensure the security of the infrastructure.

2-1-6 Privacy Management (GRI 418-1)

Personal Data and Privacy Protection

CAL respects the privacy of the personal data subjects and is committed to protecting personal data and customer privacy. We fully comply with the Personal Data Protection Act and Regulations Governing Personal Information File Security Maintenance Plan and Processing Method for the Civil Air Transport Enterprise of the Republic of China, as well as the General Data Protection Regulation (GDPR) of the EU. When consumers use products or services provided by CAL, the Company shall expressly inform consumers of related information for all personal data, privacy, and rights and interests, and will only collect and process personal data after obtaining consumers' consent. Related policies are disclosed on CAL's official website. The aforementioned policy applies to all of employees of the Company. When it is necessary for the Company to engage subcontracting activities of personal data, the Company also requires the suppliers and their personnel to comply with the policy. We include personal data protection clauses in the contracts signed with suppliers, formulate management operation documents for suppliers, and perform regular evaluations of suppliers and personal data audits. Please refer to CAL's official website for details.

Privacy Protection Policy
and Statement



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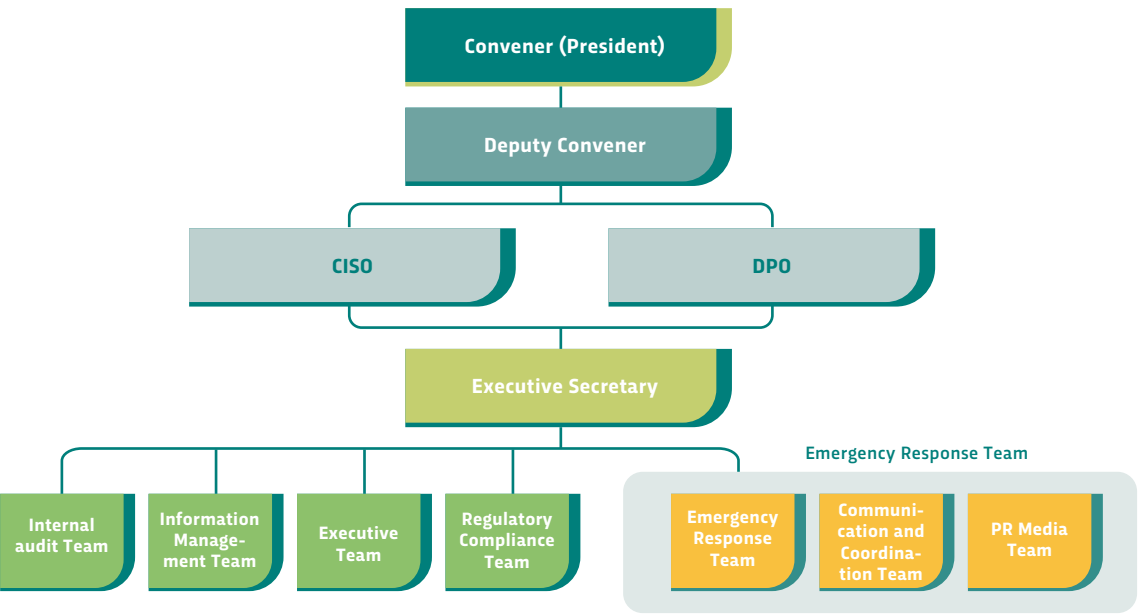
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Personal Data Management Framework

To enhance the Company's personal data management, we followed the requirements in the Regulations Governing Establishment of Internal Control Systems by Public Companies promulgated by the Financial Supervisory Commission and incorporated information security management into the "Information Security and Personal Data Management Division" in March 2022. We also appointed the Chief Information Security Officer (CISO) and provided the CISO with independent powers for coordinating and planning of information security policies and resource allocation in order to enhance the Company's implementation of information security management. The DPO and CISO jointly implement the supervision and management of the Company's personal data and information security to implement the most efficient corporate governance. They also report to the Risk Management Committee of the Board of Directors when necessary (e.g., as shown in 2-1-5 Information Security and Personal Data Management / Reporting Framework) so that the management can effectively monitor the Company's personal data and information security operations. The organization of the Company's Information Security and Personal Data Management Committee is shown in the figure below. The responsibilities of the units are described in the Company's standard operation document "Information Security and Personal Data Management Committee (DQ-010)".

Organizational of the Information Security and Personal Data Management Committee



Inquiry Channels for Personal Data Rights

CAL has established comprehensive personal data protection mechanisms to ensure the accuracy and security of personal data. According to the Privacy Protection Policy and Statement on the Company's official website, CAL must collect, process, or use personal data in a reasonably secure manner within the specific purpose authorized by the data subject, and may not use such data in secondary use other than the purposes authorized by the data subject. It also ensures that the data subject can exercise their rights to inquiries, amendment, deletion, restriction of processing, and withdrawal of consent under the applicable data protection laws and regulations. Where a data subject wishes to exercise any of the aforementioned personal data rights, the data subject may fill in the "Enquiry and Request for Personal Data" online form or write to the DPO (DPO@china-airlines.com). The Company shall assign a designated unit to process the case, and respond to the data subject within the statutory period specified in the applicable laws and regulations.

Personal Data Risk Assessment Mechanisms

To meet requirements of applicable personal data protection laws and regulations and identify the related risks in processing of personal data, the Company formulates standard operation documents for the classification of personal data files and implements regular review as the basis for planning the Company's risk management mechanisms. In the aforementioned personal data inventory, the members of the execution team shall review the business procedures under their management. They

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shall also conduct personal data inventories, assess the data protection impact assessment, implement self-audit, and perform risk assessments each year in accordance with regulations. If it is found excessively high risks in the evaluation, they shall propose risk improvement solutions and implement them thoroughly to ensure the effective implementation of the “Plan-Do-Check-Act (PDCA)” system.

Personal Data Breach Response Mechanisms

CAL has prescribed a contingency plan in accordance with the Regulations Governing Personal Information File Security Maintenance Plan and Processing Method for the Civil Air Transport Enterprise and the Company’s standard operation document “Personal Data Breach Response Management Procedures (DQ-007)” to address breaches involving inappropriate access, disclosure, or unauthorized use of personal data that damage the data subject rights. The personal data breaches are reported to the supervisor on the corresponding level based on the impact of the personal data breach. It speeds up the internal authorization process and helps increase the subsequent reporting and handling efficiency. CAL organizes response drill or tabletop simulations each year in accordance with the aforementioned operation document and reviews discrepancies after the simulation for improvements to ensure the effectiveness of operating procedures and strengthen the horizontal communication and response capabilities between units. In the case of subcontracted processing of personal data, we stipulate the deadline for filing notifications of personal data breaches, records of the liabilities of the breach, compensation, and regulations on penalties

in the contract signed with the supplier of subcontracted services. The Company shall require the retention of evidence and records related to the breach. The aforementioned contingency measures were adopted in the investigation and handling of suspected breaches in early 2023, for which reviews and improvements were made at the same time.



Personal Data Breach
Contingency Flow

Personal Data Internal Audit and Training

The Company established the “Information Security and Personal Data Audit and Continuous Improvement Management Procedures (DQ-012)” standard operation document to review whether the personal data management targets, management procedures, and safety management systems are fully implemented in accordance with plans. We organize internal audits on information security and personal data in Taiwan and overseas branch offices, and submit the internal audit results each year for review by the top management in the Information Security and Personal Data Management Committee to ensure the effectiveness of the personal data management system.

The Company provides all employees with regular training to enhance their personal data protection knowledge and code of conduct. The internal audit team regularly receives training for personal data management and audits. We also collected the important recent personal data related cases, information on new regulations, and key personal data management requirements to comply in the quarterly Personal Data Protection” newsletter. It is sent to all employees to share latest information and case studies regarding personal data.

The results of personal data protection seminars and training programs in 2022 are shown in the table below:

Training Program	Number of Courses	Number of Trainees	Number of Trainees that Completed Training
Executive Management Seminars	1	92	92
Personal Data Regulations and Management (Executives)	7	691	691
Information Security and Personal Data Awareness Training for All Employees	10	10,750	10,750
Personal Data Protection Training for New Employees	11	295	295
Personal Data Protection Newsletters	4	45,733	45,733



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CAL's Personal Data Protection Milestones in 2022

1. Expansion of personal data protection to oversea branch offices
2. Completed personal data inventory, internal audit, and risk assessment across unit in Taiwan and oversea branch offices
3. Issued quarterly "Personal Data Protection" newsletters as personal data protection education for all employees
4. Organized annual contingency drills on personal data breaches
5. Held the annual personal data management review meeting
6. Conducted additional personal data inventories for units with more deficiencies in the inventories of the personal data audit.
7. Introduced ISO 27001 ISMS and ISO 27701 PIMS certification and implemented management framework adjustments

Annual Personal Data Breaches

Number of personal data or privacy leaks in 2022: 0



Future Plans

Flight Safety

1. Renewing Flight Safety Certifications

After obtaining the IATA Operational Safety Audit (IOSA) certification in 2005, CAL has participated in revaluation every two years in accordance with IATA regulations to ensure flight safety. The Company passed the IOSA revaluation for the eleventh time in 2022. We upheld our commitment to safety and resolve to continue to meet the highest international safety standards and offer passengers high-quality and reliable services.

2. Routine Response Exercises for Abnormal Flight Operations and Case Studies

CAL will continue to enhance the capacity for emergency response of aircraft control personnel and organize response exercises and case studies each quarter. CAL shall organize reviews and exercises of response procedures for different weather conditions at random or review recent anomalies. We shall also set up case studies of anomalies in the past three years as mandatory review subjects for refresher training of control personnel each year. We aim to strengthen their capacity for emergency response to maintain the punctuality rate of flights,

reduce the Company's losses, protect the Company's interests, and provide high-quality services in aircraft operations.

3. Enhance the Dispatch System and Optimize Procedures:

To continue to improve the Lido flight planning system of the System Operation Control Division, the Company assigned dedicated personnel to work with Lufthansa on the development of graphic review functions. To continue to safely promote the fuel conservation program, we analyze the meteorological history and the characteristics of unique stations and designate recent high-risk stations in the system every month to remind dispatchers of the operational risks. High-risk stations require special consideration in terms of fuel quantity and backup landing sites.

4. Improve Internal Communication Efficiency

The Company continues to provide the internal communication system Team+ to the employees of front-line units and employees in outstations to help

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them monitor changes in flight information. In the event of a change in flight information, it immediately announces the change for all units to receive updates and implement flexible adjustments for their respective operations.

Passenger Service

1. Enhancing Mobile Devices and Official Website Services

We will launch more user-friendly APPs, website functions, and self-service initiatives online.

2. Cabin Lavatory Cleanliness Satisfaction and Internal Control Analysis

The cabin lavatory cleanliness KPI was attained each month in 2022. To continue to provide passengers with a safe flight environment, the Cabin Crew Division regularly incorporates data from the business intelligence portal (BIP) for each aircraft type, flight number, time period, departure station, cabin class, card category, and number of passengers. It employs internal control and analysis to effectively display passenger habits and characteristics of destinations. The information is shared in regular announcements and meeting information with the aim of facilitating concrete improvements for key in-flight services and converting them into customer satisfaction.

3. Upgraded Airport Services

As the pandemic subsided and flight operations gradually resumed, the Company will continue to use information technology along with the plans of different airports for activating self bag drop (SBD) and self boarding gate (SBG) to help passengers use self-service applications such as CUSS and eCheck-in. These measures will reduce the contact between passengers and airport personnel, improve the efficiency of self-service operations, and enhance convenience services as we make the transition to innovative and smart airports.

4. Continue to Implement Passenger Satisfaction Survey during the Pandemic to Maintain Service Quality

Cargo Service

1. Adjusting Capacity Flexibly in Response to Market Needs

During the pandemic, the quarantine issues for crew members constrained

the flight plans for cargo flights. When the fifth 777F entered operations at the end of the year, the Company shall continue to strengthen Taiwan's position as a transportation hub, expand into potential markets, and make full use of the freedoms of the air and cargo aircraft capacity. Specific measures include:

- Increased MIA flights and expanded the service network in North America.
- Responded to the demand for exports of the Japanese auto and precision instrument industries and continued to schedule cargo flights to Osaka (KIX) and Nagoya (NGO).
- Added cargo flights to AMS with stopovers in India (DEL and BOM) or Dubai (DWC) for cargo flights to Europe to increase revenue and expand the network in Europe.
- Added flights to Southeast Asia in response to ASEAN Free Trade Agreement which increased regional trade. We also increased transshipment efficiency and gained business opportunities in different countries.

2. New Aircrafts Equipped with Next-Generation "Cargo Loading System" Reduce Operation Time, Increase Cargo Load, and Maximize Revenue from Cargo Service

The delivery of the A321neo passenger aircrafts also enhanced CAL's competitiveness in regional cargo services. We opted for the cargo loading system in the belly of the aircrafts that can be flexibly adjusted to use pallets for loading cargo. It effectively reduces the need for manual labor, shortens the ground service time for flights, protects the cargo and passenger baggage. We also added heavy cargo sources that can be loaded and unloaded with greater ease. We adjusted the belly of the aircraft to bulk transport in accordance with the requirements of different airports to increase flexibility in aircraft dispatch. Compared to the 738, the new A321neo aircrafts' cargo load is increased by 10-20%. They will benefit current operations which are focused on cargo service.

3. Continuously Promoting Premium Air Freight Cargo & Customized Service

With extensive cargo handling experience and features, CAL aims to deliver more precision equipment, aviation supplies, temperature-controlled cargoes, and other high- priced cargoes, add more value to sales with excellent service, and promote revenue diversification.

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Customer Relations Management

Passenger Customer Service Satisfaction

- Starting from 2023, the Company use the passenger satisfaction rate and Net Promoter Score (NPS) in lieu of the weighted average of passenger satisfaction rate used in the past to portray the overall passenger satisfaction rate. It provides a more direct and comprehensive view of passenger satisfaction and helps the Company implement improvements.
- In addition to inviting Dysnaty members to fill out the passenger satisfaction survey, we also plan to expand the pool of respondents and the coverage of the surveys to obtain more comprehensive passenger feedback and improve the quality of services.

Information Security

Cyber Security Certifications and Related Planning

The Company obtained the PCI DSS compliance certification in November 2022 to protect the Company's credit card transactions and protect the rights and interests of passengers. We plan to renew the certification every two years to reduce information security risks.

The Company completed ISO 27001 ISMS certification in October 2022 and will continue to accept verification to meet international information security standards.

Privacy Management

1. Personal Data Management System

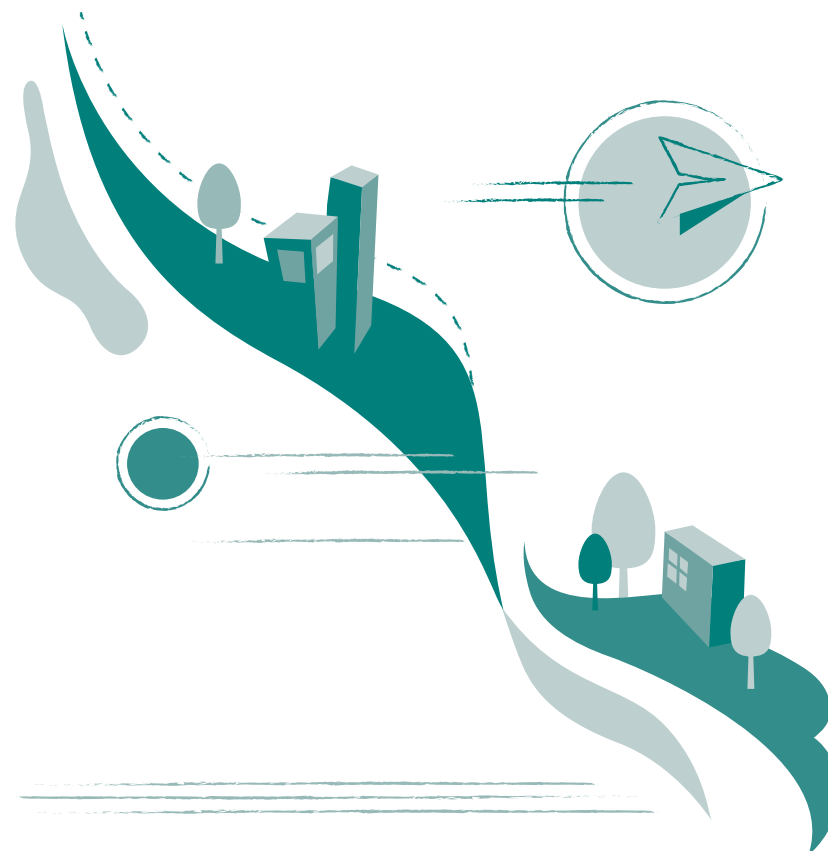
The Company activated the certification and introduction of ISO 27001 "Information Security Management System (ISMS)" and ISO 27701 "Privacy Information Management System (PIMS)" in March 2022. We completed ISO 27001 ISMS certification in October 2022 and will continue to introduce and complete ISO 27701 PIMS certification in 2023 to ensure that all personal data protection regulations of the Company meet regulatory requirements.

The Company continues to comply with occupational health and epidemic prevention guidelines after the pandemic and reviews the operating procedures for inbound/outbound quarantine measures of related units to ensure that all measures comply with the personal data regulations. We shall adhere to applicable personal data laws and regulations to use personal data within the

necessary scope for specific purposes to legally collect, process, and use data subjects' personal data. We shall fulfill data security maintenance obligations to reduce the risks of damage due to personal data leaks.

2. Personal Data Protection Audit

As the pandemic subsided and countries gradually relaxed border controls, the Company will gradually activate the personal data audit plan for overseas branch offices in 2023. We shall implement onsite audits to ensure that the personal data protection operations of overseas branch offices meet requirements in the Company's regulations and local laws.



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HIGHLIGHTS



7th time annual supplier conference

Taiwan's first airline to hold an annual supplier conference for seven consecutive years.



1st Taiwanese airline to conduct and continuously enhance supplier sustainability assessments

1st Taiwanese airline to perform and continuously enhance supplier sustainability assessments.



92 points In 2022, the score of supply chain sustainability risk assessment was 92 points

CAL has continuously implemented sustainable risk assessments for key suppliers since 2015. In 2022, the score of supply chain sustainability risk assessment was 92 points.

Management Approach

Material Issues

● Sustainable Supply Chain Management

Importance of Material Issues

CAL's vision of "becoming the preferred airline in Taiwan" has firmly established its reputation in Taiwan and around the world. We are committed to the pursuit of sustainable development. We deeply understand that only by cooperating with business partners can we truly implement corporate sustainable development and create sustainable value. Thus, we have formulated the CAL Sustainable Supply Chain Management Policy according to international standards and guidelines such as the United Nations Global Compact (UNGC), International Labour Organization (ILO), and ISO 26000:2010 Guidance on Social Responsibility. The Sustainable Supply Chain Management Policy applies to the suppliers and contractors of CAL and its subsidiaries and joint ventures. Hence, we urge that the principles of sustainable development be implemented as part of our overall supply chain management to jointly fulfill our corporate social responsibility.

Commitment and Long-term Goals



Commitment

To achieve supply chain sustainability, CAL has committed itself to the development and continuous improvement in the three dimensions of governance, society, and

the environment.



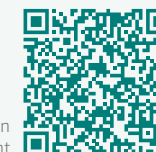
We are committed to

1. Conducting risk and impact assessments to ensure supply chain sustainability and establish fair, transparent mechanisms for supplier management.
2. Selecting economic and acceptable products and services by considering their environmental and social effects.



We require all suppliers and contractors to

1. Strictly abide by local and international laws and regulations.
2. Implement quality control systems that ensure the quality and safety of products or services provided.
3. Establish information security mechanisms that prevent the misuse of confidential and sensitive information.
4. Comply with local and international human rights and labor standards, and not follow child labor and discriminatory practices.
5. Provide a safe working environment and secure workplace over health and safety issues.
6. Discontinue forced labor and guarantee freedom of association as well as proper working conditions and pay.
7. Reduce the negative impact of products and services on the environment and society in accordance with sustainability-related regulations.



Sustainable Supply Chain
Management Policy Statement

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Long-term Goals



2023

1. Maintain SAQ score at 87 points
2. Optimize risk management for sustainable supply chain, implement the SAQ, and assess 70% of critical tier-1 suppliers and 50% of critical tier-2 suppliers by 2023

2025

1. Maintain SAQ score at 87 points
2. Optimize risk management for sustainable supply chain, implement the SAQ, and assess 100% of critical tier-1 suppliers and 100% of critical tier-2 suppliers by 2025

2030

1. Maintain SAQ score at 89 points
2. Providing supply chain training,improving assistance mechanisms, and implementing ongoing SAQs

Unit in Charge

Corporate Sustainability Committee — Supply Chain Task Force
(in charge of aviation supplies, jet fuel, in-flight catering, and service procurement as well as general affairs)

Management Mechanisms

- The meeting of Corporate Sustainability Committee, at least twice every year
- Supply Chain Task Force reports to Corporate Sustainability Committee, every quarter
- The President is the highest-ranking decision maker for the Supplier Sustainability Management Plan.
- Expand the SAQ to cover the critical tier-2 suppliers

Objectives and Plans

KPI	2022			2023 Objectives
	Objectives	Performance	Achievement	
Convene Annual Supplier Conference	One session	Held at the Novotel Taipei Taoyuan International Airport on December 13	100%	One session
Conduct SAQ	Response rate at least 72%	Response rate at least 72%	100%	Response rate at least 73%
Critical Supplier SAQ Score	86 points	92 points	100%	87 points
ESG Training for Procurement Staff	Three sessions each year	Participated in three sessions of internal / external ESG online sustainability seminars	100%	Three sessions each year

Grievance Mechanism

CAL's suppliers access information on grievance mechanisms through the QR code below. Grievances will be handled by our dedicated personnel immediately.

General Products: Administration Division — **E-Mail:** tpeuo@china-airlines.com

Aviation Parts: Engineering Division — **E-Mail:** AOG_DESK@email.china-airlines.com

E-shopping / Duty free: In-flight Service Supply Division — **E-Mail:** e-shopping@china-airlines.com



Stakeholder Contact

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2-2-1 CAL Value Chain (GRI 2-6)

Compared with other industries, the aviation industry is unique in respect of safety concerns. As of the end of 2022, the CAL Group had established 29 joint ventures in business sectors including air transport, ground handling service, tourism, aerospace

technology, air transport support, and logistics and warehousing. By integrating their strengths, the Group will optimize its overall quality of service, competitiveness and value chain.

Material Procurement Types

Category (No. of Tier-1 Suppliers / Critical Tier-1 Suppliers)	 Aviation Materials Aircraft Parts (601 / 22)	 Aviation Fuel Fuel Required for Flight (29 / 6)	 In-Flight Catering In-Flight Meals Offered to Passengers (24 / 7)	 Ground Handling Service Airport Manpower (26 / 1)	 General Products Goods Required for Overall Operations (112 / 8)
Description of Importance	Aviation materials are critical for flight safety. Therefore, aviation materials must have certificates of qualification, and their airworthiness must be confirmed by related units / divisions / departments.	Fuel is vital for flight and its cost of procurement forms one contributor to operating costs.	In-flight catering stands as one of CAL's crucial quality services. CAL provides passengers with a complete in-flight experience based on the needs of long- haul and short-haul passengers and nationality requirements.	CAL provides excellent airport services, and improves passengers' satisfaction throughout the journey with the help of its ground staff and agents.	General products refer to basic supplies required for business operations to improve operational efficiency and quality.
Definitions of Critical Suppliers	1. Irreplaceable suppliers. 2. Yearly accumulated procurement amount is over certain percentage.	1. Irreplaceable suppliers. 2. The procurement amount is accounted for over certain jet fuel cost in whole year.	Suppliers offer long-haul service. (including the China Pacific Catering Services at Taipei Station)	1. Irreplaceable suppliers. 2. Exclusive ground handling agent which is not affiliated with airlines. 3. Yearly flights handling by the suppliers are accounted for over certain total flights of CAL.	1. Irreplaceable suppliers. 2. Yearly accumulated procurement amount is over certain percentage.
Definitions of Tier-1 Suppliers	All suppliers that received purchase orders for transactions in the current year.	Suppliers that supplied and produced fuel in the current year.	Suppliers that offer meals for flights with passenger services in the current year.	Ground handling agents that processed scheduled flights in the current year.	All suppliers with transactions in the current year.

Note: Material procurement types are defined by the volume of procurement.

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Note 1: The Company sold Jardine Air Terminal Services Ltd. in mid-2022.

Note 2: Dynasty Holidays, Inc. was dissolved in May 2022

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2-2-2 Sustainable Supply Chain Management (GRI 204-1, 308-2, 407-1, 414-2)

CAL has been promoting sustainable supply chain management since the beginning of 2014. Subsequently, we established a Joint Creation Value Team for important procurement categories, including “aviation materials, aviation fuel, in-flight meals, service procurement, and general business affairs”; formulated long-term sustainability goals based on the United Nations’ Sustainable Development Goals (SDGs); and established China Airlines’ Sustainable Supply Chain Management Policy Statement and Supplier Code of Conduct with reference to the Global Reporting Initiative (GRI), ISO 26000, United Nations Global Compact (UNGC), International Labour Organization (ILO), and other international standards. CAL has also established a risk investigation mechanism and performed audit operations. If a supplier violates the terms of the Supplier Code of Conduct, the Company may terminate the partnership. We also organize annual supplier conferences to improve suppliers’ sustainability risk awareness and regularly report the management results to the Corporate Sustainability Committee for follow-up inspection on a quarterly basis. The President is the highest-ranking decision maker of the Corporate Sustainability Committee.



Supplier Code of Conduct

Supply Chain Management Objectives and Plans

CAL’s main business and supply chains are located in Taiwan, which has the highest rate in the world with 46% of suppliers and 35% of CAL’s total procurements. It is followed by the Americas, Asia, Europe, and Oceania. In 2022, the outbreak of the Russo-Ukrainian War, respite from the COVID-19 pandemic, gradual opening of borders across the world, and reemergence of tourism have led to a labor shortage in airports of different countries. We continue to conduct risk assessments in each region to verify whether our suppliers’ upstream operations involve Russia and whether our partner suppliers use illegal forced labor in terms of human rights issues. CAL shall prioritize the selection of suppliers with good ESG performance to ensure the stability of the supply chain. CAL also uses the SAQ for sustainability risk assessments each year to track the identified actual social impact in the supply chain and observe whether there is potential negative social impact and regional political and economic risks.



Regional Distribution of Tier-1 Suppliers

Overview of Global Suppliers (Number of Suppliers)		
Taiwan	363	46%
Asia (Other Than Taiwan)	117	15%
Americas	206	26%
Europe	99	13%
Oceania	7	1%
Total	792	100%



Regional Distribution of the Procurement Amount from Tier-1 Suppliers

Overview Of Global Suppliers (Procurement Amount)	
Taiwan	35%
Asia (Other Than Taiwan)	19%
Americas	32%
Europe	12%
Oceania	2%
Total	100%

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Proportion of Procurement from Key Suppliers

Proportion of Procurement from Key Suppliers			
	Number of Tier-1 Suppliers	Number of Critical Tier-1 Suppliers	Proportion of Total Procurement Amount from Critical Tier-1 Suppliers
Aviation Parts	601	22	80%
Aviation Fuel	29	6	67%
In-Flight Catering	24	7	96%
Ground Handling Service	26	1	27%
General Products	112	8	78%
Total	792	44	68%

2022 Achievements

1. Sustainable Supply Chain Procurement Practices



Continue the Use of Sustainable Aviation Fuel to Protect the Environment

Compared to narrow-body aircrafts of the previous generation, the eight A321neo aircrafts delivered to CAL in 2022 reduce fuel consumption by 15-20%, noise by 75%, and NOx emissions by 50%. When the eight new A321neo aircrafts were delivered to Taiwan, CAL made arrangements to use sustainable aviation fuels, as it did for A350 aircrafts. This decision led to a reduction of carbon emissions by 8% when compared with traditional fuel usage. CAL takes real actions to save fuel and reduce carbon emissions to support its commitment to net zero carbon emissions by 2050, reduce greenhouse gas emissions, and protect the environment. After the new A321neo aircrafts arrive in Taiwan and preparation and certification are completed, they will be used for flights to Northeast Asia, Southeast Asia, and China to strengthen CAL's regional flight network.



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Environmental sustainability requires the transformation of the service model, business model, and values as support in order to improve the operational efficiency, attain co-existence with the ecosystem, and fulfill our commitments to the Earth with the effective use of resources, creation of a circular economy, and changes in consumer behavior. CAL shall continue to upgrade its fleet and use new energy-efficient passenger and cargo aircrafts such as B777F and A321neo. We shall also promote environmentally sustainable transformation in management,

implementation, and communication by supporting green procurement, improving energy efficiency of equipment and facilities, responding to environmental initiatives, and developing or participating in R&D projects to continuously improve and enhance the environmental performance and operational eco-efficiency. Due to the global COVID-19 pandemic and border control measures from 2020 to 2022, the procurement volume of environmental protection products has been adjusted to adapt to the operational environment and conditions.

(Unit: TWD thousand)

Item	Scope	2019	2020	2021	2022
Environmental Protection Equipment, Management System O&M, and Research Projects	Depreciation, renewal, operation and maintenance, of pollution prevention equipment, environmental testing, setup and implement of the environmental management system, and strategy research projects	25,346	23,390	29,811	27,081
Green Procurement	Category I, II, and III products prescribed in the Regulations for Priority Procurement of Eco-Products (dated January 15, 2001)	19,258	10,199	6,455	9,221
Waste Management	Waste disposal fees	4,062	3,854	4,107	4,261
Noise Prevention	Noise control fees	189,351	136,812	136,136	129,674
Air Pollution Prevention	Air Pollution prevention fees	753	819	589	615
Total Investment Amount		238,770	175,074	177,098	170,852

Note: Annual special investments and promotional projects are not included in this table. Please refer to financial yearbook for more detailed information.

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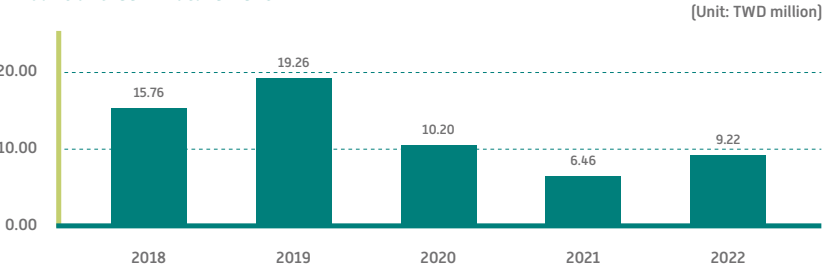
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Green Procurement

In 2022, CAL's green procurement amount increased by 43% compared to 2021. CAL shall continue to promote green procurement. We use products with environmental protection label certification for paper products used on aircrafts (including paper towels and toilet paper) and A4 paper used in offices and continues to improve system operations to reduce the use of paper. CAL also encourages units to incorporate the environmental impact of the service / product life cycle during planning and design and take real actions to reduce the impact on the environment.

Amount of Green Procurement

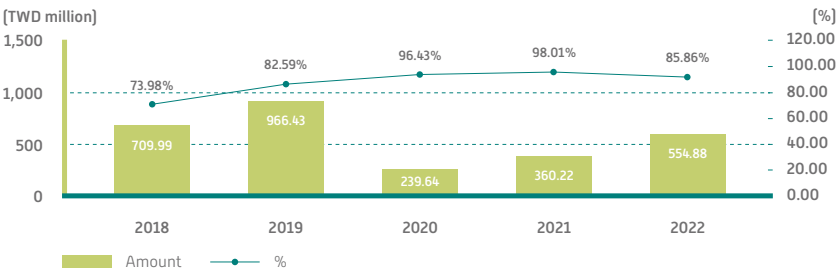


Note: Green procurement includes Category I, II, and III products prescribed in the Regulations for Priority Procurement of Eco-Products (dated January 15, 2001).

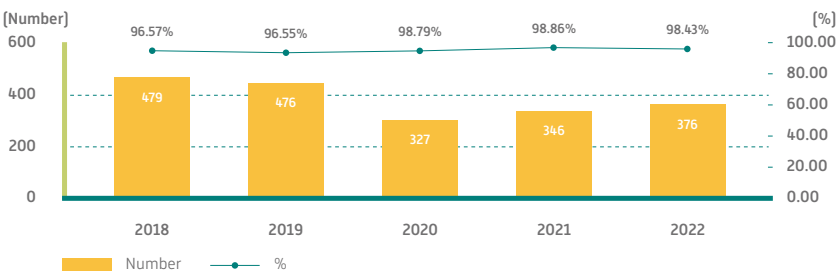
Local Procurement

Taiwan is a crucial hub of CAL. Except for certain aviation equipment, parts, and operations that are subject to international standards, CAL has managed to source parts from local suppliers (Taiwan, Penghu, Kinmen, and Matsu). We purchase high-quality agricultural products from Taiwan such as bananas, sugar apples, and pineapples. The welcome drink for business class passengers is made with local agricultural products from Taiwan and we also launched exclusive in-flight vegetarian dishes. Our partners support local produce and select the best ingredients, which are cooked with meticulously designed processes to reduce pollution in the environment and food waste, and thereby ensure sustainability with low-carbon and clean vegetables. The value of local procurement in 2022 rose by 54.04% compared to 2021 and the percentage of local suppliers remained 98%.

Amount of Local Procurement



Number of Local Suppliers



Note 1: The statistics include the Administration Division and the maintenance park and exclude the independent procurement of the fleet, In-flight Supply Chain & Marketing Division, and the Ground Services Division.

Note 2: Aircraft parts are not included. They are subject to special certification.



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2. Risk Assessment of Supply Chain Sustainability (Supplier Screening)

To strictly control supply chain sustainability risk, CAL has conducted a survey for supply chain sustainability risk and formulated our Sustainability Assessment Questionnaire (SAQ) since 2015 based on international initiatives and evaluations such as the GRI Standards, ILO, UNGC, Dow Jones Sustainability Index (DJSI), CDP, and the Universal Declaration of Human Rights. CAL also established a sustainable supply chain management system to improve the accuracy of the results of the SAQ in 2017, the functions of which include specifying the definition of critical suppliers, conducting the Sustainability Assessment Questionnaire (hereinafter SAQ), formulating regulations for review and designing relevant forms, setting different goals for short-term, mid-term, and long-term reviews, and improving the follow-up tracking mechanism. CAL continued to strengthen supply chain management in 2022 . CAL identified supplier risks at the beginning of the year, conducted due diligence in the middle of the year, and reviewed the improvements at the end of the year. Supplier training was also organized to fully control suppliers with high risks, and on-site audits were conducted further to reduce supply chain sustainability risks.

As for the SAQ, CAL conducted the SAQ with 44 suppliers in 2022, accounting for 68% of the total procurement amount of all critical tier-1 suppliers with a response rate of 75%. In addition, CAL also surveyed 3 critical tier-2 suppliers with a response rate of 66.67%. According to the results of the SAQ, the average score of the suppliers in 2022 was 92.00. The average scores in the four dimensions (please refer to the note) were between 86 and 97 points, showing that most of the suppliers have incorporated the concept of sustainability into these four dimensions. The scores in the four dimensions all improved compared to the previous year.

Note: "Governance" includes ethics and regulatory compliance. "Environment" refers to environmental protection. "Society" includes human rights and labor conditions, and occupational safety and health. "General" includes quality and safety and information security.

Procedures of Identifying Risk of Supply Chain Sustainability



Supply Chain Sustainability Risk Assessment Implementation Status

Suppliers	2021	2022
Tier-1 suppliers	708	792
Critical Tier-1 Suppliers (Share of Total Procurement Spent %)	38 (62%)	44 (68%)
Critical Non-tier-1 Suppliers	3	3
Risk Assessment of Supply Chain Sustainability	2021	2022
Tier-1 Suppliers Assessed Annually	38	44
Critical Non-tier 1 Suppliers Assessed Annually	3	3
Tier-1 Suppliers Assessed in the Last 3 Years (Percentage of Total Tier-1 Suppliers)	162 (22.88%)	145 (18.30%)
Critical Non-tier 1 Suppliers Assessed in the Last 3 Years (Percentage of Total Critical Non-tier 1 Suppliers)	5 (100%)	5 (100%)
High-Risk Suppliers	2021	2022
Number of Tier-1 Suppliers Classified as High-risk (Percentage of Total Tier- 1 Suppliers)	0 (0%)	0 (0%)
Number of Critical Non-tier 1 Suppliers Classified as High-risk	0	0

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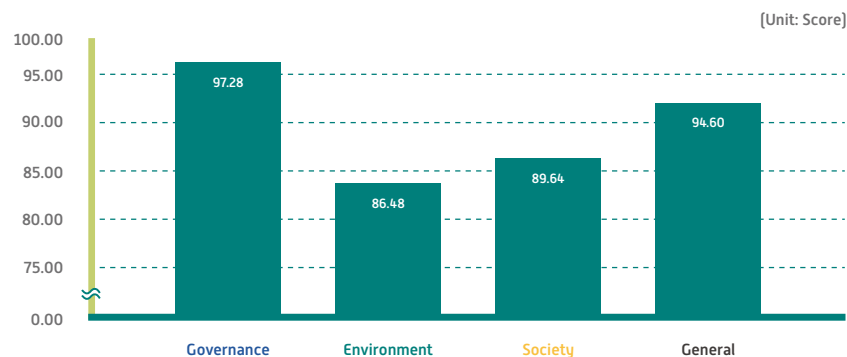
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2022 Risk Survey of Supply Chain Sustainability



Overall Performance of Supply Chain Sustainability

- In 2022, the score of supply chain sustainability risk assessment was 92.00 points.
- Governance:** The score (97.28) was an increase compared to the previous year (94.87) and has been the highest score overall. It shows that critical suppliers generally have internal management mechanisms.
- Environmental:** The score (86.48) was a significant improvement compared to the previous year (79.18) and it demonstrated the suppliers' increased resolve for responding to environmental issues. We will continue to ask suppliers to conduct environmental impact assessments and propose related environmental policies.
- Society:** Although the score (89.64) was an improvement compared to the previous year (85.10), there remains room for improvement. This area will still be the focus of our support for suppliers.
- General:** The score (94.60) was higher compared to the previous year (93.53), and the second highest score overall. We will continue our requirements and regularly review suppliers to ensure that they have set up quality management and information security systems.

Improvements to Be Made

- Governance:** We will continue to require suppliers to implement ethical and legal regulations and improve their governance.
- Environmental:** We will continue to provide training for suppliers to strengthen their understanding of environmental issues and encourage them to improve their internal environmental management policies. We will also review and advise suppliers that have high environmental risks.
- Society:** The suppliers have established related regulations for protecting human rights such as the freedom of association, ban on forced labor, ban on the use of child labor, and compliance with work-hour regulations. CAL shall continuously track suppliers with poor performance.
- General:** We will continue to require suppliers to improve information security, personal data, and privacy.

Improvement Action

In 2021 and 2022, there were no high-risk suppliers and CAL continues to periodically carry out supplier SAQ evaluations. If any high-risk supplier is identified, the Company follows up on improvements and continuously implements improvements for items with lower scores each year. At the end of 2022 when the pandemic restrictions were removed. Onsite visits help CAL understand the suppliers' real problems, provide guidance, and urge them to take corrective measures. CAL will also enhance the communication of human rights and environmental sustainability issues with the aim of improving the sustainability performance of suppliers. CAL will expand the scope of the SAQ risk assessment to all tier-1 suppliers.



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3. Sustainable Supply Chain Assessment

According to the SAQ analysis results, there were no high-risk suppliers in 2022 but 1 critical tier-1 suppliers exhibited both high environmental and social risks, 3 critical tier-1 suppliers exhibited high environmental risks, and 1 critical tier-1 supplier exhibited high social risks. To learn more about the implementation status of sustainable practices of our supply chain partners, CAL has set up different audit plans for sustainable supply chain management. From 2020 to 2022, 52% of the critical tier-1 suppliers' audit targets have been completed. CAL's audits are conducted on-site, in written format, or by correspondence. The method is determined based on the supplier's location, characteristics, and border control measures in response to COVID-19. The audit survey in 2022 showed that suppliers require improvements such as the establishment of an environmental management system, classification and recycling for recyclable waste, monitoring suppliers' environmental performance, and providing regular training on environmental management and regulations for employees. After CAL requested follow-up and training, most of the critical tier-1 suppliers have made significant improvements in environmental management. No critical tier-1 suppliers have terminated the partnership in 2022. CAL will continue to enhance support, follow-up, and requests for improvements for these environmental and social issues.



Supply Chain Sustainability Assessment Implementation Status

Suppliers (Critical Tier-1 and Non-tier-1) (Proportion of the Total Number of Critical Suppliers)	2021	2022
Suppliers Assessed via Desk Assessments or On-site Assessments	32 (78.04%)	9 (20.45%)
Assessed in the Past 3 Years	21.96%	79.55%
Overall Ratio	100%	100%
High-risk Suppliers (Proportion of the Total Number of High-risk Suppliers)	2021	2022
Assessed in the current year	0% (No high-risk suppliers in the current year)	0% (No high-risk suppliers in the current year)
Assessed At Least Once Every 3 Years	0%	0%
Overall Ratio	100%	100%
High-risk Suppliers with Corrective Measures and Completed Improvements	0% (No high-risk suppliers in the current year)	0% (No high-risk suppliers in the current year)

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4. Assisting Suppliers Reduce Risks

Convene Annual Supplier Conference

CAL convened the seventh annual sustainable supplier conference with 24 domestic suppliers (37 partners) on December 13, 2022. It was the first time the meeting was relocated from Taipei to CAL Park. In the conference, experts shared the global trends of sustainable development and CAL shared its environmental sustainability values. CAL elaborated on how it promoted the sustainable supply chain for the year and its future goals and plans for sustainable supply chain. CAL also explained its targets and plans for the sustainable value chain. CAL produced presentation materials in Chinese and English and delivered them to 100% tier-1 suppliers in Taiwan and overseas to strengthen suppliers' ESG and sustainability values. CAL explained the correct concepts for work to supply chain partners through workshops and interactions. CAL will also place more emphasis on the environmental dimension and social dimension based on the result of the SAQ of the year (supplier risk assessments were simplified and incorporated into the SAQ) and focus on improvements in future supplier conferences.

In Alignment with the Global Trend, Continuing Education and Training Courses on Sustainability

CAL will continue to provide training on sustainability for procurement personnel to enhance their knowledge of sustainability. This has been one of CAL's important goals for sustainability each year. In 2022, relevant procurement personnel continued to participate in training on the sustainable supply chain to better understand the standards, management practices, and current conditions in the international supply chain, and how to respond to the devastation of the COVID-19 pandemic on the global supply chain. We also focused on sustainability management to ensure that procurement personnel obtain the latest information on sustainability and adjust work plans for the sustainability of the supply chain. CAL will continue to invite external experts to provide education and practical training courses on sustainability audits for all procurement personnel so that future procurement can be conducted in accordance with CAL's sustainable supply chain management policies and operations of the management system.

In terms of the goals for 2023, CAL seeks to communicate with suppliers in the supplier conference and discuss concrete measures taken by CAL such as green building, use of water resources, and eco services for environmental protection and carbon reduction. We will continue to help suppliers understand sustainability requirements for ESG. CAL will build on the results in 2022 to strengthen suppliers' governance and focus on the impact caused by the pandemic on its sustainable supply chain. We will also communicate with suppliers on-site, in writing, by correspondence, or with other diverse methods.



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2-2-3 Enhancing Sustainability Value through Supply Chain Engagement (Building Programs)

Sustainable actions by supply chain/value chain partners are the key foundations for CAL's commitment to environmental sustainability and the implementation of environmental policies. Since 2018, CAL has invited 11 suppliers and value chain partners with close partnerships for setting up the Environmental Seed Development Plan. We use surveys, workshops, in-person / online courses and seminars each year to monitor and help the value chain understand their own environmental risks and opportunities and gradually build and continuously sustain comprehensive environmental management mechanisms. We also invited partners of the Group to

jointly take part in environmental protection initiatives and consolidate a consensus for environmental protection. With the active cooperation and hard work of partners, we have achieved significant growth in the overall environmental governance and performance of the value chain. CAL also targets specific international or industrial trends and invites suppliers to jointly develop environmentally friendly and sustainable products to add value to products or services of the partners of the Group.

Purpose	Engagement Model	2022 Achievements / Results
Monitor Environmental Risks and Opportunities	Distribute surveys, inventory energy and resource consumption, potential environmental risks and opportunities in operations	Assisted 11 partners of the Group with 100% completion of carbon inventory and the Scope 1 and Scope 2 emissions totaled 208,914 tons CO ₂ e
Improve Environmental Management Mechanisms	Organize themed workshops/courses, communication meetings, and seminars and invite partners of the Group 1. Incorporate environmental protection and energy conservation into new investment and procurement of equipment 2. Set up dedicated units for evaluating compliance for critical environmental impact with direct consequences 3. Set environmental performance targets and promote environmental protection and energy conservation measures	Assisted 11 partners of the Group in setting 21 energy and resource management targets with 100% attainment for 14 targets. Implemented environmental protection and energy conservation measures to reduce electricity consumption by 45,000 kWh and reduce diesel consumption by 3,000 liters
Expand Sustainability Influence	CAL encourages suppliers to set up environmental sustainability pages to disclose their environmental policies, targets, and performance Encourage suppliers to support environmental protection initiatives	Assisted 7 partners of the Group in disclosing environmental information on the official website / web page and support the Earth Hour initiative
Value-added Products / Services	Work with suppliers to add sustainable and environmental protection value to specific products or services, creating new environmentally sustainable products and services	Development of environmentally friendly catering stores (refer to the chapter on environmental protection) with rPET / coffee ground fabrics Broadcast 12 environmental sustainability videos on board Promotion of the voluntary Eco Travel Carbon Offsetting Program to passengers / shippers and Mandarin Airlines / Tigerair Taiwan

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Future Plans

1. CAL continuously obtains information on the sustainability management status of supply chain partners through questionnaires every year, and work on all aspects of sustainable supply chain management to meet the short-term and medium-term goals of completing the risk assessment of tier-2 suppliers by 2023 and reviewing all tier-1 suppliers by 2025.
2. CAL will require its personnel to attend internal sustainability training courses or sustainability training programs organized by external entities. For external entities, CAL will continue to provide all domestic suppliers with sustainability training (courses in written or in-person format) to help their procurement personnel learn more about sustainability.
3. CAL shall continue to make use of its environmental protection and energy conservation management experience to assist supply chain and value chain partners in building their capacity for greenhouse gas inventory operations, improving environmental management mechanisms, promoting green procurement, conserving resources, building a circular economy, and other environmental protection and energy saving measures to enhance the environmental performance and sustainable value of the overall value chain.



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HIGHLIGHTS



The only winner of the "National Enterprise Environmental Protection Award - Giant Thumb Award" in the transportation industry

CAL received the highest honor of the Master Award in the fourth "National Enterprise Environmental Protection Award" of the Environmental Protection Administration, Executive Yuan.



Highest scores in the global aviation industry in environmental performance of DJSI

CAL was selected in DJSI emerging markets index seven consecutive times and received the highest total score in the world for environmental performance, highest possible score in the environmental reporting evaluation and cargo fuel efficiency, and the highest score in the aviation industry for the environmental policy and management systems, operational eco-efficiency, climate strategy, food waste and general waste disposal.



9th Time in TCSA Climate Leadership Award

CAL has received the Climate Leadership Award for nine consecutive years since 2014, an unrivaled feat in Taiwan's transportation service industry.



4th consecutive year with CDP SER Leadership rating

CAL has responded to the CDP climate change questionnaire for 11 consecutive years since 2012 and actively promotes and implements supply chain / value chain management. CAL has received an A- rating in the CDP SER for four consecutive years.



1st company in Taiwan's transportation industry to announce the "Forest and Biodiversity Conservation Commitment"

CAL became the first company in Taiwan's transportation industry to announce the "Forestry and Biodiversity Conservation Commitment".



Received green procurement in the private sector award from Taipei City Government

Mandarin Airlines implements environmental and energy management and encourages and promotes green procurement. It received an award for green procurement in the private sector from Taipei City Government in 2022.



Only airlines in Taiwan to use 10% sustainable aviation fuel (SAF)

CAL is the only airline in Taiwan to use SAF for the delivery flight of new aircrafts. CAL set a voluntary target for adding SAF and demonstrated its resolve for attaining net zero emissions by 2050.



1st to demonstrate "sustainable flights" and "net zero carbon flights" in Taiwan

CAL supported the SkyTeam in the "Sustainable Flight Challenge" by launching demonstrative sustainable flights and received the "Innovation Award - Best Sustainable Innovation Cargo" and "Collaboration Award - Best Employee Engagement".

To celebrate CAL's 63rd anniversary, CAL launched the first "Net Zero Carbon Flights" for all flights departing from Taiwan and purchased carbon credits for all passengers and cargo departing from Taiwan on the same day to attain carbon neutrality.

Highlight Project TSFC

CAL supported "The Sustainable Flight Challenge" (TSFC) of SkyTeam, engaging with partners to demonstrate the sustainable flight between Taipei and Singapore under the team name "Plum Blossom". The flight included nearly a hundred environmental protection and carbon reduction actions such as flight path planning for fuel saving, apron operations, passenger online registration, and in-flight catering and service supplies based on the core concept of eco services. The overall carbon emission was reduced by nearly 20%, which is equivalent to planting a forest the size of 25 basketball courts. The waste production was nearly 80% lower than that of regular flights. By allowing passengers to pre-select their meals, the kitchen waste was also reduced by more than 90%.



CAL offers pillows, blankets, table clothes, and duty-free shopping bags made from recycled and environmentally friendly materials, as well as the "CAL Eco travel bag" made from retired life vests, as part of its efforts to implement circular economy principles.

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CAL was awarded the “Innovation Award - Best Sustainable Innovation Cargo” and “Collaboration Award - Best Employee Engagement”, while also receiving nominations for the “Best Waste Management” and “Best Customer Engagement” awards for our outstanding performance. CAL has extended feasible sustainable actions implemented during the demonstrative flights to our daily flights, adding sustainable value to our flight services.

Management Approach

Material Issues

- Climate Change Mitigation and Adaptation
- Energy Management
- Environmental Protection Efficiency and Resource Management
- Green Services and Sustainable Catering

Importance of Material Issues

Extreme weather events caused by climate change, changes in consumer awareness, and increased global awareness of air pollution, waste, and noise continue to challenge the business environment of the aviation industry. As the top airline company in Taiwan, CAL implements resource management, pollution prevention, and system innovation to provide passengers with environmentally friendly and sustainable products and services.

Commitment and Long-term Goals

 Commitment

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.



Long-term Goals



Objectives and Plans

Corresponding SDG	Short-term Targets (2023)	2022 Action Plan	Performance	Achievements
	1. Improving annual aviation fuel efficiency by 1.5% and achieving carbon-neutral growth (ICAO CORSIA CNG2020) (net zero emissions by 2050) 2. Reducing carbon emissions in ground operations by 41% compared to 2009 3. Enhance the integration of decision-making mechanisms with climate-related financial information	• Publishing the second TCFD disclosure report • Using SAF for the delivery flight of new A321 aircrafts - Increasing the installed capacity of renewable energy • Expanding the scope of the GHG inventory • Implementing 12 fuel saving measures	• Increased aviation fuel efficiency by 1.4%	99.85%
			• Reduced carbon emissions in ground operations by 43% compared to 2009	>100%
	To reduce ground water consumption by 5% compared to 2018	Rainwater / gray / wastewater recycling and reuse for environmentally friendly aircraft cleaning solutions	Reducing water consumption in ground operations by 33% compared to 2018	>100%

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Corresponding SDG	Short-term Targets (2023)	2022 Action Plan	Performance	Achievements
	1. Reducing general waste (non-recyclable) by 5% compared to 2018 2. Increasing industrial waste recycling ratio to 43% 3. Reducing paper consumption by 14% compared to 2018 4. Reducing total in-flight waste by 25% compared to 2018 5. Reducing use of disposable plastics for in-flight services by 50% 6. Reducing average food waste by 5% produced per person for in-flight services from 2020 levels	• Recycling and reusing waste paper meal boxes • Reusing the pulp from waste paper containing confidential and sensitive information • Adequate pre-treatment of industrial waste to attain standards for recycling • Management of photocopy paper requests/printing • Expanding the application scope of electronic documents • Increasing the penetration rate of e-AWB in stations • Partnership in the development of environmentally friendly service products • Managing the precision of meal preparation estimates • Diversity of inflight pre-select catering services	Reducing general waste by 15% compared to 2018	Not achieved
			Increasing industrial waste recycling ratio to 70%	>100%
			Reducing paper consumption by 43% compared to 2018	>100%
			Reducing total in-flight waste by 68.09% compared to 2018	>100%
			Reducing use of disposable plastics for in-flight services by 30%	>100%
 	Embargoing transport of endangered species and prohibiting use of illegal species as food ingredients	• Implement the Buckingham Palace Declaration • Organize tree planting activities and provide 5-year adoption services	Reducing average food waste by 74.23% produced per person for in-flight services from 2020 levels	>100%
			• CAL did not transport illegal wild animals and plants • CAL organized the 5-year tree planting and care project titled "Love for Taoyuan Forests - Ecological Urban Afforestation" and planted 143 trees	>100%

Medium-term Targets	2025	Long-term Targets	2030
1. Improving annual aviation fuel efficiency by 1.5% and achieving carbon-neutral growth (ICAO CORSIA CNG2020) (net zero emissions by 2050) 2. Reducing carbon emissions in ground operations by 44% compared to 2009 3. Implement and optimize internal carbon pricing operations 4. Reducing water consumption in ground operations by 7% compared to 2018 5. Reducing general waste (non-recyclable) by 7% compared with 2018 6. Increasing industrial waste recycling ratio to 45% 7. Reducing paper consumption by 30% compared to 2018 8. Reducing total in-flight waste by 50% compared to 2018 9. Reducing use of disposable plastics for in-flight services by 90% 10. Reducing average food waste by 10% produced per person for in-flight services from 2020 levels 11. Embargoing transport of endangered species and prohibiting use of illegal species as food ingredients		1. Improving annual aviation fuel efficiency by 1.5% and achieving carbon-neutral growth (ICAO CORSIA CNG2020) (net zero emissions by 2050) 2. Reducing carbon emissions in ground operations by 50% compared to 2009 (net zero emissions by 2050) 3. Increasing renewable energy installed capacity to 10% of electricity consumption (Note) 4. Formulate a sustainable aviation fuel strategy for Taiwan 5. Reducing water consumption in ground operations by 10% compared to 2018 6. Reducing general waste (non-recyclable) by 12% compared with 2018 7. Increasing industrial waste recycling ratio to 50% 8. Reducing paper consumption by 50% compared to 2018 9. Reducing total in-flight waste by 65% compared to 2018 10. Eliminating all disposable plastics for in-flight services 11. Reducing average food waste by 25% produced per person for in-flight services from 2020 levels 12. Embargoing transport of endangered species and prohibiting use of illegal species as food ingredients	

Note: This is not the proportion of electricity use. This is an additional target beside the Taiwan national power grid target (https://www.ndc.gov.tw/en/Content_List.aspx?n=2D918002A913582A). China Airlines expects to use 40% renewable energy by 2030 if Taiwan National Grid target is included.

Unit in Charge

Corporate Sustainability Committee — Environmental Value Task Force (Corporate Environmental Committee)

Management Mechanisms

- The meeting of the Board of Directors and Risk Management Committee, every quarter
- The meeting of 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 / 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 questionnaires

Grievance Mechanism

CSR: CSR — E-Mail: csr@china-airlines.com



Stakeholder Contact

2-3-1 Governance of Environmental Sustainability

As net zero carbon emissions by 2050 has become critical for the international community, CAL implements adjustments in response to climate change and sets targets for improving the operational eco-efficiency by adjusting services, business models, and values to ensure environmental sustainability, coexistence with the ecology, and fulfill our commitments to the Earth.

Identification of Environmental Risks and Opportunities (GRI 201-2)

CAL provides passenger and cargo transportation and aircraft maintenance services, which involve issues such as climate change mitigation and adaptation, energy consumption, pollution prevention, waste and food waste management, toxic chemical management, and the reduction and replacement of single-use plastic products. By monitoring domestic and international environmental protection trends, CAL actively engaged domestic and international stakeholders and identified nine material issues. CAL included them in the scope of its management of key corporate environmental risks and opportunities for active control and response. Other issues will also receive attention through the operation of corporate environmental management system.

1. Aviation carbon emission management (3)	8. Illegal wildlife transport control ➔ Biodiversity conservation (3)	14. Ground operation waste control (2)
2. Climate change adaptation (3)	9. Green supply chain management requirements (2)	15. Ground water resources management (2)
3. New technology and energy development (1)	10. Ground operation energy (carbon) management (3)	16. Aircraft takeoff and landing noise control (3)
4. Aircraft energy efficiency improvement (2)	11. Toxic and chemical substance control (2)	17. Ground operation air pollution control (3)
5. Cabin waste and food waste management (2)	12. In-flight drinking water management (3)	18. Aircraft air pollution control (2)
6. Single Use Plastic (SUP) (2)	13. Waste water and sewage control (3)	19. Passenger environmental protection awareness improvement (3)
7. Circular economy and innovation model (2)		

Note: The figure in () represents the adaptation of CAL to the issue, which is shown by the size of the circle in the figure below

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Material Environmental Risk Topic	Risk	Opportunity	Management Method
1. Aviation carbon emission management	Increasingly strict international carbon emissions regulations will increase the Company's operational costs	Keep abreast of and properly manage the development trend in carbon rights to increase revenue	Actively participate in domestic and international cooperation and understanding the regulatory developments; strengthen the management system and the carbon management team's response capabilities
2. Climate change adaptation	Increasing frequency of extreme weather events will impact the Company's daily operations	Proper response will strengthen corporate resilience and reputation	Continue to improve the Company's ability to predict and respond to climate change, and continue to support the IAGOS-PGGM scientific research program; Refer to 2-3-2 Climate Change Mitigation and Adaptation
3. Aircraft energy efficiency improvement	Accelerate the introduction of new generation energy-efficient aircraft and fuel-saving technologies which will increase operational costs	Improve aircraft fuel efficiency while reducing fuel consumption and carbon emissions, which will reduce operational costs	Replace aircraft, introduce fuel-saving technologies / sustainable fuels, improve the passenger load factor, as well as optimize routes and air traffic management operations, as detailed in the CSR website
4. New technology and energy development	The aviation industry is governed by strict regulations and certification requirements, and it takes a longer period of time to adopt new technologies and new energy sources	Effective reduction of fuel consumption and carbon emission volume can increase operations efficiency and reduce operating costs	CAL began preparation for introducing next-generation energy-efficient aircraft (e.g., A321neo) and fuel saving technologies, set targets for adopting SAF, and use SAF to promote the development of sustainable aviation fuel in Taiwan
5. Cabin waste reduction	The use of disposable plastic products and food waste management has gained prominence in many countries while the complexity of operations has increased compliance cost and the response to the COVID-19 pandemic has created public sanitation and waste management issues	Systematic inventory and planning for alternative products and improvement of operating procedures to reduce the risks of violations of regulations and compliance cost, and improve company reputation	Establish a Task Force to monitor management trends and market development of alternatives to set reduction targets and management plans and engage suppliers to develop optimal response solutions; enhance source quality and quantity management and improve terminal processing standards during the disease prevention period
6. Single Use Plastic (SUP)	Restrictions on the use of disposable plastic products have been expanded from Europe to other countries/ routes, which increase the compliance conditions and costs	Development of items made from sustainable materials can help us grasp opportunities in the circular economy and reduce the number of violations and cost of compliance	Continue to monitor changes in regulations, leverage supply chain and cross-industry cooperation, develop alternative solutions and set reduction targets, and conduct rolling reviews and continuous improvements while accounting for both the Company's operations and supply chain conditions
7. Circular economy and innovation model	Circular economy is one of the most important measures for attaining net zero carbon emissions, and product development and procurement increase costs	Accounting for the environmental cost in the life cycle of products and services can help reflect their true value, which can be used as references for decision making	We work with suppliers in industry cooperation and mutual learning to innovate product design and reinvent consumption models
8. Biodiversity conservation	The international community has increased its focus on issues of deforestation and biodiversity loss caused by corporate operations, and the potential loss of goodwill due to inadequate management	The aviation industry is not a priority sector for TNFD(Note), but the risks can be avoided through supplier negotiations and green procurement	We established the Forest and Biodiversity Conservation Commitment and identified activities and suppliers at risk. We continue to promote management compliance and implement the Buckingham Palace Declaration (ban on the transportation of illegal wild animals and plants) and related measures. We also support and participate in important biodiversity conservation and carbon sink projects in Taiwan and abroad
9. Green supply chain management	The EU Green Deal focuses on sustainability investment, which increases the compliance risks and cost for suppliers	It enhances the sustainability competitiveness in terms of the value chain of the industry and promotes green business opportunities and new business models	We will continue to implement the Supplier Code of Conduct and sustainable risk management mechanisms, and strengthen cooperation and project collaboration on sustainability issues

Note: Task Force on Nature-related Financial Disclosures (TNFD)

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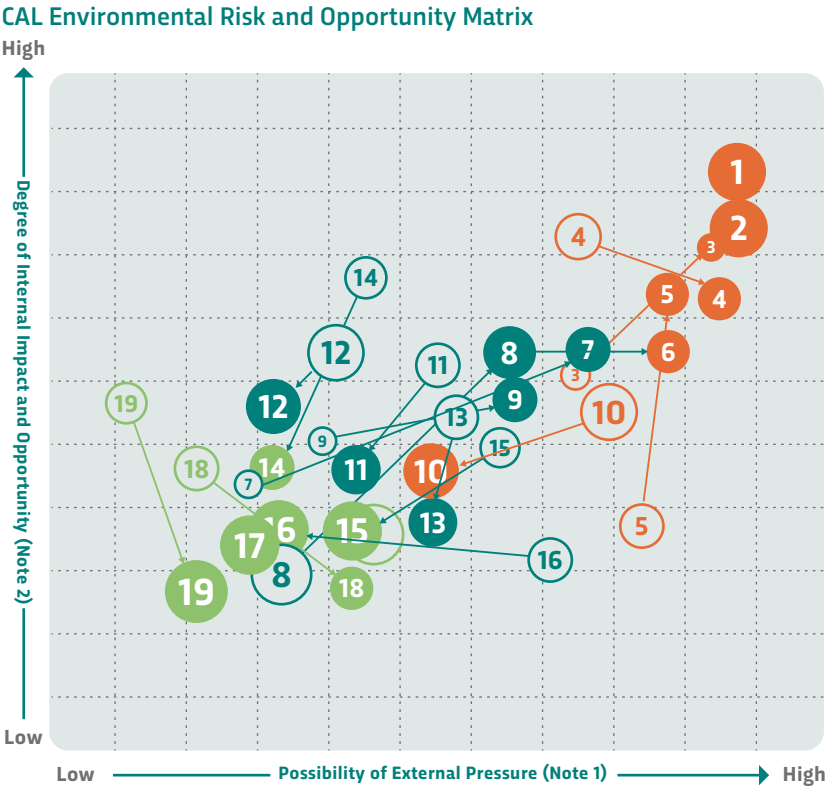
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Note 1: X-axis represents the possibility of the issue in the global trend of development and control.

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

- The size of the circle represents the adaptation of CAL to the issue (a larger circle means better action and adaptation).
- Light circles represent data from the previous year and darker circles represent data from this year.
- The arrow indicates the difference in displacement from last year.

Policy and Structure of Environmental Governance

CAL has established the environmental and energy management principles (compliance with environmental laws and regulations, resource conservation, improvement in eco-efficiency, and fulfillment of corporate social responsibility) and the [Environmental and Energy Policy Statement](#) according to the [China Airlines Sustainable Development Best Practice Principles](#) promulgated by the Board of Directors; in addition, CAL has integrated [UN SDGs](#) into its instructional strategies to align future business operations with the sustainable development concepts

of environmental friendliness, low-carbon emissions, and energy conservation for a better future. CAL also became the first company in Taiwan's transportation industry to sign the Buckingham Palace Declaration and committed itself to the ban on the illegal transportation of wildlife. Mandarin Airlines implements a comprehensive ban on the use of food ingredients from endangered species and supports ecological conservation projects. Mandarin Airlines, Tigerair Taiwan, and Taipei Zoo formed a long-term partnership for the “Kinmen Blue-Tailed Bee-Eater Abandoned Eggs Incubation and Research Project”, and joined the ranks of animal adoption by supporting the conservation of tigers, snow leopards, and leopard cats.

CAL's main sites of operations are located in airports across the world, and they strictly comply with airport authorities and government regulations. CAL sales offices are located in urban commercial areas, which have low risks of impact on the local ecology and biodiversity. However, CAL learned in “Impacts, Adaptation and Vulnerability” in Volume 2 of the Sixth Assessment Report published by the Intergovernmental Panel on Climate Change (IPCC) in 2022 and the United Nations Biodiversity Conference (COP 15) that a healthy ecosystem is a key factor for human society to adapt to climate change. CAL therefore established and published the only [Forest and Biodiversity Conservation Commitment](#) in Taiwan's transportation industry in 2022. We focus on the results of past social responsibility work and the goals of our global stakeholders and we are committed to leading the Group and our supply chain partners to protect global biodiversity and forest conservation by preventing the destruction of protected forests and species in business activities. We continue to strictly implement the Buckingham Palace Declaration to support the crackdown on illegal trade in animals and plants across the world. We do not use services, ingredients, or items that involve threatened and endangered species, and we support biodiversity conservation and afforestation carbon sink initiatives. CAL has adopted responsible procurement and supplier management measures and implements the “Supplier Code of Conduct” and related training, communication, and management to require compliance by suppliers. We also implement audits when necessary to ensure operation and supply conditions with zero net loss of biodiversity and zero forest destruction.

Environmental and Energy Policy

CAL's commits to achieve the 2050 net zero, No Net Loss (NNL) of biodiversity and No Gross Deforestation targets, also adopts environmental and energy management system, incorporates the life-cycle concept to examine our corporate context, endeavors 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 ongoing improvement of the following environmental and energy policies.

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Implementing Environment and Energy Management Principles and Policies

Environmental and Energy Principle	Environmental and Energy Policy	Topics of Concern	Management Strategy
Compliance with Environmental Laws and Regulations	Enforcing compliance obligations to fulfill the company's responsibilities in environmental protection and energy conservation	1. Compliance with Environmental Laws and Regulations 2. Keep abreast of the domestic and international environmental protection trends	1. Regular / irregular inventory of the comprehensiveness, timeliness, and compliance with regulations and voluntary commitments and implementing regular / irregular internal and external audits to ensure compliance 2. Actively participate in meetings of the domestic and international industry (e.g., IATA, AAPA) and government meetings to keep abreast of domestic and international trends in environmental sustainability regulations 3. Participate in or respond to the international initiatives and ratings such as DJSI, CDP, SBTi, and Climate-Related Financial Disclosures (TCFD), and other public and private sector ratings and contests to learn from benchmark companies
	Establish environmental and energy management systems, including performance indicators, to verify compliance with established policies	1. Promote the Environmental and Energy Management System and continue to improve the environmental performance and reduce the impact on the environment 2. Establish environmental sustainability targets and commitments: (A) Attain net zero emissions by 2050 (B) SDGs 6, 7, 12, 13, 14, 15 (C) Forest and Biodiversity Conservation Commitment	1. Understand updates to ISO standards and implement and improve enterprise environmental management systems (ISO 14001/50001/14064-1) 2. Establish and implement continuous reviews of the environmental sustainability targets including net zero emissions by 2050 and Forest and Biodiversity Conservation Commitment and set carbon reduction paths and implementation strategies 3. Set management goals and action plans for environmental protection issues (including climate change mitigation and adaptation, waste management, restrictions on the use of plastic, resource management, and pollution prevention) and implement strict monitoring and evaluations 4. Establish an environmental and energy management information system to keep track of environmental performance through systematic tracking and management
Conserving the Earth's resources	Promoting environmental and energy conservation education to foster employees' eco-awareness	1. Create diverse channels of communication for employees (including outstations) and improve the environmental protection awareness 2. Establish incentive mechanisms to encourage employees to propose and implement creative environmental protection solutions	1. Use diverse channels such as the online learning system, in-person conferences / seminars / contests / events, and internal / external communication platforms (e.g., employee mailbox and official Facebook page) to provide environmental protection awareness to employees (including outstations) and new recruits. The activities include (A) Reminders of the environmental impact of business activities and the Company's response measures (B) Share international trends and new environmental protection information 2. Organize activities such as quizzes for prizes and satisfaction surveys to increase employees' environmental protection awareness and reward them for providing creative environmental protection measures 3. Establish the "Branch Company Environmental Protection and Energy Conservation Governance Principles" and use channels such as General Manager conferences and Station Manager meetings to strengthen the environmental management of global operations and increase the environmental protection awareness of employees in outstations
	Establish a green supply chain risk assessment and management system	1. Expand influence through supplier code of conduct (including value chain / group company) 2. Supply chain environmental risk management, engagement, and audit 3. Diverse channels for supplier communication on environmental management and impact	1. Require all suppliers and partners to follow our commitment to environmental sustainability and biodiversity by signing a code of conduct that specifically addresses environmental and energy concerns 2. Launch the supply chain risk assessment system to identify the environmental protection risks of suppliers, implement onsite audits, and formulate response measures 3. Set up a communication platform for product and service suppliers and implement environmental communication and provide training resources to enhance environmental energy management capacity in the value chain (including companies of the Group) 4. Share the experience of the SAF use and communicate requirements and development niches to facilitate the formation of Taiwan's SAF development strategy 5. Include environmental protection and sustainability issues into the management meetings of the Group and communicate annual operation targets
Improving Eco-Efficiency			

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Environmental and Energy Principle	Environmental and Energy Policy	Topics of Concern	Management Strategy
Environmental and Energy Principle Fulfilling Corporate Social Responsibility	Creating a low-carbon operating environment to establish continual improvement of environmental protection and energy efficiency	1. Monitor trends in technological developments and regulatory developments in Taiwan and abroad and formulate environmental management targets 2. Promote corresponding environmental protection and energy conservation measures to reduce the impact on the environment and ensure continuous improvement in environmental performance 3. Use low-carbon and renewable energy	1. Target different business activities such as flight operations, office activities, ground service support, passenger / cargo transportation services, and maintenance operations and set environmental performance targets as well as environmental protection and energy conservation measures to ensure continuous improvement in environmental performance 2. Increase the installed capacity of renewable energy (e.g., solar power and sustainable aviation fuel) and promote carbon sink projects such as afforestation 3. Promote carbon pricing, strengthen the ability of carbon asset management and carbon offsetting operations, and share the SAF use experience in the industry-government engagement platform to promote the formation of Taiwan's SAF development strategy.
	Supporting green design and procurement to promote sustainable development	1. Provide environmental sustainability services 2. Increase green consumption awareness	1. Account for local environmental risks and opportunities when planning new destinations and continuously review and improve the full life cycle operating procedures to ensure the quality of services and environmental sustainability 2. Promote green and local procurement (including food ingredients) and include environmental protection /energy saving performance into vendor and procurement evaluations, aiming to increase the proportion of sustainable, zero-deforestation, and biodiversity-friendly certified products in our procurement, and reduce environmental impacts throughout our supply chain 3. Use supplier selection and partnerships with project collaboration to promote the circular economy 4. Include environmentally friendly and sustainable products into the sales of duty-free products and communicate with passengers through diverse channels to build a culture of green consumption

CAL was the first Taiwanese airline to establish the Corporate Environmental Committee in 2011. The President represents the top management, and the Corporate Safety Office acts as the executive secretary. Five environmental management committees and the Aviation Fuel Management Team were established under the Corporate Environmental Committee to take charge of environmental, energy, and climate risk and opportunity management, improvement of aviation fuel efficiency pertaining to maintenance and repairs and passenger and cargo operations as well as the administration and operation of the headquarters and branches based on the risk management system established in line with the international standards.

The Corporate Environmental Committee coordinates and integrates countermeasures and resources for the risks and opportunities management issues from the environment, energy, biodiversity and climate change, and reviews the performance in the management meetings held every quarter. The issue es also include the policies, strategies, actions performance and improvement plan of engagement and lobby with industry, government, and academic partners and stakeholders in order to support the Paris Agreement and achieve the 2050 net-zero emission target. The key resolutions, lobby policy, actions and performance are reported to the directors in routine meetings of the Board of directors and its committees. For specific issues, functional task forces, including the Carbon Management Task Force, Sustainable Fuel Research Task Force, TCFD (Note)Task Force, among others, have been set up for cross- departmental cooperation and flexible deployment of resources. The

corporate environmental committee also conducts an annual review and reward campaign aimed at incentivizing the six management committees / teams to proactively enhance their eco-efficiency through innovative actions. For detailed management information, please refer to the CAL Sustainability website under [Environmental Sustainability - ECO Action](#).

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

Topics	Management Tools (Note)	Objectives	Management Authority / Organization
Climate Change	ISO 14064-1, TCFD, SBTi	Attain net zero emissions by 2050 and increase resilience for responding to climate change	Carbon Management Task Force, TCFD Task Force
Aviation Fuel (Including SAF)	ISO 14001, ISO 50001	Increase aircraft fuel efficiency and establish efficient fleets and networks	Aviation Fuel Management Team, Sustainable Fuel Research Task Force
Environmental Issues	ISO 14001, ISO 50001	Improve business eco-efficiency, create an environmental sustainability brand	Corporate Environmental Committee, five major environmental management committees

Note: Please refer to the Corporate [Sustainability Website](#) for the scope of the system standards; or [page 207](#) of the Report.

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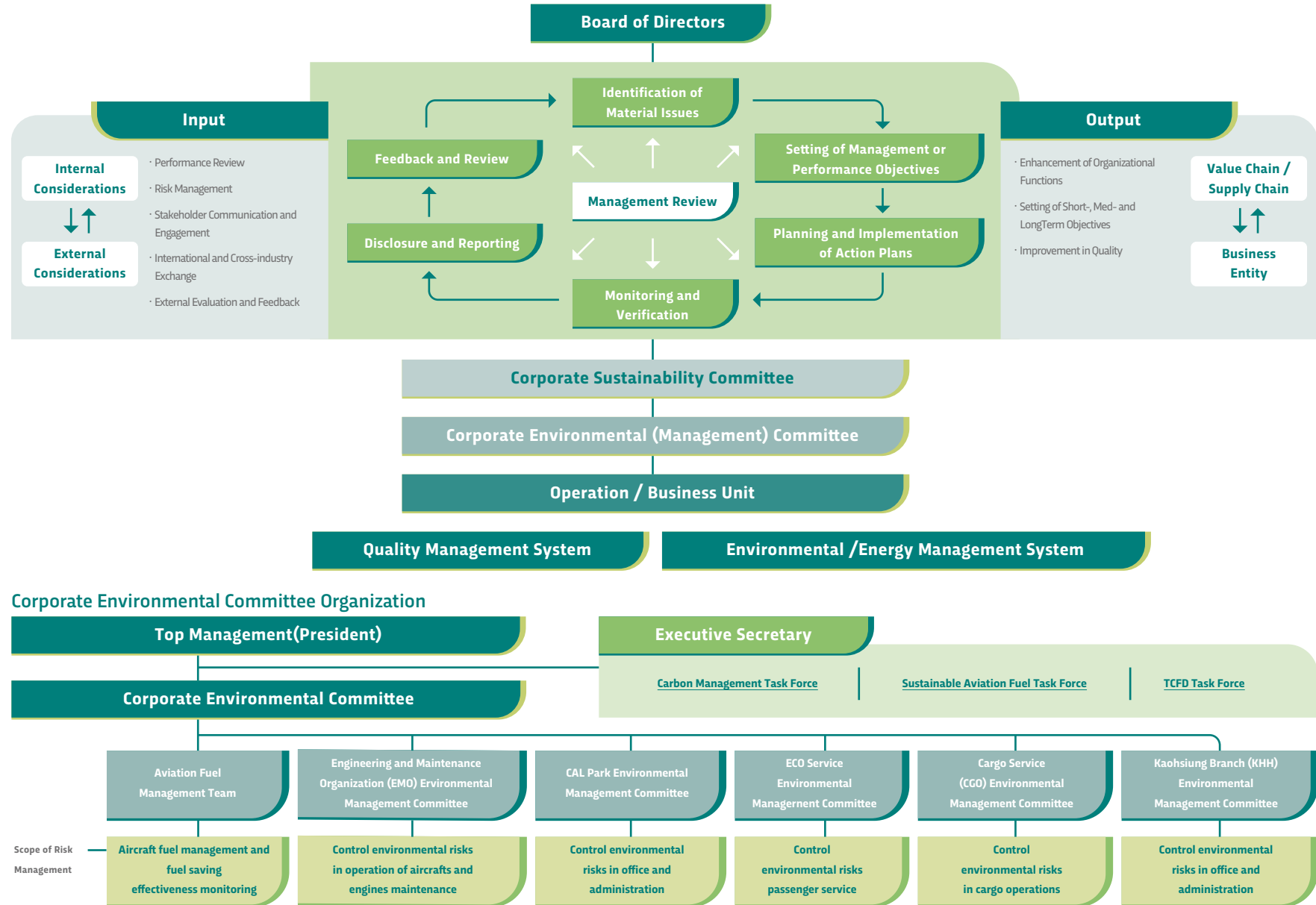
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CAL Environmental Management Operation Logics



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2-3-2 Climate Change Mitigation and Adaptation

Implementation of TCFD Management Mechanisms

CAL became Taiwan's first airline to publicly sign and adopt the Task Force on Climate-Related Financial Disclosures (TCFD). In 2019, CAL made TCFD a part of the Company's management system. The Company supported the translation of TCFD guidelines into traditional Chinese and participated in multiple advocacy campaigns with the industry, government, and academia. Starting from 2020, we reported the management results to the Board of Directors each year and published the independent "Climate-Related Financial Disclosure Report".



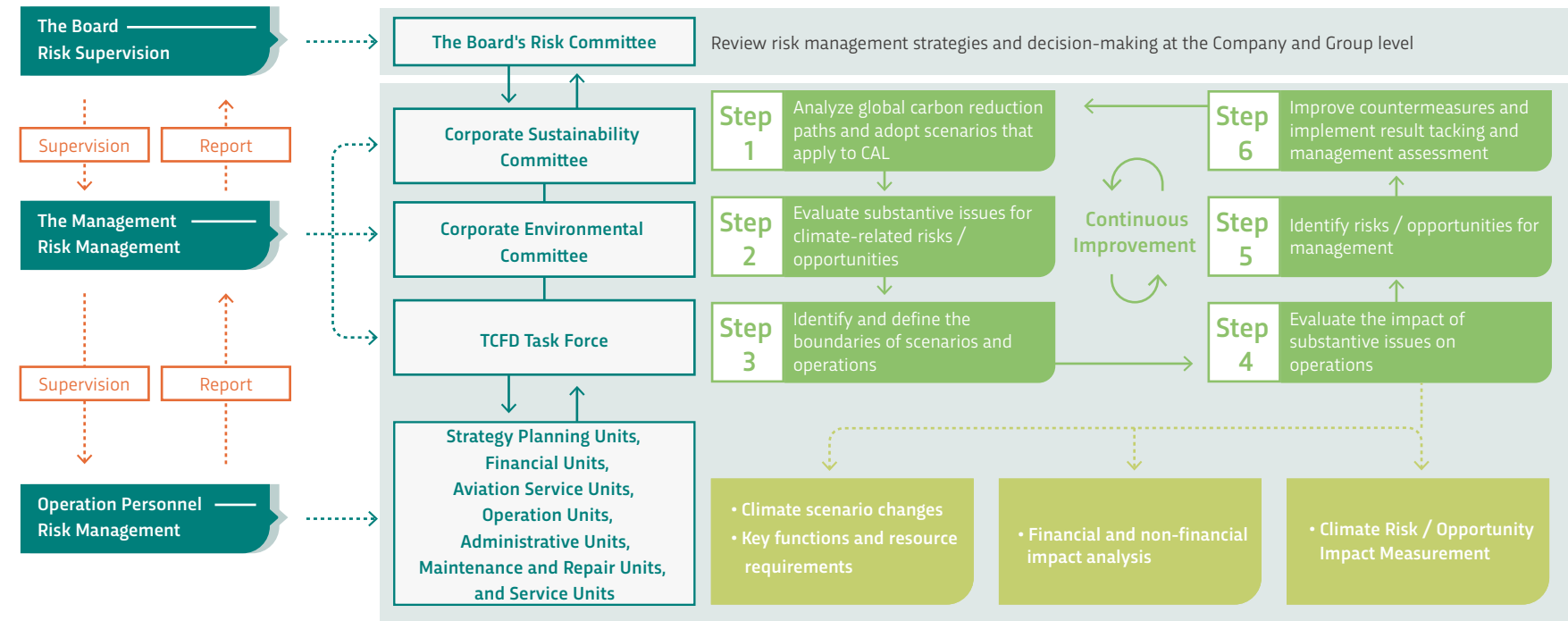
Concern for Climate Change

Climate Governance Framework and Risk Management Procedures

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. We report key results to the Board of Directors each year for supervision and management. CAL's climate governance framework is shown in the figure below.

CAL has incorporated TCFD operating procedures into the Company's management mechanisms and established internal TCFD operating procedures. We have formulated detailed implementation measures for governance, strategy, risk management, and indicators and targets to continue to improve management and enhance the management of overall climate-related risks and opportunities.

Climate Governance Framework



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Analysis of the Impact of Climate Conditions on Business Operations

CAL has referenced the IPCC Sixth Assessment Report (AR6) and analyzed and identified related risks and opportunities that may affect the cost of operations or revenue under 1.5°C, 2°C, and 3°C scenarios based on global operations and destinations, company assets (including aircrafts, offices, and plants), upstream supply chain, and downstream customers. The analysis results are as follows:

Analysis of Impact on Operations (under 1.5°C scenario)



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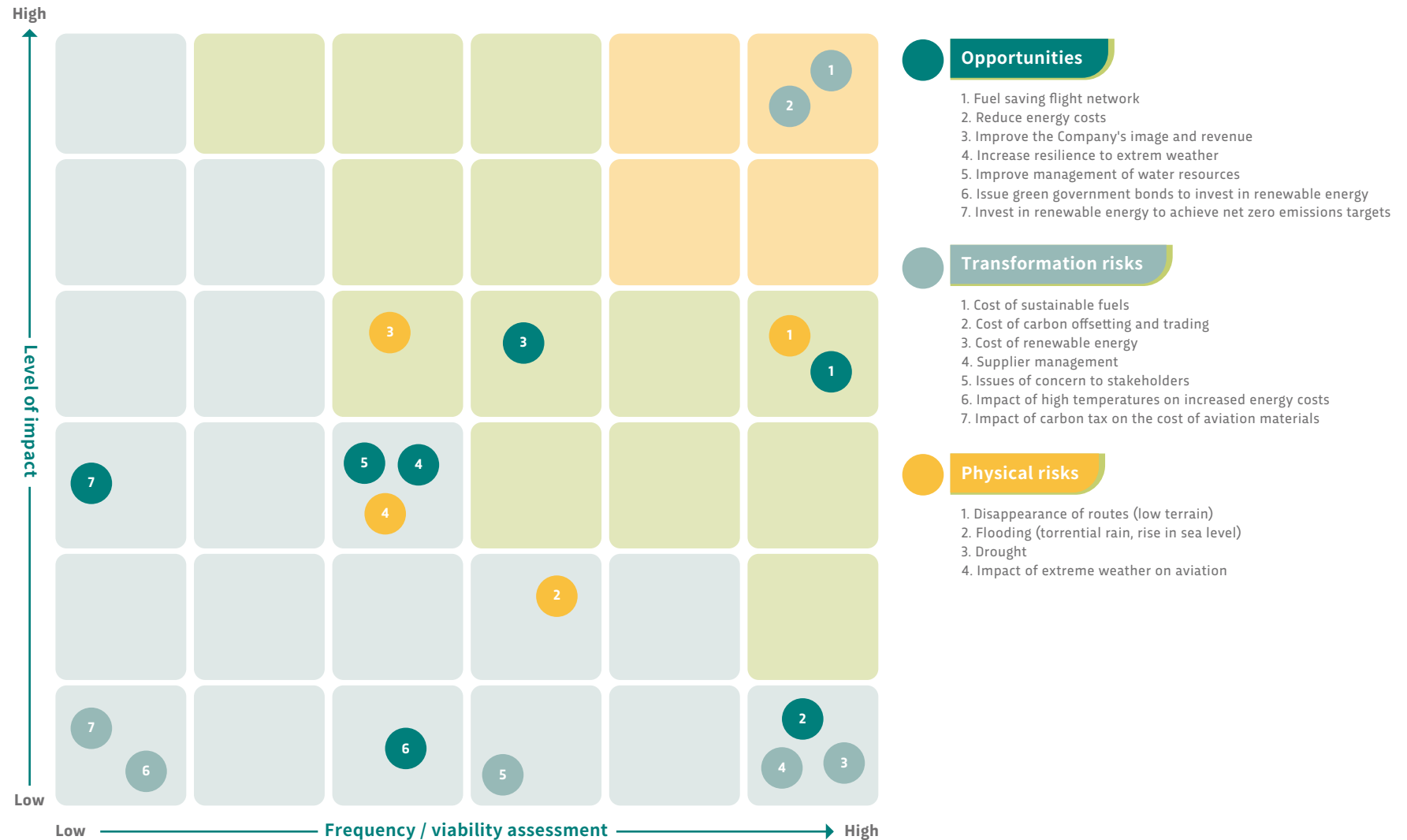
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Financial Impact Analysis of Short, Medium and Long-Term Climate-Related Risks and Opportunities

CAL identifies, evaluates, responds, and review the critical climate risk matrix analysis for conditions under 1.5°C, 2°C, and 3°C (as shown in the figure below) and the quantification of financial impact in accordance with internal risk management mechanisms. Please refer to the “[CAL Climate-Related Financial Disclosures Report](#)” for the comprehensive short, medium and long-term analysis.



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Climate Change Targets, Mitigation and Adaptation, Strategy and Actions

	Response item	Objectives	Specific Actions in 2022
Governance	Strengthen climate governance	Continue to submit climate governance reports to the Board of Directors	Reported climate governance reports to the Risk Committee of the Board of Directors
	Enhance management supervision and cross-departmental operations	Meet corporate governance and green finance requirements	1. Introduced TCFD and SASB standards and requirements 2. Implement continuous management of short, medium, and long-term ESG results
Strategy	Enhance TCFD capabilities	Increase the comprehensiveness and depth of quantified financial information	1. Implemented standard operating procedures (SOP) 2. Continued to implement the cross-unit operation information platform
	Climate response strategies and management	Increase resilience for responding to climate change risks	1. Incorporated climate risks and opportunities into the Company's overall strategies and plans and implement related response actions 2. 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
	Participate in important engagements	Increase the understanding of international climate change issues and regulatory requirements	1. Participated in international and Taiwan's important climate policy engagement platforms, monitored policy development trends, and gained influence 2. Lobbied the industry, government, and academia to create a development strategy for sustainable aviation fuel in Taiwan 3. Continued to intensify participation in the IAGOS-PGGM international climate change scientific research program
Risk Management	Strengthen the risk management mechanisms for the corporate value chain	Increase resilience for responding to climate change risks	1. Combined the CAL value chain and the environmental risk management mechanism, continue to implement and expand the GHG inventory and climate and energy risk assessments of key suppliers, strengthened the detection of climate risks and opportunities as well as management, and enhanced the capability of continuous operations in response to extreme weather 2. 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	Incorporate climate factors into the existing enterprise risk management mechanism to strengthen climate risk / opportunity detection, response, and control capabilities in all units
	Respond to international carbon transformation risks	Meet ICAO, EU, and other international regulations for carbon reduction	1. Participated in the carbon offsetting and reduction plans of the international aviation industry 2. Continued to enhance MRV capacity for EU ETS, UK ETS, and CORSIA mechanisms 3. Studied and performed carbon rights / credit transactions
	Implement carbon reduction and energy transformation	Net zero emissions in operating activities by 2050	1. Enhanced monitoring of electricity consumption and installed dedicated electricity meters on equipment / processes with high energy consumption 2. Continued to perform replacement and renewal of high-energy-consuming facilities 3. Installed renewable energy facilities such as solar PV and set installed capacity targets 4. Enhanced energy management systems and improvement of their effectiveness

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	Response item	Objectives	Specific Actions in 2022
Metrics and Targets	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
	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	1. Signed the Science Based Targets initiative (SBTi) 2. Established approximately 78 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	1. Continued to promote plans for fleet update, aircraft weight reduction, flight optimization, and O&M improvement 2. Implemented fleet plans in accordance with medium and long-term business growth and carbon reduction trends 3. Continued to improve aviation fuel efficiency, increased loading rate, and focused on the development of new technologies and new low-carbon aircrafts for purchase at an appropriate time 4. Promoted SAF usage and formulated SAF usage targets: Use 2% by 2025; Use 5% by 2030; Use 40% by 2040; Use 65% by 2050.
	Increase fuel efficiency	Increase the efficiency of company operations and fuel consumption	1. Continue to promote aviation fuel-saving operations. Continue to increase fuel efficiency rate each year 2. Optimized route planning and developed the most suitable passenger / cargo fleet in response to the epidemic and market development trends

2-3-3 Achievements in Environmental Sustainability (GRI 301-1)

Passenger and cargo services are CAL’s main business activities, which invariably cause certain impact on the environment, including greenhouse gas emissions, air pollution, and conducted noise pollution. However, we implemented active fleet management including the procurement of the newest environmentally friendly aircrafts and aviation fuel conservation operations such as shutting down 1-2 auxiliary power units for taxiing , improving the use efficiency of ground power vehicles and so on, to effectively increase fuel efficiency and reduce the air and noise pollution during takeoffs and landings. As of February 2023, CAL’s 14 A350-900 aircrafts have been delivered and all A340-300 and 747 passenger aircrafts have been decommissioned. We have also initiated plans to phase out 737 and A330 passenger aircrafts. Three 777F cargo aircrafts have been delivered and 7 more will be delivered by 2024. Ten A321neo aircrafts have joined operations and the remaining 15 aircrafts will be delivered by 2026. We also plan to purchase 16 new 787-9 aircrafts and expect to start delivery from 2025. CAL is committed to using brand-new fleets to provide passenger and cargo services, while also prioritizing the environment protection through a sound environmental and energy management system. We have again achieved the goal of zero penalty and successfully improved our operational eco-efficiency in 2022. For more information on environmental performance, refer to Appendix Environmental Performance; For detailed management information, please refer to [CAL Sustainability website under Environmental Sustainability - ECO Action](#).

Carbon Emissions and Energy Usage (GRI 302-1, 302-2, 302-4, 302-5, 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, 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 implement ISO 50001 Energy Management and fully considers energy conservation and carbon emissions reduction as factors for decision making in the design / procurement stages. We continue to improve supervisory measurement mechanisms (e.g., optimization of energy data collection programs and setting measuring instruments) to improve energy performance management (e.g., improvement of the accuracy of related variables / static factors). We also integrate issues of concern to stakeholders (e.g., renewable energy and energy storage systems) to enhance the integrity and implementation of energy management and create a low-carbon operation and office environment.

CAL carried out 66 environmentally friendly energy conservation measures for ground and flight operations and 12 fuel conservation measures in 2022, which reduced carbon emissions by 53,750 tons with an achievement rate of 138%. CAL planned an additional 79 measures in 2023, which are expected to reduce emissions by 36,175 tons.

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Management Target	Important Management Strategies / Measures		2022 Outcomes
Increase Aircraft Fuel Efficiency	Promoting green-energy flights	- Continue to introduce A321neo next-generation fuel-efficient aircrafts - Set the timetable for the procurement of the 787 next-generation energy-efficient aircrafts - 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 - Set incentives for fuel conservation operations to increase implementation	CAL carried out 12 fuel saving measures and saved 19,679 kiloliters of fuel with an achievement rate of 142%
	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 aircrafts 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 aircraft fuel consumption	
	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 aircrafts - Maintain good communication channels with the original manufacturer to obtain information on the latest technology developments and performance optimization solutions	
	Aircraft weight reduction	Reduce aircraft loading and fuel consumption with precision measures. For example: Precision refueling, precision water supply, and weight reduction for in-flight supplies	
Increase Building Energy Efficiency	Maintain green building label certification, optimize power regeneration equipment, introduce energy monitoring system, retire old energy-consuming equipment (air conditioning and lighting system) and other electricity conservation measures		CAL reduced electricity consumption by 1,186 MWh with an achievement rate of 83%
Increase Ground Vehicle Fuel Efficiency	Fuel conservation measures such as enhancing the management of the use and efficiency of company vehicles, promoting ride-merging / ride-sharing mechanisms, and the idling shutdown policy		Reduced 87 kiloliters of fuel and reduced carbon emissions by 227 tons with an achievement rate of 127%
Increase the Percentage of Renewable Energy	Use sustainable aviation fuel for delivery flights and continue to install ground-based solar PV facilities		CAL used 18.5 kiloliters of sustainable aviation fuel, generated 110 thousand kWh of electricity with solar power, and reduced carbon emissions by 102 tons; completed the technical plans for the expansion of solar power facilities with an implementation rate of 100%
Reduced Resource Consumption and Increase Environmental Protection Awareness	Wastewater recycling and reuse, expansion of the use of electronic documents, management of photocopying paper consumption, recycling and reuse of straps, recycling of waste paper meal boxes / pulp, and several other environmental protection measures		Reduced 735 tons of paper consumption and waste and reduced carbon emissions by 3,118 tons with an implementation rate of 100%

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

In 2022, CAL’s total emissions was 6,696,494 tons CO₂e, which was an 7.8% reduction compared to 2021. The carbon reduction target for ground operations for 2022 (40% reduction compared to 2009) was also achieved.

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GHG Emissions of CAL, Mandarin Airlines, and Tigerair Taiwan

(Unit: Tons CO₂e)

Scope of GHG	Inventoried Company	Item	2019	2020	2021	2022
Category 1		Flight operations	7,059,083	5,787,751	5,875,531	5,435,050
		Ground operations in Taiwan	4,981	3,051	2,897	4,041
		Ground operations in outstations (Note)	1,395	1,012	748	1,294
		Flight operations	237,701	106,600	63,987	89,500
		Flight operations	362,794	53,514	988	31,306
Category 2		Ground Operations	18,169	17,572	16,697	16,468
		Ground Operations	901	904	839	805
		Ground Operations	106	87	108	265
Categories 3-6 (Note)	CAL's Operating Activities	Ground Operations	1,607,690	1,326,227	1,364,016	1,240,935

Note 1: The statistics contain 100% of the aviation fuels used by China Airlines, Mandarin Airlines, and Tigerair Taiwan.

Note 2: GHG emissions assessment agencies: DNV GL.

Note 3: CAL calculated the emissions from the products purchased, capital goods, fuel- and energy-related activities not included in Scope 1 or 2, upstream and downstream transportation and distribution, waste treatment, employee commuting, upstream and downstream leased assets, and investments based on 15 classification requirements of the GHG Protocol Scope 3 Guidance. Except for the outstation ground operation data(<0.03%) , the data of Categories 1 to 6 have passed third-party verification.

Aviation Fuel Efficiency Performance (GRI 302-3, 305-4)

In 2022, the overall performance of fuel consumption efficiency was 0.2472 tons / thousand RTK, and the attainment rate of the 2022 target value (0.2405 tons / thousand RTK) was 97.47% achieved. In terms of the flights in operations, the fuel efficiency was 0.2409 tons / thousand RTK and the achievement rate was 99.85%. The total aviation fuel consumption in 2022 decreased by 7.5% compared to 2021. The revenue ton kilometer (RTK) performance decreased by 8.6%.

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	2019	2020	2021	2022	2022 Compared to 2021	2022 Compared to 2021	2019	2020	2021	2022	2019	2020	2021	2022
Fuel Consumption (Ton / G)	2,230,971 / 98	1,829,328 / 81	1,857,073 / 82	1,717,758 / 76	-139,315	-7.5%	98,910 / 4.36	35,395 / 1.56	26,614 / 1.17	29,709 / 1.31	114,658 / 5.06	21,178 / 0.93	308 / 0.01	9,895/ 0.44
CO2 Emissions (Ton CO ₂ e)	7,059,083	5,787,751	5,875,530	5,435,050	-440,480	-7.5%	312,556	111,849	84,101	93,881	289,227	53,422	973	31,268
Transport Volume (Thousand RTK)	9,072,762	7,075,331	7,605,201	6,949,143	-656,058	-8.6%	152,905	47,373	25,723	41,169	405,262	59,347	521	27,129
Fuel Efficiency (Fuel / Thousand RTK)	0.2459	0.2586	0.2442	0.2472	+0.003	+1.2%	0.6469	0.7472	1.0346	0.7216	0.2829	0.3569	0.5910	0.3647
Carbon Emission Intensity (Ton CO ₂ / Thousand RTK)	0.7781	0.8180	0.7726	0.7821	+0.0096	+1.2%	2.0441	2.3610	3.2694	2.2804	0.7137	0.9002	1.8676	1.1526

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

Note 2: Carbon emission intensity (ton CO₂e / thousand RTK) = GHG emissions / Total RTK.

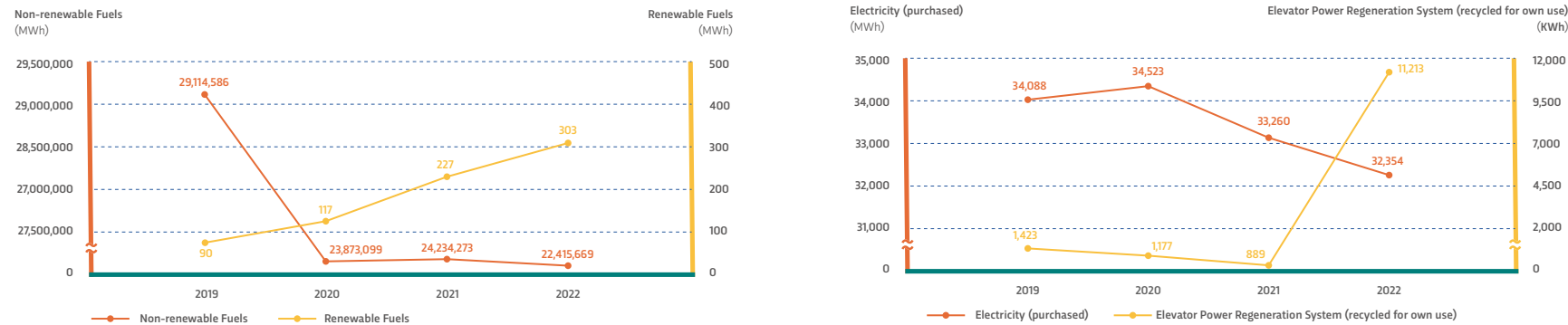
Note 3: No alternative fuel or sustainable aviation fuel were used in 2020.

Energy usage

In 2022, CAL expanded the replacement and renewal of energy-consuming equipment / facilities and optimized the energy information monitoring equipment and mechanisms. The total electricity consumption was 33,464 MWh, which was a 2.8% reduction compared to 2021 (33,387 MWh). CAL also obtained 110 renewable energy certificates issued by the Ministry of Economic Affairs. In 2022, CAL used 18.5 kiloliters of sustainable aviation fuel (SAF), making us the only airline in Taiwan to use this eco-friendly fuel.

To achieve the net-zero target by 2050, CAL continues to install solar panels and is planning to add two more in 2023, with a total capacity of approximately 380 kW, dedicating to improving building energy efficiency. Additionally, CAL Environmental Management Committee has decided to increase the capacity of renewable energy installations to reach 10% of the contracted power capacity in addition to Taiwan power grid target in 2030, and the operation target of Sustainable Aviation Fuel (SAF): use 2% by 2025, use 5% by 2030, use 40% by 2040, use 65% by 2050.

Energy Consumption Information



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 scope of purchased power covers park areas (China Airlines Park, Taipei Branch Office, Songshan Park), maintenance plants (Hangars 2 and 3, Engine Maintenance Plant), and Kaohsiung Office. It included purchased electricity which accounted for 8.6% or approximately 2,780MWh of renewable energy in 2022 (source: <https://reurl.cc/eXMEr7>).

HIGHLIGHTS

Continuous Upgrade of Aviation Fuel Management

The Aviation Fuel Management Team convenes a management meeting at least once every six months. It formulated 12 fuel conservation and progress monitoring measures based on the four strategies of promoting green-energy flights, improving ground service control, continuous regular repair and maintenance, and aircraft weight reduction. It also files quarterly reports and analyses of fuel efficiency in accordance with the "fuel conservation management system" and the "global flight carbon emission management system" to support fuel management decision making.

For instance, the adoption of engine out taxi allows aircrafts to shut down one engine after landing and still produce sufficient thrust for taxiing, provided that the maneuver is permitted under taxiing conditions and safety is ensured. The use of engine out taxi to the designated berth reduces fuel consumption during taxiing. In 2022, CAL saved 563 thousand pounds of aviation fuel with this measure, which was equivalent to reducing 800 tons of carbon emissions. Our operating performance was among the top Asia Pacific airline companies.

As certain fuel conservation measures can only be implemented with specific airport equipment or under specific weather conditions, the key to promoting fuel conservation measures in the aviation industry lies in the implementation rate. CAL upholds the safety first principle to maximize the implementation rate of fuel conservation measures. CAL also established the "Fuel Saving Incentive Program" and "Quality Operation Incentive Program" to encourage employees to identify feasible measures for fuel conservation. Employees are provided with rewards if their measures are verified as feasible in reviews. In addition, CAL takes into account the safety, fuel and time saving of flights and taxiing operations, and awards flight crews with excellent performance to continuously develop and empower fuel conservation.

Consider taxiing with engine out

Shut down one engine during both taxi in and taxi out to save fuel and maintenance cost.

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Water and Wastewater (GRI 303-1, 303-2, 303-3, 303-4, 303-5)

CAL's water resource consumption mainly includes water consumption from cleaning aircrafts, domestic water consumption, and air-conditioning water consumption. We improve facilities and optimize operating procedures to reduce water resource consumption and adequately process sewage and wastewater.

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 1,050 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. 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. We recycled approximately 3,970 tons of water in 2022.

Conservation (Reducing consumption)

We fully incorporated water conservation label products into the initial design and construction of 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 aircrafts with an efficiency of 90%. We also installed water meters to monitor the consumption of water resource and implement hotspot monitoring and management.

Strengthening management

CAL has 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. We also implement internal/external audits and emergency response and evacuation drills to enhance processing efficiency and preventive measures. Domestic wastewater is treated with grease traps and pre-treatment facilities to ensure that the wastewater quality meets the inflow requirements of the wastewater treatment plant and maintain the capacity and stability of the wastewater treatment plant.

In 2022, CAL continued to set up intermediate water recycling pipelines and continued to save water while complying with epidemic prevention requirements and government requirements for cleaning. The Company's tap water withdrawal volume in 2022 was 99,207 tons which was a 12% reduction from 2021.

Water Usage Area	Water Shortage Level	Water Supply Unit (Source Type)	Wastewater Processing Unit (level)	Effluent Site	Effluent Standard
CAL Park	Located in Taoyuan City with high water resource risks	Taiwan Water Corporation (fresh water)	Domestic sewage: Taoyuan Airport Sewage Treatment Plant (secondary treatment)	Nankan River (River with Category C water bodies)	pH: 6 ~ 9 COD: <100 mg / L BOD: <30 mg / L SS: <30 mg / L
EMO Park			Domestic sewage: Taoyuan Airport Sewage Treatment Plant (secondary treatment)		pH: 6 ~ 9 COD: < 100 mg / L SS: < 30 mg / L Cd: < 0.03 mg/ L Cr (III) & Cr (VI): < 2 mg/ L
			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 (fresh water)	Dihua Sewage Treatment Plant (secondary treatment)	Tamshui River (River with Category D water bodies)	pH: 6 ~ 9 COD: < 100 mg / L SS: < 30 mg / L NH ₃ : < 10 mg / L
Songshan Office					

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 2022.

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(Unit: kilotons)

Water Usage Area (Source Type)	Water Withdrawal (Note1)				Water Consumption (Note 2)	Water Discharge (Note 3)	Water Recycling (Note 4)	Recycling ratio (%)
	2019	2020	2021	2022	2022	2022	2022	2022
CAL Park (tap water)	57.49	49.1	33.42	28.70	19.09	18.96	16.82	44%
CAL Park (rainwater)	15.34	8.05	5.65	9.35				
EMO Park (tap water)	70.25	59.78	65.4	55.81	27.78	Domestic: 10.69	NA	--
						Industrial: 17.34	Industrial: 3.97	7.1%
Taipei Branch (tap water)	5.83	5.41	4.56	4.02	2.07	1.95	NA	--
Songshan Office (tap water)	12.93	12.48	9.39	10.68	4.9	5.78	NA	--
Total	161.83	134.82	118.42	108.56	53.84	54.72	20.79	20.9%

Note 1: Scope covered by water meters: CAL Park, maintenance plants, Songshan Branch, 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 Park 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.

Emissions (GRI 305-7)

Among the gases emitted by aircraft engines, nitrogen oxides (NOx) and sulfur oxides (SOx) have a significant impact on the local air quality. The process of painting aircrafts also releases volatile organic compounds (VOC). CAL implements fleet management (refer to 2-3-3 for details) to actively reduce emissions and increase efficiency. CAL also actively communicates with the manufacturers of aircrafts 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.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. For detailed air pollution management information, please refer to [CAL Sustainability website under Environmental Sustainability - ECO Action](#).

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SOx and NOx Emissions of CAL Group

Item			Unit				
				2019	2020	2021	2022
Passenger Aircraft	SOx	Emissions	Ton	58.95	30.41	27.43	29.59
		Emission Efficiency	g / RTK	0.0122	0.0133	0.0150	0.0130
	NOx	Emissions	Ton	614.49	317.03	34.18	120.64
		Emission Efficiency	g / RPK	0.0149	0.0400	0.0538	0.0183
Cargo Aircraft	SOx	Emissions	Ton	13.09	14.58	16.06	13.03
		Emission Efficiency	g / RTK	0.0031	0.0030	0.0028	0.0028
	NOx	Emissions	Ton	136.48	152.04	167.43	135.84
		Emission Efficiency	g / RTK	0.0321	0.0317	0.0290	0.0291

Circular Economy (GRI 306-2, 306-3)

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 flow chart). CAL implements waste management classification strategy to reduce the impact of operations on the environment: Refuse, reduce, reuse, and recycle to take actions for reducing waste. As for the waste destined for the incineration plant, opt for waste to energy (WTE) treatment whenever possible. The restrictions on the use of single-use plastic products and food waste management have attracted high levels of concern in recent years. Although CAL does not directly manufacture or produce products, we still actively communicate with suppliers on environmental protection development trends and incorporate circular economy concepts to formulate strategies, as well as implement labeling.

CAL has formed the "(In-Flight Service) Waste Task Force" in the third quarter of 2019, and actively invited services, supplies, planning, and quality assurance units, as well as supplier partners in catering and cabin cleaning, to develop improvement measures with design at the source, usage monitoring, customer communication, and final improvements. We also use project partnerships to develop several innovative products, reduce the use of single-use plastic products, extend the useful life of products, and reduce waste to create business opportunities for the circular economy. For cargo services, we also support the Taiwan Environmental Protection Administration's plastic wrap recycling platform and prioritize the use of mixed-material waterproof cloth made with 40%-60% recycled materials to increase the reuse of plastic wraps.

Item			Unit						
				2020	2021	2022	2020	2021	2022
Passenger Aircraft	SOx	Emissions	Ton	25.14	16.85	24.99	2.89	0.04	1.24
		Emission Efficiency	g / RTK	0.5307	0.6549	0.6070	0.0486	0.0838	0.0458
	NOx	Emissions	Ton	262.10	175.61	260.49	30.09	0.46	12.95
		Emission Efficiency	g / RPK	0.5109	0.6802	0.5908	0.0454	0.0784	0.0434

Note 1: SOx: is calculated based on the methodology of the American Environmental Protection Agency: Total annual emissions = Number of flights x 0.000891, where 0.000891 is the emission factor (Tons / LTO).

Note 2: NOx: is calculated based on the methodology of the American Environmental Protection Agency: Total annual emissions = Number of flights x 0.009288, where 0.009288 is the emission factor (Tons / LTO).

Note 3: LTO: refers to the landing take-off.

Note 4: Mandarin Airlines and Tigerair Taiwan have no cargo aircrafts.

Note 5: Amendment of calculation method and coverage on CAL's NOx emissions since 2021, excluding the pandemic's effect on flight dispatch.

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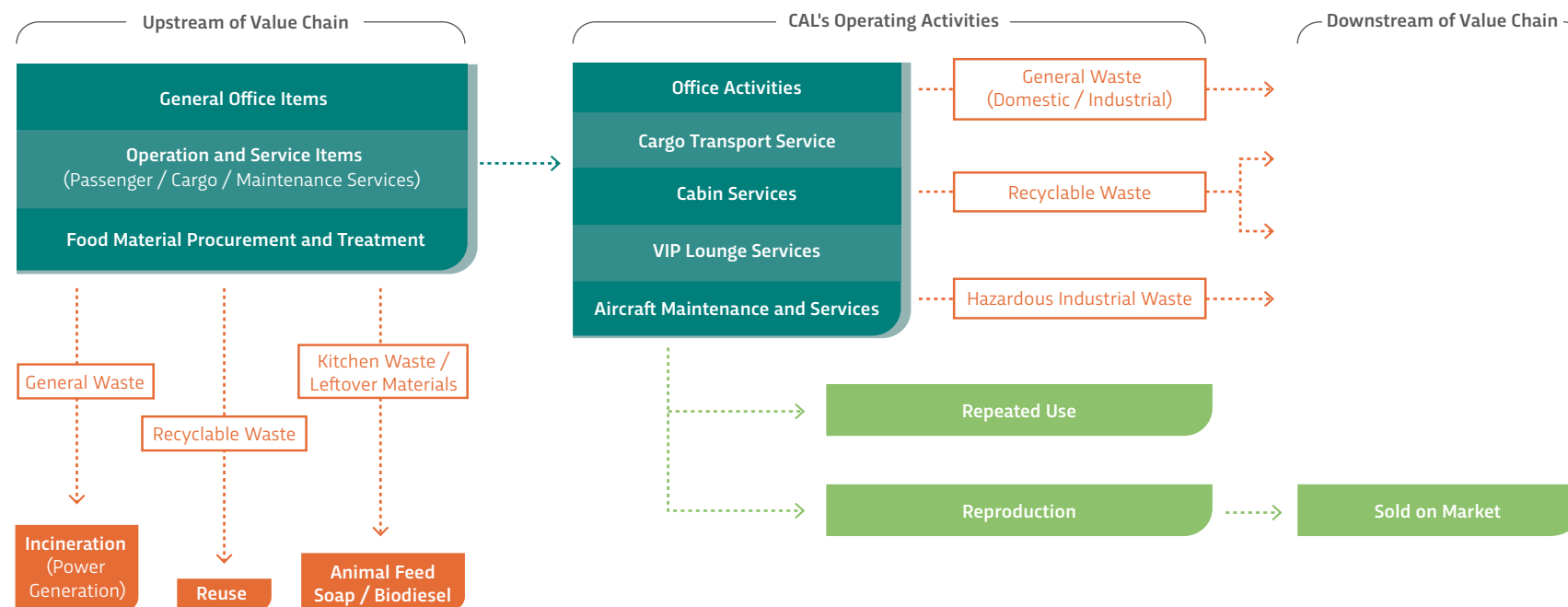
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Waste Flowchart



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Principles	 Waste Management	 Reduce Single-use Plastics	 Food Waste Management
Prevent	1. Encourage the selection of products with environmental certification (e.g., environmental, FSC, energy conservation, or water conservation labels) for procurement applications 2. Optimize the operating system with the digitalization and paperless procedures for flight operations, passenger / cargo services, and office activities such as Dynasty Sky Reading for in-flight service.	1. Purchase non-disposable plastic materials and eco-friendly products (e.g., wooden stirrers) 2. Special project for the development of service products made with recycled materials. For example: Pillow cases, blankets, napkins, tablecloths, and headrest covers made with coffee ground fabrics, and recycled PET (RPET) eco-friendly shopping bags	1. Use the precision meal loading system to monitor the quantity of meals on board all flights across global destinations and work closely with the flight catering service to perform meal checks to accurately control the number of meals ordered 2. Promote pre-selection of meals (e.g., special pre-ordered low-carbon / vegetarian set meals) 3. Precision design of meal quantity for reducing food waste
Reduce	1. Opt for the lease model for photocopiers with built-in paper consumption monitoring system to track monthly consumption 2. Optimize maintenance processes and reduce waste	1. Precision planning of supplies for operations and in-flight services to reduce consumption 2. Implement the bring-your-own-cup policy in the workplace environment and cancel single-use supplies for meetings 3. Encourage passengers to bring their own personal items such as headphones and eco-friendly cups and utensils	1. Strictly control the operating procedures from the procurement, delivery, and low-temperature storage of food ingredients to loading to reduce food waste 2. Design recipes with high interoperability between the preferences of passengers in different regions to increase passenger satisfaction and meal completion rate
Reuse	1. Implement matchmaking to increase the industrial waste recycling ratio (e.g., waste plastic barrels and waste lubricants) 2. Repair passenger and cargo transport equipment (e.g., containers / pallet nets etc.) for reuse	1. Develop and encourage passengers to use products with reusable materials to replace single-use products (e.g., foldable platinum silicone cups) 2. Uses recyclable plastic meal plates and utensils for passenger catering services and recycle them after thorough disinfection	1. Develop innovative new meals and increase the use of food ingredients 2. Use offcuts in diverse manner to ensure zero waste of food ingredients
Recycle	1. Waste paper containing confidential and sensitive information is recycled as pulp after shredding and pulping 2. Waste paper meal boxes are recycled as pulp after recycling and cleaning 3. Prioritize the use of mixed-material waterproof cloth made with 40%-60% recycled materials 4. Recycle and refine the waste aviation fuel from the maintenance and repairs operations for recycled use	1. Support the Taiwan Environmental Protection Administration's plastic wrap recycling platform to enhance the reuse of plastic wraps 2. Select suitable in-flight supplies / replacements to increase productivity and provide sales services (e.g., aircraft skin keychains, aluminum meal service carts, and eco-friendly travel bags produced with recycled life vests) 3. Collaborating with suppliers to modify cabin service and inflight cleaning operations to incorporate recycling procedures	1. Food waste from meal preparation is provided to pig farms for recycled use 2. 100% of the waste food oil is provided to oil manufacturers for recycling and processing into biofuel and other products
Recover	1. The food waste incinerated in accordance with quarantine regulations and the domestic waste of most employees are processed with waste to energy (WTE) cogeneration equipment of incineration plants According to the incinerator's power generation efficiency information of Taiwan EPA, about 338 MWh of electricity will be generated from CAL's on-board food waste in 2022 2. Actively communicate with management units of Taoyuan Airport for installing heat recovery equipment in the incineration plant of Taoyuan Airport		

The number of flights increased by 200% in 2022 compared to 2021. The overall waste output increased by 64% and the recycling ratio remained approximately 40%. To adequately process the waste paper meal boxes due to epidemic prevention requirements, CAL Park worked with suppliers in 2022 to recycle waste paper meal boxes and clean them through simple procedures for reuse to minimize the environmental impact. In terms of passenger services, we also work with suppliers to develop several environmentally friendly catering supplies made with recycled materials, such as pleated bags and travel bags produced with environmentally friendly yarn and travel memory aluminum cases

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produced with refurbished meal carts to maximize the recycling of waste and the benefits of recycling and reuse.

Waste information

(Unit: Tons)

Item	Waste produced			Disposal Method
	2020	2021	2022	
General Domestic Waste	116	94	113	Incineration - with energy recovery
	425	410	629	Incineration - without energy recovery (Delivered to the airport incineration plant in accordance with regulations and recommended the installation of electricity generation facilities)
Resource Recycling	581	507	622	Recycling and reuse - resource recycling
Kitchen Waste / Waste Materials	283	68	142	Recycling and reuse - compost / animal feed
	735	177	632	Incineration - with energy recovery (in accordance with quarantine requirements)
Hazardous Industrial Waste	13	12	12	Other treatment - heat treatment (e.g., sludge from electroplating)
	1	1	2	Other treatment - offshore treatment (e.g., Lithium-ion battery)
Non-hazardous Industrial Waste	100	100	147	Recycling and reuse - resource recycling (e.g., waste lubricants)
	85	64	47	Other treatment - heat treatment (e.g., waste paint)
Total	2,339	1,433	2,346	--

Note 1: Third-party contractors were appointed for removing and offsite processing of waste for disposal. CAL implements inspections in accordance with the contract to ensure compliance with regulations.

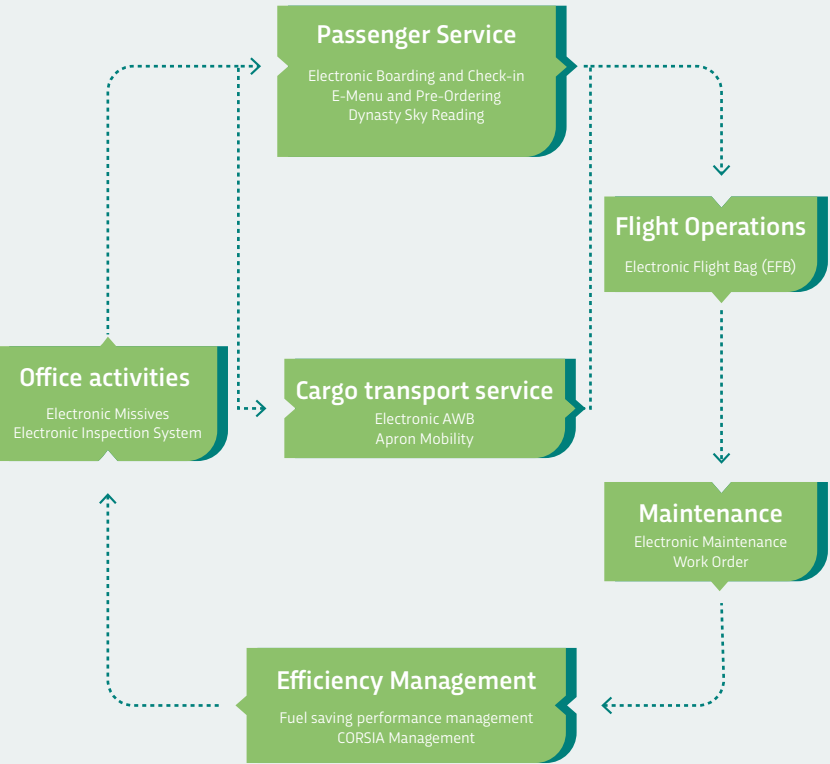
Note 2: Scope of statistics from service segments: EMO, CAL Park, Kaohsiung Branch, VIP lounges of four stations (Taoyuan, Songshan, Kaohsiung and Tainan), and Taoyuan Airport in-bound flight services. The scope includes cargo services starting from 2020.

Note 3: Amended the data for resource recycling (including food waste) in 2021 based on the supplier's adjustments of the data calculation period.

HIGHLIGHTS

Digitalization of Full Life Cycle Operating Procedures

CAL continues to build and upgrade the digitalization of full life cycle operating procedures in response to international trends. The scope includes flights, passenger/cargo services, and maintenance and repairs services, and the administrative support system. The brand-new "Dynasty Sky Reading" digital publication service launched in 2022 is a reading platform that can be accessed through the CAL mobile app. Passengers can enter their membership card number, booking code, or ticket number to create their own digital library. It reduces the need for printing physical magazines and the fuel consumption.



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HIGHLIGHTS

Collaborative Project to Develop Supplies Made with Recycled Materials

CAL actively cooperates with companies such as TAGather Goods and SINGTEX Industrial and considers the characteristics of materials, passengers' behavior, and disposal process and design multiple in-flight catering supplies and products such as eco-friendly pleated bags, travel bags, and travel memory aluminum cases. The eco-friendly travel bags produced with recycled life vests received wide acclaim from passengers. They contain select products from quality manufacturers such as GIN-GER, YUAN, FineHerbs, which use local ingredients to develop the GIN-GER Alcohol Hand Cleanser, YUAN Wild Mugwort Body Wash, and FineHerbs Natural Hand-Made Botanical Soap. In 2022, Mandarin Airlines used retired life vests from retired ERJ aircrafts to produce eco-friendly and fashionable products such as the drawstring bags and three-fold bags, which became wildly popular with fans of Mandarin Airlines and aviation enthusiasts and increased the products' sustainable value.



The decommissioned in-flight aluminum meal service boxes and carts were transformed into containers with intricate accessories based on ideas of environmental protection and recycling. They were exceedingly popular and became the best way to support the circular economy.



We also produce products made with retired life vests of aircrafts to support environmental protection and recycling.



We use recycled coffee ground service item such as pillow cases, blankets, tablecloths, and napkins to encourage passengers to promote eco-sustainability.



A long bag and seashell bag

The patterns on the life vests are carefully embedded as decorations on the seashell bag.



Drawstring bags and three-fold bags

The drawstring bags retain the light bulb on the vest and the whistle strap can be used to carry the bag on the back, on the shoulder, or in hand.



The strap for inflating the life vests has also become an accessory of the bag.



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HIGHLIGHTS

Promote Vegetarian Diet with Local Select Ingredients

CAL is the benchmark for ESG sustainable development in the global aviation industry. We lead the global aviation industry in the low-carbon environment and promoting a vegetarian diet to actively promote a low-carbon food culture on flights and pursue the goal of zero food waste. We use high-quality local vegetables and fruits grown in Taiwan, such as pork, seafood, poultry in our services.

1. In September 2022, CAL collaborated with Le Ruban Pâtisserie, a renowned bakery and dessert shop, to create an exclusive joint dessert collection. The collection incorporates local seasonal ingredients from Taiwan. It includes the summer dessert "Promenade", featuring a passion fruit mousse made from Taiwan's renowned passion fruits and paired with chocolate cake. The autumn dessert "Chestnut Mont Blanc" was introduced, combining Taiwan Chiayi classic chestnuts with traditional cocoa sable for a crispy texture and a light, delightful finish. It is a must-try dessert that brings a sense of joy and happiness as the autumn transitions into winter.

2. In December 2022, CAL collaborated with Yang Ming Spring Restaurant to introduce the "Air Travelers Vegetarian Meal," a Michelin Green Star meal option. Passengers traveling from Taiwan can exclusively pre-order and savor these meals, including Western and Chinese-style vegetarian options (VOML). Yang Ming Spring Restaurant has been promoting vegetarian dining for years, aiming to reduce environmental impact and food waste, achieving a sustainable and eco-friendly low-carbon vegetarian cuisine.

3. Starting from January 15, 2023, China Airlines has partnership with TOUTOUAN Taipei, which is Kurochaya Restaurant Group from Japan. The collaboration focuses on utilizing local seasonal ingredients from Taiwan and incorporating subtle elements from the surrounding natural environment into the cuisine. By combining the innate simplicity and naturalness of the ingredients with highly refined cooking techniques, they have created an exquisite Kaiseki dining experience exclusively offered by China Airlines, showcasing the harmony between nature and culture.



China Airlines continues to collaborate with Le Ruban Pâtisserie, incorporating local elements and using fresh seasonal ingredients to present distinct seasonal flavors that meet the expectations of all passengers.



In partnership with Yang Ming Spring Restaurant, CAL offers the "Air Traveler Vegetarian Meal," a Michelin Green Star meal option that supports local ingredients and emphasizes careful selection. This service can be exclusively pre-ordered through an online platform and includes Chinese-style vegetarian options (VOML) to reduce food waste.



CAL and Toutouan Taipei of the Kurochaya Restaurant Group from Japan jointly launched meals with vast quantities of local seasonal ingredients. They include a starter with the Taiwanese delicacy mullet roe on Magatama tofu and duck from Pingtung. The carrots, chestnut pumpkins, shiitake mushrooms, winter bamboo shoots, sweet wild ginger flowers, taro, red guavas, brown sugar, and purple yam in the nimono are all produced in Taiwan. We aim to contribute to the sustainable operation of Taiwan's agricultural and restaurant business.

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Green Services and Communication

CAL offers diverse green services and invites passengers to join with us. 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 questionnaires, CAL conducts surveys to assess employee satisfaction with environmental information dissemination and gathers suggestions for improvement. In 2022, a total of 2,311 employees participated, with an overall satisfaction rate of 94.2%.

Green Services



Phase of Journey	Outcomes
Ground Operations	1. Promoted digital boarding procedures and used 100% FSC-certified paper for printing boarding passes 2. Adopted digital operations for the menu services in the VIP lounge in Taoyuan Airport and implemented contactless services. 3. Provided and promoted the voluntary ECO Travel Carbon Offsetting Program to passengers / shippers / Mandarin Airlines / Tigerair Taiwan 4. Added the warning of the embargo on transport of endangered species on the company website / airport check-in counter and invite passengers to join the global fight against illegal wildlife trade 5. Mandarin Airlines received the carbon label and carbon reduction label from Taiwan EPA and joined the ECO Points (Green Points) campaign for fare discounts
Takeoff / Landing Process	1. Continued the practice of closing windows during summer to lower the temperature of the cabin and thus reduce the cost of the use of the auxiliary power unit (APU) and airport energy use 2. Implementing green flight operations, such as conducting continuous descent operations (CDO) when conditions permit, to achieve fuel efficiency targets
During flights	1. Inflight catering services consistently prioritizes the use of locally sourced seasonal ingredients, aiming to achieve a zero carbon footprint targets, and prohibits the use of endangered species as food 2. Promoted electronic services and Online Pre-selection meal services for the main dishes of in-flight meals 3. To support sustainable development and digitalization trends, we launched the Dynasty Sky Reading to reduce the weight of aircrafts and reduce fuel consumption 4. Adopt paperless and digital operating procedures for in-flight services, use eco-friendly catering supplies, and promote e-commerce (eMall) and green consumption 5. Implement and expand the participation in the Pacific Greenhouse Gases Measurement Program (PGGM) initiative 6. Gradually expand the service items in "The Sustainable Flight Challenge" (refer to the Sustainable Flight Challenge page)

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Environmental Communication

Targets	Key Points	Channel	Performance in 2022
 New Employees and All Employees	Cultivate sustainability awareness of employees and shape a culture of environmental protection	"CAL and I" courses for new employees - e-learning environmental management courses for all employees - employees' email, China Airlines newsletter, startup screen, questionnaires, and quizzes	- Through 8 new employee training sessions, we achieved a 100% execution rate in promoting company's environmental and energy-saving policies and practices - By implementing the mandatory "Environmental Management E-learning" course for all employees to ensure that every staff had appropriate awareness of CAL environmental and energy policies and management system. By 2022, a total of 10,799 staff were trained - We published 24 articles on environmental sustainability topics - We organized 3 environmental prize quizzes, a total of 2,311 employees participated
	Organized experience activities to consolidate environmental protection and sustainability consensus	Environmental lectures	One environmental lecture was held, focusing on the conservation of Formosan black bears, to raise the employees' awareness of environmental protection; 123 participants attended   CAL invited Dr. Mei-Hsiu Hwang, Professor of National Pingtung University of Science and Technology and Chair of the Taiwan Black Bear Conservation Association, to share her philosophy and experience of Formosan black bears in a lecture titled "Soul of Sustainability in Formosan Mountains and Forests: The Story of the Formosan Black Bears". Group photo of Dr. Mei-Hsiu Hwang and employees in person and online.
		Cross-industry exchange	In 2022, CAL organized one cross-industry exchange event to gather insights on environmental sustainability strategies from external companies and share CAL's experiences  Cross-industry exchange with CTCI Group.
 Environmental / Energy / Carbon Management Personnel (including partners of the Group)	Increase environmental protection and energy conservation knowledge and improve management capacity	Environmental / Energy / Carbon Management Workshop e-learning environmental courses	Based on operational requirements, we organized 11 professional training sessions on "environmental energy management systems", "GHG inventory management", TCFD climate-related financial disclosures for climate risks", "CORSIA concept training", and the Group's "Value Chain Environmental Management Meeting" for operation personnel and partners. The courses had a total of 407 attendees
 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	- CAL selected 12 environment and eco-themed videos to play during flights and published 7 environmental protection articles and reports via social media which reached 147,533 viewers - CAL continuously updated and shared the carbon footprint of routes - Set up the Green Life Select section on CAL's eMALL official website to promote sustainable products - CAL calendar was printed with FSC-certified paper and soy ink

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HIGHLIGHTS

Support PGGM Initiative and International Environmental Protection Research Projects

Since 2012, CAL has participated in the Pacific Greenhouse Gases Measurement (PGGM) in collaboration with the Environmental Protection Administration, National Central University, and the In-service Aircraft for a Global Observing System (IAGOS-ERI) of the EU. As of December 31, 2022, CAL has collected high-altitude gas data from 16,456 flights. The results have been delivered to the World Meteorological Organization (WMO) of the United Nations for studies and use as reference for decisions for the United Nations Framework Convention on Climate Change (UNFCCC). To strengthen greenhouse gas monitoring operations and collect more data on the types of high-altitude air and changes for global atmospheric and greenhouse gas research, CAL commenced collaboration with National Central University, In-service Aircraft for a Global Observing System (IAGOS) of the EU, and Japan Aerospace Exploration Agency (JAXA) in 2022 to install the latest P2b and P2d optical and laser instruments developed by the EU in the first half of 2023. It helps JAXA compare and calibrate measurements/estimates made with their GHG observation satellites. The observation data can also help CAL diagnose and calculate the sources of turbulence in flight routes, plan suitable flight routes, and increase flight safety.

HIGHLIGHTS

Participation in the IATA CO₂ Connect Fight Carbon Footprint Calculator Test Program

CAL participated in the Air Cargo Carbon Footprint (ACCF) program of the IATA in 2013 to help the IATA formulate the carbon footprint calculation methodology and information disclosure principles for the aviation industry. It also contributed to the development of the RP1678 carbon footprint calculation guidelines. IATA launched the CO₂ Connect program in 2022 and used the RP1726 Passenger CO₂ Calculation Methodology to develop a tool for calculating the carbon emissions per capita of all passengers. The results are provided for use by travel agencies and travel search engines. To monitor the improvements in international carbon footprint calculation tools, CAL signed up for the IATA CO₂ Connect flight carbon footprint calculator test program and provides real support for improving the calculation results and data quality of the IATA verification calculator.



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Future Plans

Operational Highlights	Future Development Plans
1. Improve the effectiveness of the operations of the management system	1. Advance the operation of ISO 14001, ISO 50001 management systems, and ISO 14064-1:2018 MRV 2. Continuously manage and improve short, medium, and long-term environmental and energy targets and performance in alignment with SDGs 3. Expand the digitization of management systems 4. Participate in industrial environmental management system planning and engagement
2. Expand the scope of environmental, energy, and greenhouse gas management	1. Enhance the breadth and depth of climate change, biodiversity, environmental and energy risk management in the value chain and supply chain 2. Implement climate change and environmental risk assessments for outstations and suppliers 3. Assist CAL value chain and group members and in improving carbon management operations
3. Comply with international carbon management mechanisms	1. Continue to participate in the IATA and Taiwanese government's strategic engagement mechanisms for CORSIA operations 2. Implement Monitoring, Reporting, and Verification (MRV) operations in accordance with international aviation carbon management schemes such as CORSIA, UK ETS, EU ETS, and strengthen data quality management. 3. Optimize management and operations of Carbon emissions reduction, offsetting, and carbon credit. 4. Conduct carbon offset management in accordance with ICAO, EU and UK regulations
4. Enhance the climate resilience of the Company	1. Strengthen and best practice high-level climate change and environmental governance 2. Enhance financial disclosure related to climate and natural related risks and opportunities (TCFD, TNFD) 3. Enhance the implementation capacity of various units in climate issue management 4. Strengthen climate prediction accuracy and the ability to adjust corporate operations
5. Continue to improve carbon reduction operation	1. Implement the 2050 net-zero carbon emissions target, continuously monitor and improve air and ground carbon reduction targets and performance 2. Expand the use of renewable energy, continuously reduce operational carbon footprint, and enhance overall eco-efficiency and eco-benefits 3. Participate in engagement and actions of Science-Based Targets initiative for the aviation 4. Expand the use of renewable energy and promote afforestation carbon sink projects
6. Continue to increase environmental resource utilization efficiency	1. Enhance water resources and waste management operations, expand and improve management goals 2. Continuously improve environmental conservation and energy-saving measures to enhance natural and energy resource utilization efficiency 3. Collaborate with in-flight supplies vendors to increase the proportion of environmentally certified products and continuously develop eco-friendly products
7. Advance the sustainable aviation fuel (SAF) application strategies	1. Continuously monitor the global SAF development trends 2. Continuously advance the use of SAF 3. Facilitate Taiwan policies related to SAF, fostering the strategies and development of Taiwan SAF production and use
8. Promote forest and biodiversity conservation	1. Continuously support the Buckingham Palace Declaration and implement the CAL forest and biodiversity conservation policies 2. Provide ongoing support for Taiwan and international forest and biodiversity conservation initiatives 3. Incorporate forest and biodiversity conservation evaluation criteria into supplier management
9. Enhancing environmental sustainability culture within and outside CAL	1. Continuously support Taiwan and international environmental sustainability initiatives 2. Create diverse channels for internal and external promotion and engagement, enhancing innovative collaboration momentum

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HIGHLIGHTS



108 people with disabilities employed

CAL was the only company in the industry to receive the Golden Wingspan Award. CAL employed 108 people with disabilities.



TWD 17.57 billion in salary and benefits

Invested TWD 17.57 billion in salary and benefits.



98.41% union participation

98.41% of employees participating in corporate union.



Employee health examination superior to regulatory requirements

The items and frequency of health examination offered by the Company are superior to regulatory requirements.



TWD 230 million in employee training

The Company actively organizes and manages professional training and invested TWD 230 million.



Signature of the "Letter of Intent for Promoting Business and Human Rights in Taiwan"

In November 2022, CAL supported the government business and human rights campaign and signed the "Letter of Intent for Promoting Business and Human Rights in Taiwan".



Continuous Support for "TALENT in Taiwan"

CAL continued joining 2023 "TALENT in Taiwan" to jointly promote sustainable talent development with "CommonWealth Learning", and many other companies in Taiwan.

Management Approach

Material Issues

- Attracting, Cultivating, and Retaining Talent
- Labor Relations and Communication
- Occupational Safety and Health

Importance of Material Issues

CAL regards employees as family. We are always willing to communicate with respect and strive to reach a mutual understanding through negotiation. We endeavor to create a more harmonious work environment based on an equitable, cooperative, and mutually respectful relationship. In such a work environment, labor and management reach a consensus through open and transparent negotiations and are more willing to engage in positive communication on collective agreement issues. CAL values the safety and health of passengers, employees, and all stakeholders. In addition to promoting systematic management of occupational safety and health, we also focus on reducing occupational hazards to create a friendly, safe, and healthy workplace.

Commitment and Long-term Goals



Commitment

We view our employees as our most valuable assets. CAL has improved and optimized working conditions and the work environment to establish a safe and growing workplace. CAL respects each individual labor union and communicates on their stated demands with empathy, views the labor rights of every employee as our first priority, and gives the same level of respect and resources to all labor unions by maintaining neutrality in accordance with laws.

Apart from regular labor-management meetings held by the Head Office and the China Airlines Employees Union (CAEU), a number of functional committees formed by management and CAEU have been established. CAL follows up and reports the results of follow-ups in the following meetings. CAL is dedicated to maintaining harmonious labor-management relations through open, efficient channels of communication, hoping that both the management and employees can work together to achieve equality and reciprocal outcomes.



Long-term Goals



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2023

- Organizing eight insider sharing sessions to provide an opportunity for cross disciplinary networking
- Optimizing CAL's aviation management talent training mechanisms
- Percentage of female managers reaching 25%

2025

- Completing the establishment of all internal online training materials for all specialties
- Establishing the optimal learning path for CAL's aviation management talent pool
- Percentage of female managers reaching 26%

2030

- Applying to Taiwan's aviation talent development
- Promoting Taiwan's aviation talent development
- Percentage of female managers reaching 27%

Unit in Charge

Corporate Sustainability Committee — Human Resources Task Force

Management Mechanisms

- The meeting of Corporate Sustainability Committee, at least twice every year
- The Talent Value Task Force reports the KPI progress to the Corporate Sustainability Committee, every quarter
- A labor-management meeting, at least once every three months on a regular basis
- The meeting of Occupational Safety and Health Committee, every quarter on a regular basis
- Formulate Occupational Safety and Health Management Plan, Safety and Health Management Self-Inspection Plan, Workers' Health service plan to implement every year
- A personal information protection management review meeting, every year on a regular basis

Objectives and Plans

Issue	KPI	2022			2023 Objectives
		Objectives	Performance	Achievement	
Occupational Safety and Health	Reduce the Frequency-Severity Indicator (FSI) by 5%	FSI 0.42	FSI 0.10	100%	FSI 0.42
	Pass the certification of occupational safety-related management systems	Passing ISO45001:2018, CNS45001:2018 and TOSHMS	Passed	100%	Pass the regular follow-up audits for ISO 45001:2018, CNS45001:2018, and TOSHMS certification
Labor-management Relations	Convene labor-management meetings	4 times	6 times	100%	4 times
Labor Rights	Organizing training on sexual harassment prevention	1 time	1 time	100%	1 time

Note1: Frequency-Severity Indicator (FSI) =√(Disabling Injury Frequency Rate,FR)×(Disabling Injury Severity Rate,SR)÷1,000)

Note2: 2020-2022 averages in the air transport industry published by the Ministry of Labor: FR=1.37 ÷ SR=28 ÷ FSI=0.19 (COVID-19 cases excluded)

Note 3: Due to the impact of the pandemic, two meetings were held in writing.

Grievance Mechanism

Employee Relations Department: Human Resources Division —
E-Mail: wecare@china-airlines.com



Stakeholder Contact

2-4-1 Human Rights Management Framework (GRI 2-23, 2-25, 406-1, 412-1, 407-1)

To enforce the idea of human rights, CAL has established its human rights policies and management mechanisms based on the UN Guiding Principles on Business and Human Rights, international trends, and local laws and regulations. The establishment and amendment of CAL's Human Rights Policy require the signatures of the Company's Chairman and President. CAL's Human Rights Policy applies to CAL Group members, suppliers, partners, and all sites of operations. The Human Resources Task Force under the Corporate Sustainability Committee is responsible for the management of human rights management in order to enhance CAL's ability to respond to human rights risks in the value chain. In addition to ensuring CAL's respect for human rights, CAL supported the government business and human rights campaign and signed the "Letter of Intent for Promoting Business and Human Rights in Taiwan" in November 2022. CAL joined hands with several other companies in signing the "National Action Plan on Business and Human Rights". CAL also requires suppliers to sign the Supplier Code of Conduct during procurement to ensure that suppliers meet CAL's Human Rights Policy.



CAL's Human Rights Policy

Regulations and Procedures on Human Rights

Regulations and Procedures on Human Rights		
Employee Code of Conduct	Employees should support company policies on human rights, fairly treat and respect for every employee, avoid infringing on the rights of others or become accomplices to human rights abuses. We not only implement policies to protect the human rights of employees, but have also established a management mechanism to ensure employee care. We do not use forced labor. We do not adopt race, gender, age, family, political affiliation, or religious beliefs as the criteria for employee assignment, performance evaluation, or promotion.	
Human Resource Manual / Employee Complaints Regulation / Sexual Harassment Complaints and Disciplinary Actions Regulation	• Proclaimed employee human rights protection includes basic stipulations, freedom of employment, humane treatment, and prohibition of discrimination or sexual harassment. • In December 2022, the Company organized online training courses for sexual prevention and 9,687 employees completed the training. • In 2022, Tigerair Taiwan organized onsite training courses for sexual prevention and 122 employees completed the training.	
Sustainable Development Best Practice Principles — Child Labor Prohibited	Hiring people younger less than 16 years old is strictly prohibited to ensure full compliance with legal minimum age for employment. To safeguard the physical and psychological health and safety of employees whose age are below 18, hazardous assignments are strictly prohibited.	
Supplier Code of Conduct	Human rights standards were specified in the Supplier Code of Conduct include: 1. Prohibition of child labor / 2. Anti-discrimination / 3. Remuneration and working hours / 4. Freedom of labor / 5. Respect for freedom of assembly and association, and the right to collective agreement.	
Anti-discrimination Policies and Courses	Front-line staff must attend non-discriminatory policy courses for boarding passengers with physical and mental disabilities to ensure the interests of passengers.	

In addition to complying with CAL Group's human rights policies, Mandarin Airlines and Tigerair Taiwan have incorporated management measures for equality and anti-discrimination and whistle-blowing channels into their regulations and organized training on a regular basis. In 2022, Mandarin Airlines organized a "Mandarin Airlines and Me" workshop on sexual harassment prevention, a course on gender equality and friendly workplace and sexual harassment prevention for managers and regular employees, and safety and health training for preventing illegal infringement. In December 2022, Tigerair Taiwan organized sexual harassment prevention training for all employees including one training session for the four major plans for labor health protection.

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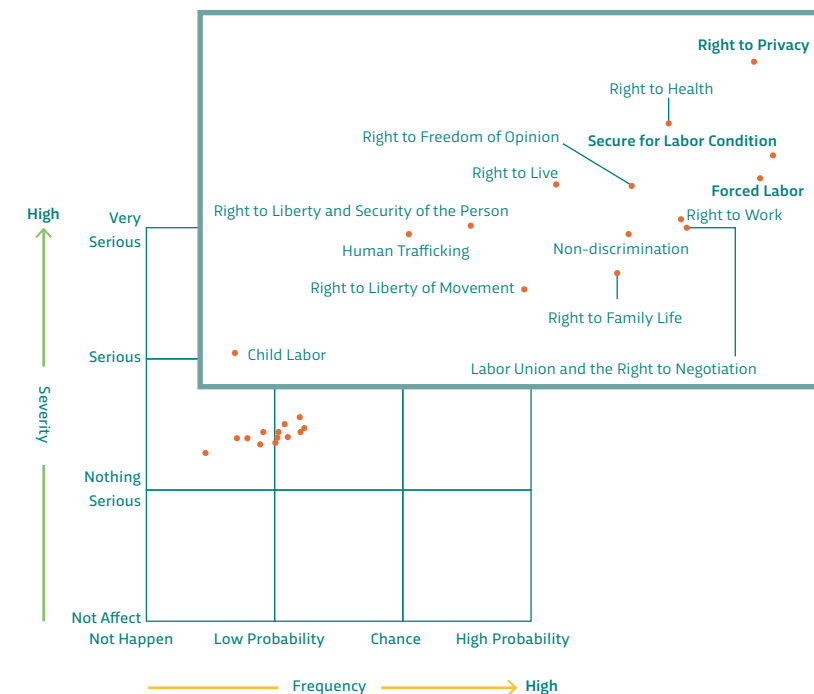
Procedures for Identifying Material Human Rights Issues



Human Rights Risks Identification Results

CAL has identified human rights risks independently in accordance with the United Nations Guiding Principles on Business and Human Rights. The Human Resources Task Force first selects material human rights issues of the year through internal and external stakeholder engagement and issues risk identification questionnaires to stakeholders in the entire value chain (there were no material mergers & acquisitions in 2022). In 2022, it analyzed the material human rights risk issues of the year based on 554 valid questionnaires, while reviewing the occurrence nodes of human rights risks and material risk issues throughout the value chain in order to perform human rights due diligence and develop mitigation and remedial measures. The overall human rights risk level for CAL in 2022 was low, but we are still responding to three relatively major risk issues, including the right to privacy, protection of labor condition, and forced labor.

Human Rights Risks Identification Results in 2022



Mitigation and Remedial Measures for Material Human Rights Risks

In order to ensure the integrity of the human rights framework, CAL, in accordance with the United Nations Guiding Principles on Business and Human Rights on due diligence, worked with external consultants to develop and implement a human rights due diligence mechanism to review the mitigation and remedial measures for material human rights risk issues. Based on the three material risks identified in 2022, except that the protection of labor condition does not apply to the downstream of CAL's value chain, CAL has launched three major risk mitigation and remedial measures at each node of the value chain for various groups (including general, disabled, or minority employees in the upstream and midstream as well as

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general, children, disabled, and minority customers in the downstream). CAL also adapted the measures for all locations of operations across the globe based on the regulations of the host countries (64 branch offices, coverage 100%). In response to potential risks, CAL adopts early warning and remedial measures (e.g., training for relevant personnel). Relevant information is described below. For details, please refer to the appendix [Management of Material Human Rights Issues in 2022](#).

The human rights risk management in CAL's entire value chain is described as follows:

Upstream (Supply Chain Partners)

Regarding the human rights management of upstream supply chain partners, CAL has gradually established a risk management mechanism of the sustainable supply chain since 2015. The management mechanism includes risk identification, on-site review, and tracking and improvement, while the management dimension includes governance, environment, society, and the general aspect. Among them, the human rights risk issues are the main management focus of the aspect of society. CAL has launched human rights issues that need to be managed in accordance with the Sustainable Supply Chain Management Policy and Supplier Code of Conduct. In addition to issues such as child labor, discrimination, and freedom of association, the protection of labor condition, eradication of forced labor, and occupational safety and health issues related to the right to health are all the focus of CAL's evaluation and audit. As for the right to privacy, it is related to the information security management issues in the general aspect, which is also an existing management item in CAL's sustainable supply chain risk management mechanism. Each year, CAL adopts a periodic sustainable supply chain management mechanism to keep abreast of the management situation of various human rights risk issues by supply chain partners and their mitigation and improvement approaches in the case of high-risk situations. For more sustainable supply chain management measures, please refer to [Chapter 2-2-2 Sustainable Supply Chain Management](#) in the Cooperation section of this report.

Midstream (CAL's Operations)

In terms of employee privacy management, the Company has set up a "personal information management system;" By implementing the maintenance and management of personal data files, the impact of personal data file violations can

be reduced. In terms of the protection of labor conditions, we focused on providing conditions superior to regulatory requirements and industry standards. We convene meetings of committees with labor participation and focus on continuous improvements to ensure employees' labor rights. In terms of forced labor, CAL's Human Rights Policy states that forced labor is prohibited. The Company also implements management policies and continuously implements communication and improvement for work schedule and overtime work management and fatigue management measures. For more details on the management measures of employees' labor conditions and forced labor, please refer to [Chapters 2-4-2 Recruitment and Retention](#), [2-4-4 Employee Rights](#), and [2-1-1 Flight Safety](#).

In addition to the material human rights risks identified in 2022, CAL has always maintained an open attitude toward employees' membership in the union. As each CAL employee is an ex-officio member of the corporate union, they can freely participate in various union affairs or be directly selected as leaders in the union. CAL regularly holds negotiation meetings with the Employees Union to listen to the opinions of the union; employees can also join occupational unions outside the Company according to their own wishes, and CAL maintains an equally open attitude toward employees' membership in external occupational unions and does not resist substantive negotiations with any union.

CAL has established diversified communication channels, including regular labor-management negotiation meetings, an employee care mailbox, a sexual harassment mailbox and associated grievance hotline, the "Speak Your Mind" Employee Portal, and Team+, an internal messaging software so that employees can put forward their opinions or suggestions. In addition, CAL has formulated the Employee Grievance Regulations. When employees' rights and interests are infringed or handled improperly, they can file a complaint in accordance with the regulations. If they disagree with the results of the complaint, they can also re-file the complaint to protect their rights. In 2022, CAL employees filed 10 grievances which consisted mainly of punitive measures and illegal infringement at the work place. All complaints have been addressed and the cases were closed. There were no cases of discrimination.

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Employee Grievance Cases from 2020 to 2022

	2020	2021	2022
Performance Review	4	1	0
Concessional Flight Tickets	0	0	1
Leave of Absence	2	3	1
Disciplinary Actions	1	6	5
Occupational Disasters	1	0	0
Salary	0	1	0
Illegal Infringement at the Workplace	0	4	1
Others	0	0	2
Total	8	15	10

	Employee Grievance E-mail: wecare@china-airlines.com	Grievances against Sexual Harassment TEL: (03)399-8922 E-mail: SHC@china-airlines.com
	Employee Grievance / Grievances against Sexual Harassment TEL: (02)2514-2050 E-mail: SHC@email.mandarin-airlines.com	
	Employee Grievance E-mail: talktome@tigerairtw.com	Grievances against Sexual Harassment TEL: (02)7735-6930 E-mail: talktome@tigerairtw.com

We pledge ourselves to put an end to sexual harassment. Continuing education on sexual harassment prevention is conducted annually for new recruits and existing employees, and course materials are available for employee access on the CAL website. CAL also puts up posters in the workplace, communicating definitions and types of sexual harassment, as well as grievance channels, to all employees. Employees can file sexual harassment grievances via the sexual harassment mailbox, hotline, or e-mail account. If the sexual harassment perpetrator is a CAL employee, the Human Resources Division will initiate an investigation and convene a meeting of the Complaint Review Committee within 7 days after receiving the

grievance. No less than half the members of the Complaint Review Committee are female. If the incident is defined as a case of sexual harassment, disciplinary actions or other measures will be taken; and, depending on each incident, psychological counseling may be arranged for both the perpetrator and the victim. If the perpetrator of the incident is not a CAL employee, CAL will assist the victim and provide legal aid. Mandarin Airlines requires all new employees to take the “Mandarin Airlines and Me” course, which includes maintaining a friendly workplace and sexual harassment prevention. Mandarin Airlines also published a statement about the ban on sexual assault and harassment and posted information on sexual harassment prevention on the EIP website. Besides Mandarin Airlines, Tigerair Taiwan also takes sexual harassment seriously. Every new employee of Tigerair Taiwan is required to complete the training course on regulations concerning sexual harassment prevention and grievances through the Regulations which disclosed on the employees’ public portal. In 2022, 3 sexual harassment cases were filed in CAL and penalties were imposed in accordance with government regulations and internal regulations of CAL. In 2022, 1 sexual harassment case was filed in Mandarin Airlines and penalties were imposed in accordance with government regulations and internal regulations of Mandarin Airlines. There were no sexual harassment cases in Tigerair Taiwan.

Grievances Against Sexual Harassment from 2020-2022

Item	2020	2021	2022
Number of Grievances	0	3	5
Number of Filing	0	3	3
Category	-	Improper behavior	Improper behavior
Outcome	-	Administrative disciplinary actions	Administrative disciplinary actions

Downstream (Customers)

For customer privacy protection, CAL has hired a professional consultant team to assist in the optimization of information security and the personal data management system. The Data Security and Personal Information Management Committee continues to execute personal data management and formulated the Privacy Protection Policy and Statement regarding the collection, use, acquisition, or change of customers’ personal data, and revision of privacy protection/security statement, which are all publicly disclosed on the Company’s official website. The

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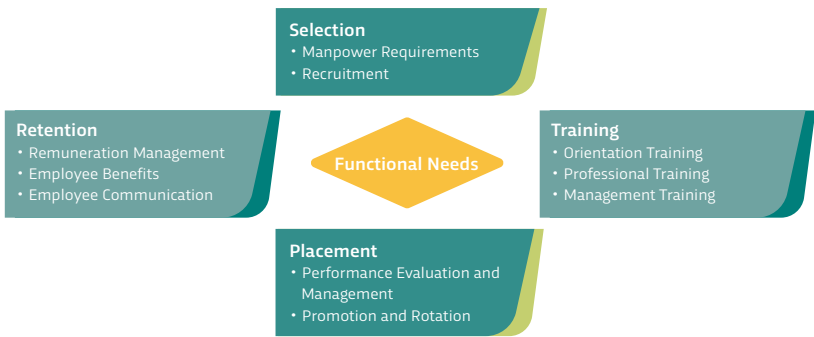
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Company also requires all units to conduct business reviews each year to complete the personal data risk assessments. For more management measures to ensure customer privacy, please refer to [Chapter 2-1-6 Privacy Management](#) in the Trust section of this report.

2-4-2 Recruitment and Retention (GRI 2-7, 2-8, 202-2, 401-1, 405-1)

Human Resource Management System

The Company recruits and selects employees according to the needs of human resources and the duties required. The recruited employees receive orientation training based on their duties and take up their posts after passing orientation training. They also continue to receive related training. CAL conducts evaluates their performance on a regular basis. Outstanding performers will be rewarded or reported for promotion, and appropriate rotations will be arranged to enhance the abilities of talents. At the end of each year, employees will be rewarded based on Company's business performance. The Company has also established favorable employee benefits and multiple channels of communication. CAL regularly conducts employee satisfaction surveys, and continuously reviews feedback and makes improvement accordingly in order to increase employee retention.



Workforce Structure of CAL Group

As of the end of 2022, the total number of employees of CAL, Mandarin Airlines, and Tigerair Taiwan were 10,732, 810, and 675, respectively. Compared to the number of employees in 2021, CAL had 153 fewer employees, Mandarin Airlines had 78 fewer employees, and Tigerair Taiwan added 29 employees. The number of employees employed by the three airlines is in compliance with the regulations. CAL responded

to flexible work requirements for basic ground service and employed 117 dispatched workers. [Refer to Detailed Workforce Structure Tables in the Appendix](#)

2022 Overview of CAL Group Employees

Category									
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Full-time Employees	10,604	5,465	5,139	758	377	381	631	282	349
Non-full-time Employees	102	16	86	38	5	33	44	10	34
Temporary Employees	26	17	9	0	0	0	0	0	0
Total	10,732	5,498	5,234	796	382	414	675	292	383
Interns (not included in the number of employees)	44	7	37	14	3	11	0	0	0

The total number includes 77 indigenous employees (39 males and 38 females) and 108 employees with disabilities (76 males and 32 females).

The total number of employees includes 8 indigenous employees (0 males and 8 females) and 4 employees with disabilities (2 males and 2 females).

The total number of employees includes 6 indigenous employees (2 males and 4 females) and 6 employees with disabilities (3 males and 3 females).

Note 1: Full-time employees are those whose contracted work hours are normal work hours.
Note 2: Non-full-time employees are those whose contracted work hours are lower than normal work hours.

Gender Equality and Diversity

We place great importance in gender equality. In 2022, female employees of CAL accounted for 48.77% of the total CAL workforce and 28.46% of all managerial positions were held by females. At Mandarin Airlines, female employees accounted for 52.01% of the total workforce, and 24.21% of the managerial positions were held by females. At Tigerair Taiwan, female employees accounted for 56.74% of the total workforce, with female managers representing 41.98% of all managerial positions. Due to the nature of the aviation industry, CAL has a higher demand for

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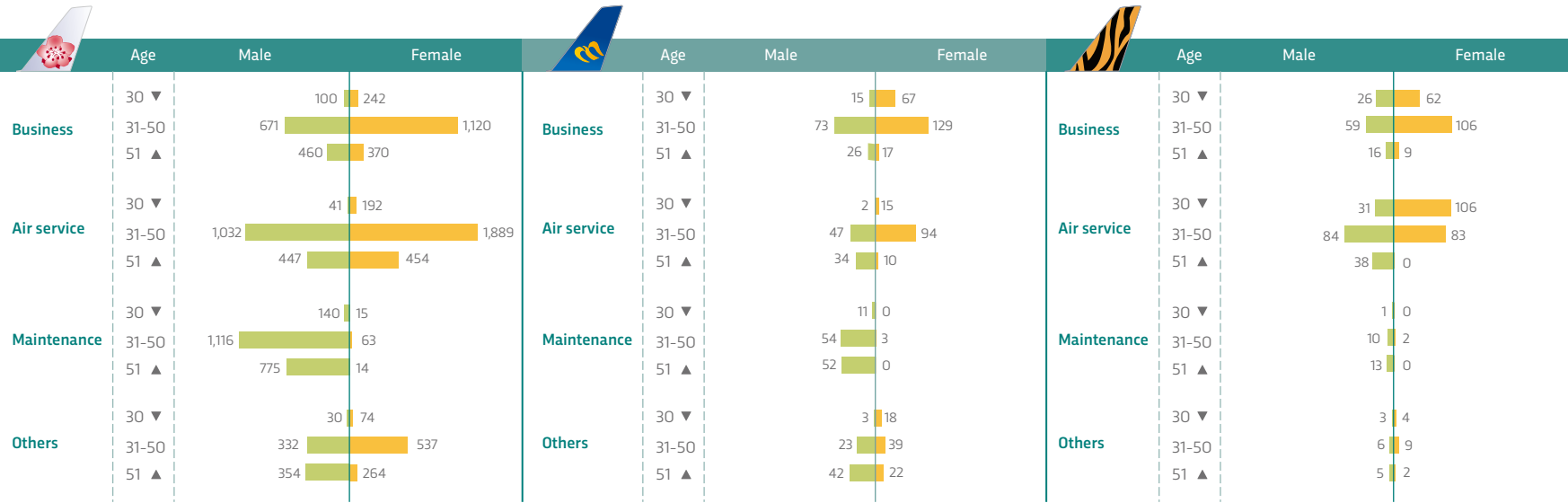
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professionals in certain fields of expertise, leading to a male / female gap that is common in society (detailed Workforce Gender Diversity Target tables in the Appendix). CAL is committed to providing a comfortable work environment that is conducive of balanced career development for all employees, regardless of gender. In order to safeguard the well-being and right to work of female employees, when a female flight attendant is pregnant, she may apply for unpaid leave or request a transfer to ground services. Upon completion of maternity leave, she may then apply to resume her duties as a flight attendant. In addition, two breastfeeding rooms have been set up at CAL Park for female employees to use at any time. For our male employees, they may apply for 5-day paternity leave with full pay during childbirth. In addition, to help our employees achieve work-life balance, CAL has signed agreements with 9 daycare centers and kindergartens in 2022 to provide special discounts for CAL employees.

CAL values diversity in the workforce. In 2022, CAL employed 77 (0.72%) indigenous employees and 108 (1.01%) employees with disabilities. In addition to our commitment to expanding employment among indigenous people, we have employed staff with disabilities at a higher proportion than prescribed by law since September 2015. CAL received the Excellency Award at the Golden Wingspan Awards in 2016. We have redesigned job descriptions for employees with disabilities with a focus on improving working conditions and making adjustments to job requirements and career development. We also provide shuttle buses and regularly-scheduled health examinations for our employees with disabilities. In addition, we have signed long-term service contracts with visually impaired massage therapists to provide employees with free on-site massages, thereby providing job opportunities for the visually impaired and enhancing our employees' health at the same time.

Workforce Diversity of CAL Group in 2022



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Local Employees

The flight network of CAL spans across the globe, and a large number of job opportunities are available. This results in contributions to local employment and economic development. About 88.01% of all CAL employees are based in Taiwan. The composition of CAL's international employees includes foreign pilots from 25 countries, and flight attendants from Vietnam, Japan, and Thailand. We also employ local employees in 29 countries around the world. CAL endeavors to provide a friendly work environment for our international employees, with equal opportunities and benefits to our Taiwanese employees.

Local Employment of CAL Group in 2022

Company	Region	Employees	Management
	Taiwan	98.77%	100.00%
	China	96.58%	47.06%
	Asia	92.73%	45.74%
	Americas	64.65%	30.00%
	Europe	41.38%	26.32%
	Oceania	54.29%	16.67%
	Taiwan	100.00%	100.00%
	China	91.67%	30.56%
	Taiwan	98.37%	100.00%
	Asia	100.00%	100.00%

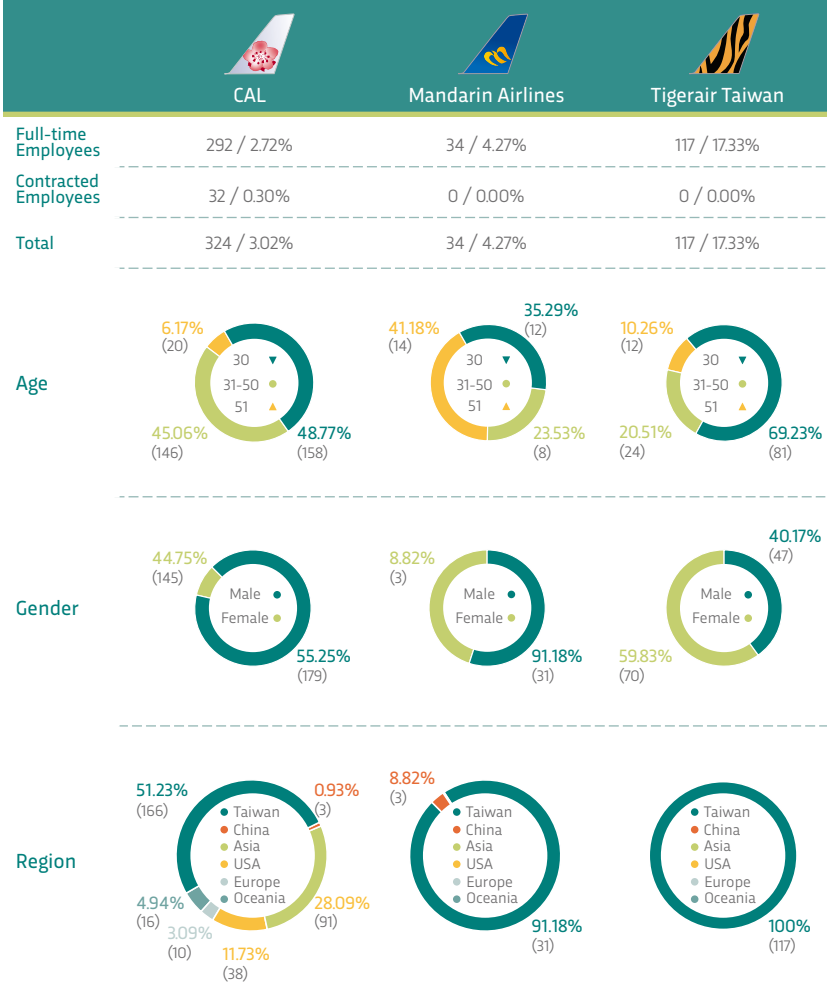
Note: Local employees refer to employees of the local nationality.

Recruitment

Due to CAL Group's business growth and fleet / flight network expansion in recent years, we have recruited in various areas to meet the requirements of our growing business. To fulfill our commitment to social responsibility, we continue to promote industry-academia collaboration programs and employ people with disabilities. In 2022, CAL recruited 324 employees, including 292 full-time employees and 32 contract employees, accounting for 3.02% of the total workforce. Mandarin Airlines

recruited 34 full-time employees, accounting for 4.27% of the total workforce. Tigerair Taiwan also employed 117 full-time employees, accounting for 17.33% of the total workforce.

New Employees of CAL Group in 2022



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Employee Turnover

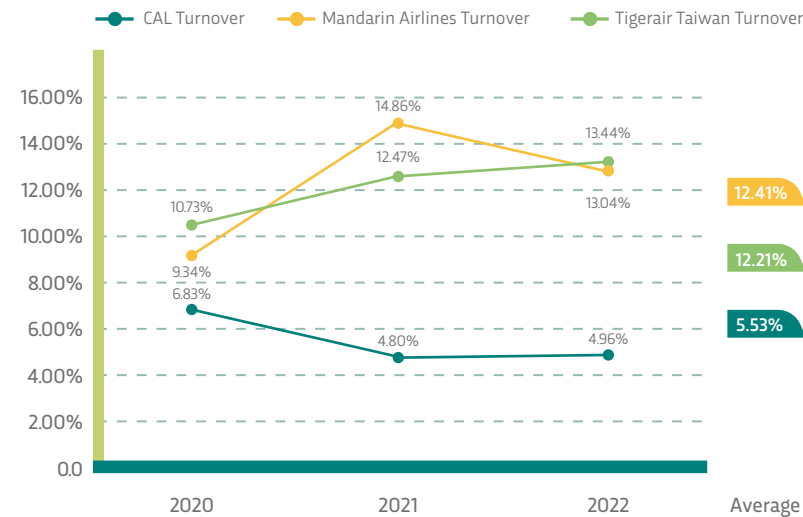
Over the past three years, the average employee turnover of CAL has been 5.53%. Each of our employees is protected by an employment contract, and each contract clearly sets forth provisions regarding rewards, disciplinary actions, and employment termination. In addition, rules concerning termination of employment and the number of days required for a notice of resignation comply with the Labor Standards Act. With respect to locations where employee turnover rates are relatively high, we evaluate local labor-related regulations and wage levels and refer to comments made by resigning employees and local managers to see whether adjustments are needed in our salary and benefit practices. We also utilize internal systems and incentive programs to reduce turnover rates. Refer to [ESG Data and Appendix Employee Turnover Rate Table](#)

At CAL, the employee turnover in 2022 increased slightly by 0.16% compared to that in 2021. The involuntary separation rate decreased by 0.09% compared to that in 2021 and the voluntary separation rate increased by 0.25% due to intensive recruitment by the tech industry and other industries. However, there were no major fluctuations. CAL will continuously optimize internal management to maintain low turnover.

At Mandarin Airlines, employee turnover in 2022 arose by 0.97% compared to 2021, mainly due to personal career plans with applications for retirement or resignation. In response, Mandarin Airlines will provide a variety of communication channels for existing employees and improve employee benefits to retain staff.

Tigerair Taiwan's turnover decreased by 1.82% in 2022 over 2021, primarily due to personal career plans. Tigerair Taiwan has focused on planning diverse career development opportunities in recent years and it also provides information on internal openings (e.g., office openings and cabin crew member openings) to encourage employees to learn in another field. The Company also organizes training programs from time to time and unit supervisors/colleagues serve as instructors to share their professional knowledge. Tigerair Taiwan also provides an online learning platform to create a diversified learning environment, which demonstrate its commitment to talents.

Employee Turnover Rate of CAL Group from 2020-2022



Employee Retention

Periodic Performance Evaluations Conducted on a Fair and Objective Basis

CAL conducts an employee performance evaluation three times a year. Except for employees who have worked for less than a certain period of time, all employees are covered in the performance evaluation. Apart from evaluations on general performance, core function assessment indicators and approaches are also adopted based on each employee's professional characteristics and in consideration of the actual working conditions of the employee under evaluation. To all managerial levels, a specific annual Management by objectives (MBO) framework has been established based on CAL's business strategies in addition to job assessment indicators.

To make the assessment process impartial and objective, each employee is evaluated by several supervisors, and performance grades are also allocated according to different job rankings. In addition, to ensure that the performance evaluation provides employees positive feedback and assistance and facilitates

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communication and interaction between supervisors and employees, interviews are also included in the performance evaluation.

For flight attendants, besides the evaluations mentioned above, two-way performance feedback has been also adopted. Flight attendants who have worked for more than one year are evaluated and assigned ratings based on their attendance, reward / disciplinary actions, and performance within a reasonable range and based on employee classification to avoid subjective impressions which could detract from the impartiality of the performance evaluation.

Sound Remuneration System

Every year, CAL offers employees reasonable remuneration packages, related benefits, and insurance coverage based on CAL’s overall salary policy and earnings. Performance-based salary adjustments and promotions are also possible for employees with outstanding performance, ensuring that the promotion process is conducted in accordance with the principles of transparency and fairness. In addition, we provide various types of allowances and benefits (such as dividends, education and training, employee stock options, concessional airfares, and work allowances) and flexible benefit programs (such as retirement packages) to meet employees’ various needs. Apart from enhancing the bond between employees and the management, this arrangement can also raise employee satisfaction and retention rates.



2-4-3 Employee Development (GRI 404-1)

Sound Training System and Framework Training Framework

CAL has established a sound training system and framework to train aviation professionals. We adopt diversified training methods, including on-site and online training courses, invest in training hardware and software. CAL values the functional development of employees and integrates fundamental aviation training with hands-on practice. In addition, CAL organizes management training and general aviation training in line with the Company’s development strategy for all managerial levels and employees with potential on a regular basis to improve their horizons and expertise, enhance their knowledge and skills, help employees with different expertise understand each other, and foster cooperation between units.

The Training Advisory Committee has been established to plan annual education and training activities for all employees based on training requirements in the CAL training framework. The primary strategic goal of CAL’s training and development program is to enhance employees’ job skills. We use the existing training framework to ensure that all employees are equipped with skills to perform their duties and job functions.

CAL as established the Talent Development Committee, chaired by the President, with senior vice presidents serving as members. The Talent Development Committee is responsible for regularly reviewing and improving training for potential talents. Each department refers potential talents to the Talent Development Committee, which then determines their qualifications and development paths. During training, potential talents are provided with appropriate job rotations and management skill training to build their management capacity and experience. In addition to the annual talent recommendations, CAL also selects talents from different levels and sets up management improvement courses and management training courses. CAL provides two-year courses based on the ranks of the employees to continue to enhance their management skills. CAL has always sought out and successfully trained many potential talents to serve as unit chiefs both at home and abroad. CAL will continue to provide them with opportunities to develop their careers, in hopes of achieving corporate sustainability.

In 2022, CAL invested about TWD 230 million in employee training and development (the average amount was approximately TWD 21,200). The total number of training

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hours (including onsite and online courses) totaled approximately 451,000 (the average number of hours per employee was approximately 38.76 hours), and the completion rate of training reached 96.00%. [Refer to Training Statistics of CAL Group Table in the ESG Data and Appendix](#)

Training Framework

Skill Type			Orientation Training	On-the-job Training	Advanced Training
	Strategic Skills	Abilities required for employees to perform projects according to CAL business strategies	Organized ad hoc based on CAL's business operations and strategic development needs		
	Professional Skills	Qualities and skills required to perform specific duties or tasks	Basic training for each professional position (flight operations / maintenance / service / ticketing / cargo)	- Model / class training - Annual retraining for each professional position	- Instructor training - Advanced job training (pilot in command / cabin manager / supervisor)
	Management Skills	Knowledge and skills required for managerial positions	New manager training	Management skill training	Executive training / seminars
	General Skills	Knowledge, skills, and conduct required for every employee	"CAL and me" orientation training	Career experience camp	General aviation management training

Note: In addition to the above training programs, CAL encourages employees to participate in work-related trainings organized by the Ministry of Labor's Workforce Development Agency, by offering training allowances to employees who pay tuition at their own expense (20% of the full tuition).

Sound Internal Recruitment and Rotation System

CAL is committed to upholding the principle of assigning each staff member to an appropriate position. We offer regular job rotations and internal training courses to support employees' diverse development. Each department determines whether to rotate employees based on their labor needs. CAL has established an internal recruitment system, so that employees can participate in the selection processes in accordance with their wishes and career plans. This allows CAL to utilize its human resources in a flexible manner and ensures that employees are assigned to the most suitable positions, resulting in a win-win situation for both parties. The internal hiring rate this year (2022) was 59.80% which is higher than 2021 due to the gradually recovering business operation.

To utilize management with flexibility and to ensure that they are assigned to the most appropriate positions with improved competency, CAL conducts a management review and rotation evaluation on a regular basis. Managers working in domestic departments and outstations or joint venture companies for three years will be included in the management review and rotation evaluation based on relevant regulations.

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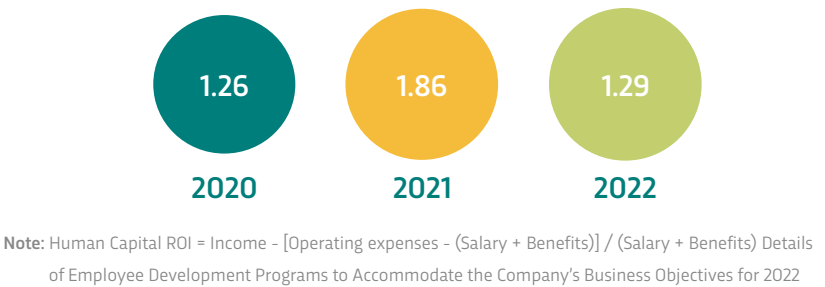
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Human Capital ROI

Through education and training, employees can grow along with CAL's strategic and business goals. Corporate assets will also accumulate in value and provide CAL with a solid foundation for sustainable development. CAL has recently adopted the Human Capital Return on Investment (HCROI) metric as a benchmark tool. In addition to estimating earnings from investing in human capital, the metric can also be included in Company's long-term performance indicators. Due to the impact to operational expenses of inflation (fuel prices are included) and changes from passenger / cargo proportion, the ROI in 2022 is lower than 2021, but slightly higher than 2020.

Human Capital ROI



Details of Employee Development Programs to Accommodate the Company's Business Objectives for 2022

Employee Development Program	Business Benefits	Quantitative Impact of Business Benefits	Proportion of Total Employees Participation in the Program
Training for Increasing Cargo Revenue - Strengthen cargo operation personnel's related cargo transport professional knowledge to support the continuous introduction of new 777 cargo aircrafts - Increase the number of flight crew members for 777 cargo aircrafts(Training investment: around TWD 26.56 million)	Enhance cargo marketing effectiveness and fleet capacity to increase revenue from cargo aircrafts	777 cargo aircraft revenue for 2022 increased by TWD 4.886 billion compared to 2021	0.7%
Strengthen Passenger Services Enhance cabin crew service training in response to the gradual restoration of operations after the pandemic subsides. (Training investment: around TWD 52 thousand)	Improve operational safety and service quality to increase passenger satisfaction and willingness to fly with us again	Increased cabin crew satisfaction rate by 0.2% in 2022 compared to 2021 (93.0% to 93.2%)	10.2%

Industry-Academia Collaboration

CAL has a wealth of practical experience sound aviation training facilities and courses. We actively support the "Industry-Academia Collaboration for Technical Colleges and Universities and Talent Cultivation" initiative promoted by the Ministry of Education and we have promoted the campus talent development program since 2013. CAL has cooperated with colleges and universities nationwide to offer internship programs that last for six months to one year in a wide variety of fields. CAL also offers interns scholarships and allowances and arranges training courses for them. To start an internship, interns are required to pass the training courses first. CAL will continue to strengthen industry-academia collaboration and provide students with opportunities to gain aviation expertise and make their career plans, and thus help CAL recruit potential talents. As a result of the pandemic in 2022 and as most sites for internships are located in the vicinity of airport operations, CAL only accepted one intern for education technology and visual design (Tamkang University) in 2022. CAL restored ground service internships (49 students / 14 schools) in the second half of 2022 when the pandemic subsided. We will continue to restore operations based on changes in the pandemic. Mandarin Airlines organized industry-academia collaboration (14 students / 6 schools) in 2022.

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Continuous Support for TALENT in Taiwan

To strengthen the sustainable competitiveness of talents in Taiwanese society and support the talents with global companies, CAL announced that we will continue to support “TALENT in Taiwan” on March 6, 2023 to jointly promote sustainable talent development with “Common Wealth Learning” and multiple companies in Taiwan. CAL is committed to strengthening company products and services, continuing to provide professional training that covers all fields of expertise, and passing on the Company’s culture and values based on the Company’s business strategy. In support of the “diversity, equity, and inclusion” initiative advocated by TALENT in Taiwan in 2023, CAL’s annual training focuses on “sustainability, care, and harmony”. We planned courses related to inter-generational harmony in hopes of encouraging employees of all generations to work and prosper together, maximize teamwork, and support the Company’s sustainable development. We hope to use the project of hope for talent development to develop every worker, strengthen their professional skills, and create better career development and a brighter future.



CAL joins TALENT in Taiwan

2-4-4 Employee Rights (GRI 2-21, 2-30, 201-3, 401-2, 401-3, 402-1, 405-2)

CAL attaches great importance to the opinions and well-being of our employees. In addition to regular reviews of employees’ salary and benefit and labor-management meetings, CAL has established a number of communication channels and activities to enhance cohesion. CAL also respects the independence of labor unions in accordance with the law and promotes positive communication with labor unions.

Employee Care

Salary and Benefits

CAL firmly believes that employees are the most valuable assets and that it is important to protect both employee benefits and shareholders’ equity. For these

reasons, CAL provides competitive salaries and benefits for all employees. The salary and benefit package of each employee will not differ according to gender, race, religion, political affiliation, or marital status. Whenever the minimum wage of a particular global location is raised, we promptly review our salary standards and make necessary adjustments in a timely manner. In 2022, CAL’s average salary increase was 4.4%. Employees who are required to work overtime due to the nature of their employment received reasonable overtime pay in accordance with regulations. No employee was forced to work against his or her will.

Male / Female Salary Ratio of CAL Group in 2022 (Female Salary is 1)

Company	Category	Base Salary	Bonus	Remuneration
	Business Operations	1.17	1.05	1.09
	Flight and Cabin Crews	1.12	1.00	1.05
	Maintenance Personnel	1.09	1.00	1.03
	Others	1.16	1.02	1.08
	Business Operations	1.02	1.13	1.08
	Flight and Cabin Crews	1.56	3.49	2.77
	Maintenance Personnel	1.32	1.68	1.50
	Others	1.11	1.26	1.18
	Business Operations	1.30	1.57	1.37
	Flight and Cabin Crews	3.4	2.49	3.19
	Maintenance Personnel	1.31	3.69	1.72
	Others	1.39	2.06	1.60

Note 1: Remuneration = base salary + bonus

Note 2: Female salary is 1 in this Salary Ratio Table.

Note 3: Flight and cabin crews: Flight and cabin crews include pilots and flight attendants, pilots were mostly male, while flight attendants were mostly female. Pilots’ salaries are higher than flight attendants’, resulting in a large difference in the male / female salary ratios. Others: others include executives higher than the rank of vice president, auditors, accountants, information technology personnel, and other employees that are not within the aforesaid categories.

Note 4: Base salary: Basic pay; bonus: pay outside base pay.

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In accordance with the Taiwan Stock Exchange Corporation Rules Governing the Preparation and Filing of Corporate Social Responsibility Reports by TWSE Listed Companies, the Company disclosed its number of full-time employees not in a managerial position as 9,543 in 2022, a decrease of 225 from the previous year. The total salary of full-time employees not in a managerial position was TWD 15,632.80 million, an decrease of TWD 1,331.31 million year-over-year, the average salary of full-time employees not in a managerial position was TWD 1.64 million in 2022, an decrease of TWD 0.09 million, and the median salary of full-time employees not in a managerial position was TWD 1.16 million in 2022, an decrease of TWD 0.08 million. About Annual total compensation ratio in 2022, please refer to the Appendix.

Full-time Employees not in a Managerial Position	Numerical Value	Difference from the Previous Year
Number of people	9,543	▼ 267
Total Salary (TWD million)	15,632.80	▼ 1,331.31
Average Salary (TWD million)	1.64	▼ 0.09
Median Salary (TWD million)	1.16	▼ 0.08

Note: Please refer to the Appendix for more information on [the gender pay gap analysis](#).

Pension Scheme

CAL attaches great importance to the rights and interests of our employees. CAL reports the management of the pension reserve fund to the Labor Pension Reserve Supervisory Committee on a quarterly basis. Prior to the end of each year, CAL allocates the amount required for the following year based on actuarial calculations and relevant laws and regulations. In terms of allocation rates, the rate for the new labor retirement plan is 6%; the rate for the old labor retirement plan is 15%, which reaches the

statutory upper limit, and this amounts have been fully allocated in accordance with Paragraph 2, Article 56 of the Labor Standards Act to ensure that employees receive the retirement benefits to which they are entitled.

Salary, Benefits and Pension Reserve Fund of CAL Group in 2022

(Unit: TWD million)

Company	Item	2020	2021	2022
	Salary	13,659	13,660	17,372
	Benefits	261	216	197
	Pension Reserve Fund	6,241	6,514	7,437
	Salary	850	896	700
	Benefits	3.69	2.48	3.6
	Pension Reserve Fund	390	436	400
	Salary	720	519	527
	Benefits	4.29	3.31	2.15
	Pension Reserve Fund	1.54	0.86	0.62

Note 1: Benefits offered by CAL / Mandarin Airlines included travel allowances, allowances for the elderly, scholarships for employees' children, Labor Day gift money, spring parties, and anniversary expenses.

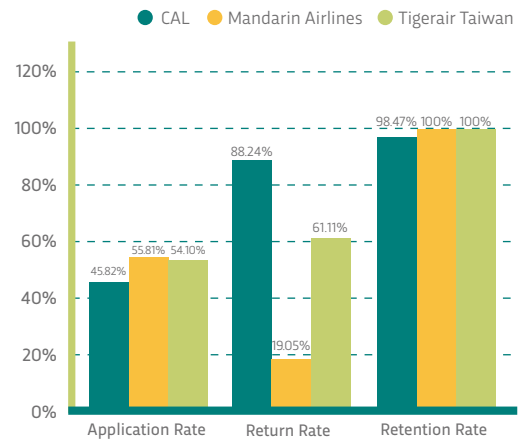
Note 2: Benefits offered by Tigerair Taiwan included travel subsidies, club allowances, birthday cash gifts, Mid-Autumn Festival and Dragon Boat Festival gift vouchers, spring parties, and family day activities.

Unpaid Parental Leave

CAL has set up a sound unpaid parental leave system, allowing employees to take care of their families while retaining their positions with CAL. Moreover, In addition to the 8-week maternity leave with pay for employees before and after childbirth, they can also apply for 5 days (7 days from 2023) paid paternity leave before and after their spouses' childbirth. If the period of paternity leave coincides with a business trip or a regular day off or public holiday, paternity leave may be taken within 15 days following the business trip or holiday. CAL offers better leave than that stipulated in the Gender Equality in Employment Act.

Refer to [The Appendix Unpaid Parental Leave of CAL Group Tables](#)

Unpaid Parental Leave of CAL Group in 2022



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Benefits for CAL Employees

Superior to Regulations

	Unpaid Leave Care for Family Members Applicable when an employee's spouse or direct relative is seriously ill or when necessary. Illness Applicable when an employee is seriously ill and has not recovered after taking relevant leave in accordance with regulations. Joining Family on Overseas Assignment When an employee is assigned overseas, his/her dependents in the Company may apply for unpaid leave. Advanced Education All employees, regardless of school or discipline, must be enrolled in a discipline that is relevant to their current position or meets the needs of the company and is recognized by the Ministry of Education of the Republic of China.	✓
	Benefits and Compensatory Leave Ground service personnel are provided with seven days of additional leave each year as benefits for the seven national holidays that are commemorated but are not days off.	✓
	Paid Sick Leave The employee shall receive full salary for the first 5 days of sick leave without hospitalization each year; the employee shall receive half the salary from the 6th to 30th day. The employee shall receive full salary for sick leave with hospitalization for up to 45 days.	✓
	Year-end Bonuses / Dividends At the end of each year, a year-end bonus is allocated from CAL earnings. Employee dividends are also distributed in accordance with employee performance and CAL's yearly management goals, performance and CAL's yearly management goals.	✓
	CAL Retiree Association CAL has assisted its retirees and employees in establishing the CAL Retiree Association. The Retiree Association organizes quarterly activities to promote interchange between retirees. CAL also offers grants to the Retiree Association to provide positive assistance and encouragement.	✓
	Employee Benefits Employee benefits include wedding cash gifts, childbirth cash gifts, disaster subsidies, travel allowances, scholarships, allowances for the elderly, emergency loans, birthday cash gifts, Labor Day gift vouchers / cash gifts, and allowances for funerals.	✓
	Annual Leave Scheme CAL offers annual leave better than that stipulated in the Labor Standards Act.	✓
	Childcare CAL has entered into preferential childcare contracts with 9 daycare centers across Taiwan to assist employees with childcare arrangements.	✓
	Breastfeeding Environment CAL provides friendly and welcoming breastfeeding (collection) rooms at the workplace to create a comfortable breastfeeding (collection) environment. For female employees who are pregnant or less than 1 year after giving birth, CAL provides guidance on doctor interviews, work suitability assessments, and hazard control suggestions.	

Superior to Regulations

	Group Health Insurance Group health insurance covers medical, accident and serious illness insurance. Dependents may also be enrolled in the group insurance scheme at favorable rates.	✓
	Commuting Apart from regular commuter shuttles at fixed sites, there are also shuttle buses for shift workers, cabin crew members, and employees with disabilities stretching from Keelung, Taipei City and New Taipei City to Taoyuan and Zhongli.	✓
	Flexible Work Hours Ground employees in CAL Park who do not use the shuttle buses may, with the approval of their supervisor, apply for flexible work hours (up to one hour each day). Each application must be for a duration of at least three months.	✓
	Concessional Flight Tickets Employees and their dependents enjoy free and concessional flight tickets on CAL flights and code-shared concessional flight tickets from other airlines.	✓
	Employee Stock Ownership Trust Participation is voluntary. For employees who agree to join the employee stock ownership trust, a fixed amount is deducted from their monthly salary based on their pay grade.	✓
	Resignation Program Employees are eligible for CAL's resignation benefits if they apply for resignation after 10 years of service and meet the requirements.	✓
	Psychological Counseling The Company provides psychological counseling services to take care of the needs (such as coping with work stress) of employees, promote their growth, and increase their work satisfaction.	✓
	Health Examination The inspection items and frequency of health examinations provided by the Company are superior to regulatory requirements. All employees (except for flight crew members and level 1 managers and deputies) receive health examinations once every two years. Taiwanese cabin crew, employees that work on shifts (with 60 days or more night shifts/year), ground service crew above the age of 35 and employed for at least one year receive a health examination each year. CAL also has setup a health management system for employee to track health examination results and arrange health counseling if need. For employees who has been identified as high risk in health, CAL will actively inform them and arrange health counseling.	✓
	Work from Home The Company issues notices for the implementation of work from home plans in response to major outbreaks of the pandemic and terminates such plans based on the development of the pandemic.	
	Sport Initiatives CAL has sports facilities such as basketball courts, badminton courts, and fitness rooms in the Songshan Park. The Employee Welfare Committee also organizes sports competitions such as softball, basketball, and badminton to encourage everyone to exercise, and also provides subsidies for sports club activities.	✓

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Employee Communication

Each and every employee matters to CAL. We maintain multiple channels of communication with our employees, such as regularly scheduled labor-management meetings, and strive to find solutions to problems. We have established an employee care mailbox, a sexual harassment mailbox with an associated grievance hotline, and also a “Speak Your Mind” employee communication mailbox. In addition, our Team+ internal company messaging software enables employees to express their opinions and make suggestions at any time. When facing significant operational changes that will affect employees, CAL gives notice in compliance with relevant labor regulations and promptly communicates with labor unions and employees. Information on material issues and employee rights is made available on CAL’s website or e-mailed to all employees. When employees express concerns about certain internal regulations or practices, CAL seeks to clarify the issue and communicate with the employees more frequently.



Diverse employee communication channels



1. Labor-management Meetings:
The head office holds regular meetings with representatives of the CAEU and all front-line units also convene meetings with the respective branches of the union.



2. Supervisor Mailbox:
CAL encourages employees to express opinions and give suggestions through the level 1 manager mailbox.



3. “Speak Your Mind” Employee Portal:
CAL encourages employees to express opinions and give suggestions through the “Speak Your Mind” Employee Portal on the Intranet.



4. wecare@china-airlines.com e-mail and hotline:
The Human Resources Division has set up a dedicated mailbox and hotline to provide employees with grievance channels and protect employee rights and interests.



5. Sexual Harassment Complaint Mailbox:
The Human Resources Division has set up a confidential mailbox and assigned personnel to process cases.



6. Team+
This internal company messaging system is offered to employees for free, to facilitate two-way communication and instant reporting to supervisors.

Note: In the event of a mass redundancy due to a major change in operations, CAL shall process related matters in accordance with the Act for Worker Protection of Mass Redundancy. Under general conditions, CAL shall, at least 60 days prior to the occurrence of the mass redundancy, inform the competent authority and other relevant agencies or personnel of its redundancy plan and announce it by publishing an announcement.

Labor Unions (GRI 102-41)

CAL cooperates with different labor unions and remains committed to communication and negotiation. We also show the same respect to all unions in accordance with law. As CAL continues to communicate with labor unions, CAL did not have any major labor disputes or strikes in 2022. In particular, the China Airlines Employees Union (CAEU), which has the highest participation rate of CAL employees, is a nationwide trade union of the aviation industry and a member of the Taiwan Confederation of Trade Unions. There are six subordinate branches under CAEU, which are classified based on the location of members / business:

- Branch 1:** Divisions in Head Office
- Branch 2:** Flight Operations Division
- Branch 3:** Cabin Crew Division and In-flight Supply Chain & Marketing Division
- Branch 4:** Maintenance Division, Engineering Division, and Quality Assurance Division
- Branch 5:** Taipei Branch, Ground Service Division, and Cargo Sales, Marketing & Service Division
- Branch 6:** Kaohsiung Branch

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There are six subordinate branches within the Mandarin Airlines Employees Union (MDAEU):

- Branch 1:** Divisions in Taipei Head Office
- Branch 2:** Flight Operations Division and Operation Control Center
- Branch 3:** Inflight Services Department
- Branch 4:** Customer Service Division (Taipei, Kinmen, and Taitung)
- Branch 5:** Engineering & Maintenance Division
- Branch 6:** Customer Service Division (Taichung, Magong, Hualien, and Kaohsiung)

All employees of CAL, with the exception of the senior managers as stipulated in the union constitution, have joined the China Airlines Employees Union, and are governed by a collective agreement signed by both parties in 2002. The collective bargaining agreement was the first in the domestic aviation industry and the parties renewed the agreement for the sixth time on December 16, 2021. After CAL concluded negotiations with the Pilots Union Taoyuan, they signed a collective bargaining agreement on December 29, 2021 In January 2017, Mandarin Airlines entered into a collective bargaining agreement with the Employees Union. The agreement includes union assistance, labor-management cooperation, dispute resolution, employment and termination, working hours, leave and vacation, salary, allowances and bonuses, personnel transfers, rewards, disciplinary actions, benefits, training, and occupational safety and health clauses. The parties negotiate the renewal of the agreement every three years. Due to the continuation of a collective bargaining agreement before labor and management renew the contract, the stipulations concerning working conditions in the collective

agreement remain applicable in accordance with the law during the transition period.

CAL / Mandarin Airlines cooperates and communicates with CAEU/MDAEU through various channels as a partner and based on mutual dependence, and the two parties have established various channels of communication over the years. All resolutions will be handled once they are reported. In addition, meeting minutes taken at labor-management meetings held at the Head Office are published and made available to all employees on CAL's website / Mandarin Airlines' website. CAL / Mandarin Airlines is dedicated to maintaining harmonious labor-management relations through open, efficient channels of communication. In 2022, due to the pandemic, CAL and the CAEU reached an agreement to hold two labor-management meetings in writing at the beginning of the year when the Company was affected by the pandemic. A total of six meetings were held throughout the year to take into account both labor-management communication and joint pandemic prevention. Mandarin Airlines and MDAEU convened labor-management meetings each quarter in accordance with laws and convened four meetings in 2022.

Union Participation Rate of CAL and Mandarin Airlines

Company	Item	2020	2021	2022
	Number of Participants	9,811	9,526	9,382
	Participation Rate	99.43%	99.41%	98.41%
	Number of Participants	852	797	747
	Participation Rate	96.49%	99.75%	99.34%

- Note 1:** The number of CAL participants refers to the number of people being members of CAEU in the year (including employees in Taiwan); hourly-basis employees, interns, contracted employees, and executives higher than the rank of vice president are not included.
- Note 2:** The number of Mandarin Airlines participants refers to the number of people being members of MDAEU in the year (including employees in Taiwan below the rank of vice president (inclusive) and expatriate executives in Mainland China); temporary employees (interns), executives transferred from CAL, and employees in Mainland China are not included.
- Note 3:** Tigerair Taiwan does not have a labor union currently.
- Note 4:** The collective bargaining coverage rate of CAL / Mandarin Airlines is equal to the labor union participation rate.

Employee Engagement

CAL has established diversified and unobstructed communication channels to listen to employees' suggestions attentively in line with its belief that employees are the Company's most important asset. Through an employee satisfaction survey, CAL understood employees' opinions of and needs for the Company and each unit, which served as a reference for CAL to provide a stable work environment. This would further increase employees' work efficiency and create a virtuous circle-based excellent corporate culture. CAL conducted the employee engagement survey from December 5 to 23, 2022 by appointing a professional consulting company to organize an anonymous online questionnaire survey. The survey covered seven major dimensions, including corporate culture, leadership, job & career, employee engagement, work environment, compensation and benefits, and COVID-19. In the Questionnaire, we have the question which corresponding to job satisfaction, Purpose, Happiness, and Stress such as "Overall, I am satisfied with my current job", "My performance goals are clearly set to define what I am

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expected to achieve in my job”, “My coworkers and I have a good working relationship.”, “My working requirements and schedule allows me to balance work and personal life.”, etc. There were 5,057 effective questionnaires (the effective response rate was 57.9% with 2,518 male respondents who accounted for 49.8% and 2,539 female respondents who accounted for 50.2%). According to the results of the survey, the employees’ overall approval was highest for compensation and benefits. It was followed by employee engagement, corporate culture, connection with the Company during the COVID-19 pandemic, job & career, leadership, and the work environment. The overall score was 7.8 points, which was a significant increase compared to 6.4 points in 2019, particularly for compensation and benefits.

As the pandemic devastated the global aviation industry, CAL used the employee engagement survey to learn whether employees received the Company’s support during the pandemic and find out whether employees’ career plans have been changed by the pandemic. CAL also wanted to learn about the impact of the pandemic on employees’ willingness to be assigned to foreign branches and affiliates, and therefore conducted a survey of eligible managers and employees in non-supervisory roles in 2022 on their willingness to be assigned overseas. The response rate was 100%. Overall, 55% of the surveyed employees are willing to be assigned to overseas branches and 62% of the surveyed employees are willing to work in domestic affiliates. A more in-depth analysis of the management showed that 65% of the managers are willing to work in foreign branches and 83% of the managers are willing to work in domestic affiliates. The results showed that despite the pandemic and the mounting challenging employees

must face when they are assigned to overseas branches or affiliates, more than half of the employees are willing to accept new challenges for CAL and management personnel are also supportive. It is evident that the work ethics of CAL employees are not affected by the pandemic and they will stay with the Company through the difficulties.

CAL hopes to use the two types of surveys to learn about employees’ thoughts about the Company and their career development. We aim to work with employees to create a more harmonious, healthy, and sustainable company.



Protection of Employees' Rights during the COVID-19 Pandemic

The impact of the COVID-19 pandemic persisted in 2022 and caused significant losses to the global aviation industry. To take good care of its employees, CAL continues to implement policies to streamline manpower (temporary hiring freeze, relaxation of regulations on suspension of work without pay, manpower adjustments, and special project leave) with the joint efforts of labor and management. CAL also actively supports the government’s disease prevention policies, encourages employees to vaccinate, and provides necessary support (e.g., half a day of official leave on the day of each COVID-19 vaccination and allowing employees to take vaccination leave if they feel unwell within 3 days after the vaccination) and measures for separating employees in the office or work from home to protect employee health and ensure safety at the workplace.

2-4-5 Healthy and Safe Workplace (GRI 403-1, 403-2, 403-8, 403-9, 403-10)

CAL adhere to the belief of “respect life, safety first”, according to the international certification standard ISO45001, discussed with labor representatives and signed by the chairman and general manager, the “Occupational Safety and Health Policy” was announced on December 1, 2016 and reviewed every year. The “Occupational Safety and Health Policy” was applicable to all employees, contracted employees, outsourced manpower and contractors in its own operations. CAL has established an Occupational Safety and Health Committee in accordance with law. The committee is tasked with the objective of preventing occupational hazards and protecting the safety and health of all employees by reviewing, coordinating, and making recommendations pertaining to safety and health related matters. The President acts as the chairperson. One deputy chairperson and one executive secretary are appointed. Members consist of vice presidents, occupational health and safety employees, engineers, and medical personnel from the designated divisions / departments as well as representatives appointed by labor unions. A meeting is held once every three months to review and analyze occupational incidents. All incidents are followed up and reported to the management so that related health management solutions can be subsequently developed. In 2022, one safety and health proposal was reviewed and discussed, which has been closed. Meeting minutes were published on the EIP website. A total of 144 occupational safety issues were reported, and all 144 were improved and closed with an achievement rate of 100%.

Occupational Safety and
Health Policy



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Five Major Goals of CAL's Occupational Safety and Health

Comprehensive occupational safety and health management system
Reinforce the corporate safety culture and enhance personnel's safety awareness
Enforce risk management mechanism and effectively resolve threats
Strengthen safety and health education & training to reduce incidence of occupational injury
Build a safe, healthy and comfortable working environment

Proportion of Labor Representatives in Occupational Health and Safety (Unit: %)

Company		2020 (%)	2021 (%)	2022 (%)	2022 Number of Labor Representatives	2022 Total Number of Committee Members
	Taipei Branch	36.36	36.36	36.36	4	11
	Taoyuan	37.73	37.73	37.73	20	53
	Kaohsiung Branch	37.5	37.5	35.29	6	17
	EMO Park	34.78	34.78	34.78	8	23
		33.33	33.33	33.33	5	15
		41.18	41.17	36.84	7	19

Note: Labor representative proportion = (Occupational Health and Safety Committee labor representatives / Occupational Health and Safety Committee total members) × 100%.

Dual International Certification of Occupational Health and Safety

To implement safety and health management more efficiently, systematically, and in accordance with both international trends and domestic and foreign standards, CAL has established an independent safety and health management system and enhanced risk controls in line with international standards. In 2015, CAL formulated Occupational Safety and Health Management Manual (including emergency preparedness and response procedures, health risk and opportunity management procedure, safety and health performance monitoring and measurement procedures, management procedures for corrective and preventive measures of safety and health non-conformities, safety and health internal audit management procedures, regulations on notification of occupational accidents, occupational accident investigation and management procedures, occupational accident identification and operation assistance measures, safety and health education and training management procedures, procurement safety and health management procedures, contractor safety and health management procedures, etc.). CAL obtained OHSAS 18001 and TOSHMS certification since 2016 and 2018. In 2019, we converted to ISO 45001:2018, CNS 45001:2018, and TOSHMS certifications and continued to receive regular follow-up audits. Through the risk management mechanism, risk classification management is carried out according to each type of operation and job category into the following three categories:

Category	Hazard Risk Classification	Job Type (Examples)
Category 1	Significant Occupational Risk	Flight crew, cabin crew, cargo loading personnel
Category 2	Moderate Occupational Risk	Engineering personnel, machinery and equipment operators
Category 3	Low Occupational Risk	Office administrators

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We have completed the set-up of safety and health officers and on-the-job training for each unit, including how to conduct workplace hazard identification, risk classification, how to create management plans, and occupational hazard identification process. We also provide guidance to units at all levels on risk assessment as well as prevention and improvement. In addition, according to the five major operational elements of the Occupational Health and Safety management system and its related implementation, we will effectively control the risk of occupational hazards through regular audits, improve the management of occupational disease prevention, enhance the performance of occupational safety and health management, and implement the occupational safety policy to ensure that employees can work in a safe, healthy, and comfortable work environment.

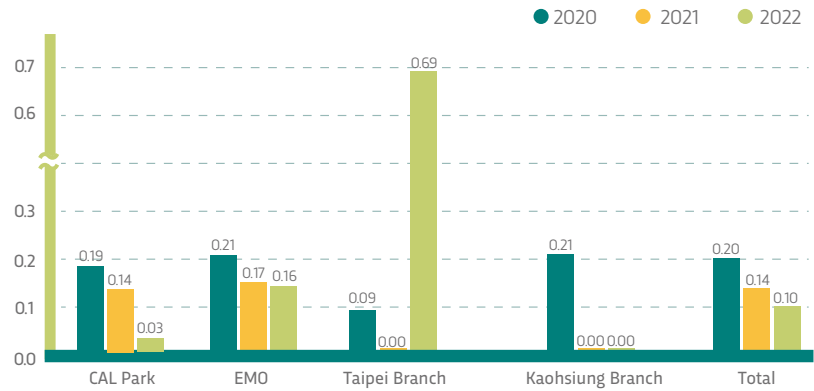
A total of 1,611 safety and health physical inspections were conducted at each work site, and 99 faults were found, all of which were coordinated with the relevant units for improvement. The internal audit of each unit is performed once a year, and the external audit is entrusted to SGS once a year.

Enhancing Operational Safety and Implementing Risk Control over Occupational Health and Safety Management

In 2022, the disabling injury frequency rate (FR) was 0.72; the disabling injury severity rate (SR) was 15; the frequency-severity indicator (FSI) was 0.10; and the absence rate was 1.05%. According to analysis, most occupational hazard incidents were caused by unsafe employee conduct. However, CAL's FR and SR were lower than the air transport industry average FR (1.37), SR (28), and FSI (0.19) in Taiwan from 2020 to 2022. There were no occupational hazard incidents and the Company conducted investigations with labor representatives in accordance with laws, implement risk assessments, and manage improvement measures. No student occupational hazard incidents in industry-academia collaboration programs or summer internship programs were reported at CAL workplaces. The Company had 117 contracted employees (non-workers) and 1 such employee had an accident involving falling. The Company had 166 contractors, of which 1 had a burn and 1 had an electric shock. They have returned to work and there were zero fatalities. We will continue to implement the promotion of occupational hazard prevention and related education and training.

Refer to [Comparing the Frequency-severity Indicator and Occupational Injury Statistics Over the Past 3 Years](#)
Refer to [Occupational Hazards Statistics of CAL Group](#)

Comparing the Frequency-Severity Indicator (FSI) Over the Past 3 Years



Strengthening Epidemic Prevention Measures in Response to Emerging Epidemics



1. Establishment of Emergency Response Mechanisms

In response to the outbreak of new diseases in recent years and to avoid uncertainties in future pandemics, the Company has established hierarchical mobilization mechanisms between different units, a command system, and operating procedures to integrate relevant units for collective response. We remind our employees to be alert and activate our response mechanisms in accordance with the severity of pandemics at any given time. The Corporate Safety Office also organizes preventive actions and convenes ad hoc disease prevention meetings. In response to the intensification of the COVID-19 epidemic starting in April 2022, CAL's commander in chief of epidemic prevention, the President (or Acting Senior Vice President) convened weekly epidemic prevention till November 2022. Vice presidents, occupational safety personnel, and managers of medical service units attended the meetings to formulate plans and implement the epidemic prevention measures announced by the Central Epidemic Command Center of the Executive Yuan. CAL encouraged employees to receive four vaccinations and implement flexible response.

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2. Increase Risk Management Awareness

We set up a health management reporting system for employees with higher exposure risk levels (flight crew members). We also created a pandemic management system for tracking, a vaccine registration system for managing employees' COVID-19 vaccination, rapid screening mechanisms for preventing the spread of the disease, adjustments to office or business travel, strengthened disease prevention education, and establishment of cooperation mechanisms with relevant departments. We set up a Team+ group contact platform to connect different units and ensure the supply of consistent information. We activated multiple channels to provide real-time information, and encouraged employees with fever or acute respiratory symptoms to rest at home until their symptoms subside before returning to work. We strengthened the coordination and control mechanisms of internal units through statistical analysis of relevant data, and strengthened the management of epidemic prevention actions.



3. Starting from May 2022, CAL prepared Edition 1 to Edition 13 of the CAL Epidemic Prevention Strategy for public announcement. The contents included principles handling confirmed cases, timing for PCR tests, cases confirmed by doctor diagnosis after a positive result in rapid test, how to apply for the digital health certificate, epidemic prevention leave regulations, and updated information for Taipei City, New Taipei City, Taoyuan City, and Kaohsiung City.

We aimed to provide employees with accurate and updated epidemic prevention information to help calm employees with confirmed infections and help them obtain medical care and regain their health.



4. Enhance Hazard Prevention Knowledge Against Biological Agents

We organized training programs for preventing infections for all employees and provided training on the correct use of personal protective equipment for employees with higher risk of exposure. We required contractors to strengthen disease prevention, COVID-19 vaccination, rapid screening mechanisms, and anomaly reports. We strengthened self-management measures such as temperature measurement and recordkeeping, maintaining indoor ventilation and

regular replacement of filters, disinfection of the workplace, sanitation and health education, and personal protective equipment.



5. Management of Epidemic Prevention Supplies

Management, procurement, distribution, safe stock quantity, and storage is standardized by a dedicated unit.



6. Mental Health Support / Employee Assistance Program

Provide epidemic prevention care kits and related assistance measures to employees (crew members) with higher exposure risk level; proactive care.



7. CAL established the "CAL Park Access Management Regulations for External Personnel during the Pandemic" and updated them whenever necessary. We required units to implement contractor/external personnel health management and strengthen the management of visitors and employees of contractors. We asked visitors to CAL Park to administer rapid tests if they have not yet received three vaccinations and implement self-health management



8. The Corporate Safety Office established the Business Continuity Plan (BCP) for self-management and complied with the border quarantine measures implemented by the Central Epidemic Command Center of the Executive Yuan since October 13, 2022. The "Principles for Crew Member Disease Prevention Health Management Measures of National Airline Companies" and "Guidelines for Personal Protective Equipment of On-duty Crew Members and Passenger Safety" were suspended. CAL gradually relaxed epidemic prevention measures and continued to promote self-health management for epidemic prevention to protect the health of employees, their family members, and their colleagues.

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Future Plans



1. Recruitment

In 2023, CAL will continue to recruit flight crew members, maintenance staff, and other relevant professionals in accordance with the recovery of operations, resume industry-academia collaboration, and continue to hire people with disabilities to fulfill our commitment to corporate social responsibility.



2. Diversification

Over the past three years, CAL's female employees have accounted for 48.00% of the total workforce. The 2023 target is also set at 48.00%. In terms of CAL's female managers, the proportion has increased year by year over the past three years. In 2023, the target is set at 25%.



3. Employee Training

2023 marks CAL's 63rd anniversary. In addition to strengthening company products and services, CAL will continue to provide professional training that covers all fields of expertise. Out of a desire to transmit our corporate culture and values, CAL will base our overall employee training goals on sustainability, care, and harmony, and plan general management courses for intergenerational communication, management seminars, and team building courses for management personnel; instructor, HR, and other specialist training courses; general courses for all employees on general aviation management and intergenerational communication. We will also continue to improve the management talent cultivation mechanisms to cultivate talents necessary for the Company's future development.

Mandarin Airlines established comprehensive training programs to increase the overall competitiveness of the Company, support the Company's overall strategic goals, comply with applicable laws and regulations, and train professional aviation talents. It uses online courses and other diverse learning methods to integrate fundamental aviation training with hands-on practice. Mandarin Airlines organizes management training and general aviation training in line with the Company's development strategy for all employees from time to time to enhance their knowledge and skills, help employees with different expertise understand each other, and foster cooperation between units.

Tigerair Taiwan attaches great importance to talent cultivation and has established a sound training system and framework to train aviation professionals. It also organizes basic aviation training based on employees' career development to integrate training with hands-on practice. Tigerair Taiwan also organizes management training and general aviation training in line with the Company's development strategy for all managerial levels and employees with potential from time to time to enhance employees' knowledge and skills. To encourage employees to broaden their horizons, the Company also organizes training programs from time to time and unit supervisors/colleagues serve as instructors. The programs help employees with different expertise understand each other and promotes cooperation between units. Tigerair Taiwan also provides an online learning platform to create a diversified learning environment.



4. Implementing Occupational Health and Safety Management System and Incorporating Occupational Safety and Health in Corporate Culture

The Head Office in Taoyuan has obtained OHSAS 18001 and TOSHMS certification since 2016 and 2018. In 2019, we converted to ISO 45001:2018, CNS 45001:2018, and TOSHMS certifications and continued to receive regular follow-up audits. The scope of re-inspections included aviation operation management as well as cargo and passenger services. The company also use risk management mechanisms to implement risk classification management according to each type of operation and job category to enhance operational safety and the risk management mechanisms for implementing safety and health planning, execution, audits, and improvements. In addition, the participation rate of employees' annual health checkup is over 70%, and the completion rate of health education for those with major abnormalities is over 80%. By consolidating safety awareness, concepts, and values, we encourage employees to actively acquire knowledge regarding safety, implement tiered safety and health management, implement onsite occupational safety and health management, and improve employees' safety and health competencies in their work ethics and conduct across the board. We seek to enhance the safety and health management system, and safety and health audits to reduce the occurrence of occupational hazards and provide employees with a safe, healthy, and secure workplace while ensuring epidemic prevention in the new era.

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HIGHLIGHTS



Over TWD 39.4 million in charity activities

CAL invested TWD 39,401,046 in charity activities in 2022.



10.8 million in donations

When the Russo-Ukrainian War broke out in 2022, CAL donated TWD 10 million in the name of the Group and the donation benefited approximately 4 million people. The TWD 800,000 in donations from the Pikachu Jet CI charity mini-tour was given to the Taiwan Fund for Children and Families and benefited approximately 50,000 people.



70,000 medical supplies transported

CAL transported relief supplies including 10,000 test kits and 60,000 masks to the people of Palau during the pandemic in 2022.



Over TWD 6.96 million in charity procurement

To support Taiwan's high-quality agricultural products and products of charity organizations, CAL purchased 2,443 cartons of pineapple sugar apples and 800 cartons of pomelos with a value of approximately TWD 2.11 million. CAL also purchased TWD 4.85 million in gift certificates of the Children Are Us Foundation to increase job opportunities and economic support.



Over 1,100 students

In 2022, the CAL Volunteers Club and Remote Rural Efforts Club voluntarily taught aviation courses in remote rural areas in full compliance with pandemic prevention regulations. The activities benefited 1,129 students.



370 senior citizens

Provided care for 370 disadvantaged senior citizens at three events in 2022.



7th time Reader's Digest Trusted Brand

Tigerair Taiwan, China Airlines Group's subsidiary, won the top Platinum Award in the low-cost carrier category from the Reader's Digest Trusted Brand for the seventh consecutive year.

Management Approach

Material Issues

- Social Feedback and Engagement

Importance of Material Issues

The support of the society is an indispensable and critical element for CAL's success. By upholding the core philosophy of "taking from society and giving back to society," CAL continues to contribute to society in the hope of creating love while fulfilling our corporate responsibility in Taiwan.

Commitment and Long-term Goals



• Commitment

CAL continues to fulfill our responsibility as a corporate citizen by investing resources in social welfare to mitigate social issues and improve society.



• Long-term Goals



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2023

1. Organize at least one education charity event in a remote rural area outside Taoyuan to expand the reach of charitable activities
2. Develop PR gifts in collaboration with indigenous peoples or local independent farmers and empower the disadvantaged to gain equal social opportunities

2025

1. Developing opportunities for students to receive international education
2. Promoting economic growth and employment assistance in underdeveloped areas / developing countries and improving social well-being

2030

1. Improving the quality of education in underdeveloped areas / developing countries
2. Enhancing the benefits of sponsorships regarding improving society

Unit in Charge

Corporate Sustainability Committee — Society Task Force

Management Mechanisms

- The meeting of Corporate Sustainability Committee, at least twice a year
- The Society Task Force reports to Corporate Sustainability Committee, every quarter

Grievance Mechanism

- Investor Relations and Media Contacts — Investors Service Website
- Charitable Activities: Corporate Communication Office E-Mail: tpepp@china-airlines.com



Stakeholder Contact



Investors Service Website

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Objectives and Plans

Direction	KPI	2022			2023
		Objectives	Performance	Achievement (Note 4)	Objectives
Enhance the overall quality of national education	Organize long-term education charity projects	Organize at least one education charity event in a remote rural area	CAL volunteers taught aviation courses in 5 nearby elementary schools and 3 junior high schools / elementary schools in remote rural areas in Taitung to spread truth, good, and beauty in society and empower children's growth. (Note 1)	100%	Organize at least one education charity event in a remote rural area outside Taoyuan to expand the reach of charitable activities
Raise Taiwan's visibility in the world	Increase the number of sponsoring international activities	Organize at least one charity event in collaboration with a local Taiwanese brand	CAL organized a charity basketball camp with the Taoyuan Pilots of P. LEAGUE+ CAL organized a charity baseball camp with baseball stars Wei-Yin Chen and Wei-Chung Wang. Both charitable activities involved the sharing of personal experience which encouraged young athletes to pursue their dreams with courage. (Note 2) CAL also continued to support international relief initiatives by transporting relief supplies to Palau and donations to Ukraine to help improve the health and benefits for Ukrainian refugees. (Note 3)	100%	Develop PR gifts in collaboration with indigenous peoples or local independent farmers and empower the disadvantaged to gain equal social opportunities
Empowering the disadvantaged to gain equal social opportunities	Increase level of sponsorship in charity events	Organizing at least one long-term charity project	In addition to the continuous participation and organization of 3 long-term charity projects in 2022, CAL also commenced a long-term charity project with the Taiwan Fund for Children and Families. CAL also increased purchases from independent farmers and charity organizations to increase the resources for sponsoring charity activities.	100%	

Note 1: In 2022, the CAL Volunteers Club organized volunteer teaching in 5 elementary schools in Taoyuan and 3 junior high schools/elementary schools in remote rural areas in Taitung to enrich the education and experience of children during the pandemic .

Note 2: CAL organized a charity basketball camp and a charity baseball camp with top athletes of local Taiwanese brands and used integrated marketing to enhance the benefits of their sponsorship and local connections.

Note 3: In 2022, CAL continued to participate in the events organized by the Huashan Social Welfare Foundation for the three traditional festivals. CAL also supported international relief initiatives by transporting relief supplies to Palau and participating in donations to Ukraine to create social value beyond its productivity.

Note 4: Achievement refers to the performance fulfillment percentage.

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2-5-1 Charity Strategy Blueprint

As a corporate citizen and as the leader of Taiwan's aviation industry, CAL commits itself to continuously creating social value as part of its sustainable development and gives back to society, and we remain committed to serving the society. As the COVID-19 pandemic gradually subsided in the second half of 2022, CAL supported the government's pandemic prevention regulations and continued the sustainable development strategies in past years including "Enhancing the Internationalization of Local Education", "Increasing the International Visibility of Local Brands", and "Empowering the Disadvantaged to Gain Equal Social Opportunities". CAL has always been committed to charitable activities for disadvantaged groups in remote rural areas, aviation knowledge education, and transportation of medical supplies or donations for international initiatives. We take real actions to support the United

Nations SDG3, SDG4, and SDG8 goals, promote local Taiwanese brands, support the international expansion of indigenous culture, create opportunities for international exchange of ideas, and create co-prosperity and common good with the society.



CAL Sustainable Development Strategy



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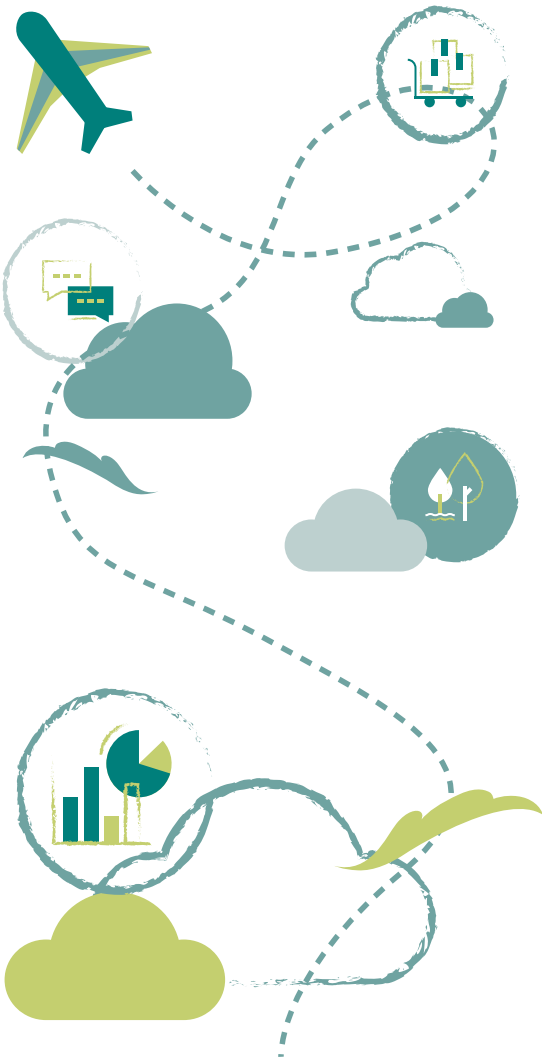
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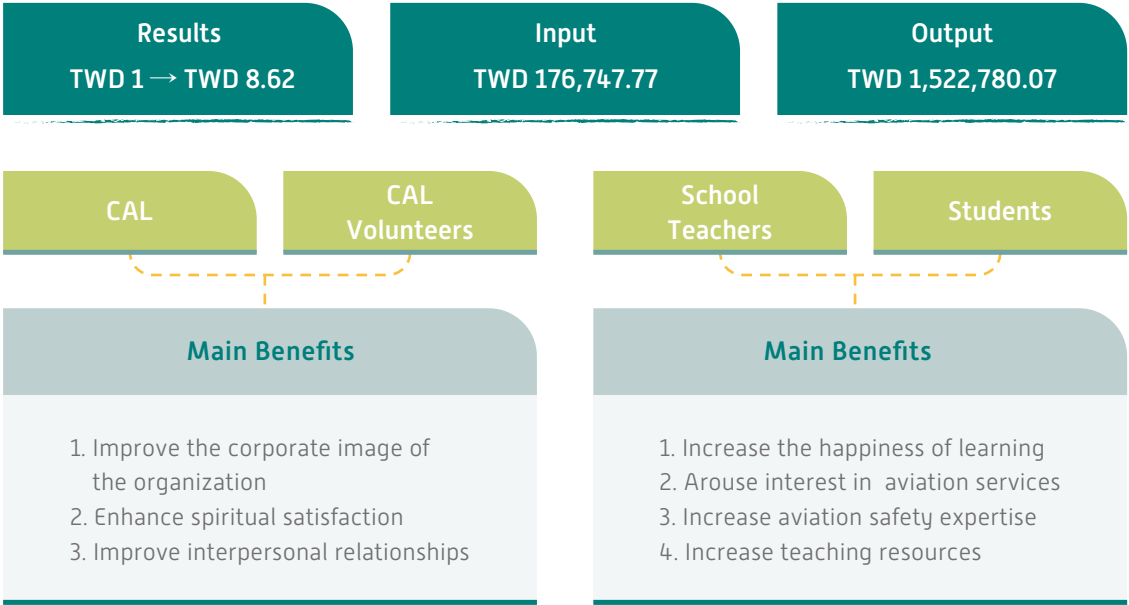


Creating a Sustainable Society

As the pandemic gradually subsided in 2022, CAL adjusted operations and gradually restored passenger flights. CAL remains committed to creating a sustainable society. We actively make the best use of our capacity to continue to connect Taiwan's economy to the world and support international initiatives. We also spare no effort in supporting social welfare and achieving our goals of creating a positive cycle of social and corporate development.

Social Investment Evaluation

Since 2015, CAL has adopted the London Benchmarking Group (LBG) model to analyze the effectiveness of social investment and quantify the influences of various resources invested in society and the business itself. CAL adopted the Social Return on Investment (SROI) model in 2019 to analyze the benefits of individual charity programs. CAL took the 2022 CAL volunteer teaching activity as the target for calculation. According to the SROI evaluation method, the calculation result of this activity is 8.62, which means that for every TWD 1 invested, TWD 8.62 of social benefit can be generated.



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For the contribution to social investments, CAL donated TWD 39,401,046 in 2022. Commercial initiatives, charitable events and community investments represented 43%, 37%, and 20% of our total social investment, respectively. Social investments

Types of Social Involvement

Item	Amount (TWD)			2022	
	2020	2021	2022	Content	Percentage
Commercial Initiatives	3,272,694	11,629,340	16,763,394	- Public Forums and Cultural Events - Sponsoring Taiwan-based Athletes for International Competitions	43%
Charitable Events	2,134,300	2,671,500	14,687,100	- Transportation of relief supplies and resources for domestic and international disaster relief - Continued to support local disadvantaged groups and support agricultural products in remote rural areas	37%
Community Investments	1,755,197	4,955,660	7,950,552	- Organized supportive events and invested resources for the disadvantaged - Taught aviation courses in elementary schools in remote rural communities - Coastal cleanup, tree planting - Charity basketball camp and baseball camp	20%
Total	7,162,191	19,256,500	39,401,046	All activities including business activities, charitable events, and community investment	100%

could be categorized into materials, money, volunteers, and management overhead, which represented 14.2%, 78%, 0.3% and 7.5%, respectively. For more information, refer to the table below.

Input of Social Investment

Item	Amount (TWD)			2022	
	2020	2021	2022	Content	Percentage
Material Donations	2,949,694	8,764,000	5,602,870	Sponsorship of flight tickets and cargo transportation fees	14.2%
Monetary Donations	2,757,300	4,845,000	30,697,624	Cash input for each event	78%
Employee Volunteers	384,476	134,962	149,376	Volunteer expenses for teaching, coastal cleanup / tree planting, charity sport camp activities, etc.	0.3%
Management Overhead	1,070,721	4,512,410	2,951,176	Overhead for managing volunteers in teaching, coastal cleanup / tree planting, charity sport camp activities, etc.	7.5%

Effectiveness of Social Investment

Item	2020	2021 (Note 1)	2022
Amount of Social Investments (TWD)	22,188,592	26,378,062	63,496,247
Number of Beneficiaries	355,459	203,758	4,913,310
Volume of Media Exposure / Facebook Page Likes	118 / 1,054,515	95 / 1,063,177	123 / 1,106,652
Number of Flight Tickets Sponsored	81	59	75

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Environmental / Social Effectiveness		
Sponsorship	Content / Reach	Amount (TWD)
Other Donations for Art and Charitable Events	2022 Taiwan Lantern Festival, Huashan Social Welfare Foundation, National Symphony Orchestra touring, Yoshitomo Nara Special Exhibition, Chimei Museum Masterpieces of Portraiture, performance of Verdi's opera at Weiwuying, purchases of Taitung pineapple sugar apples and pomelos, etc. with 41,491 beneficiaries	6,344,344
Pingtung Startup Happiness Bus 2.0 Integrated Serviced Pilot Program	Approximately 17,416 beneficiaries	1,500,000
Donations for Disaster Relief in Ukraine	Approximately 4,000,000 beneficiaries	10,000,000
Purchase of Gift Certificates of The Children are Us Foundation	Approximately 9,700 beneficiaries	4,850,000
Donations From the Pikachu Jet CI Charity Mini-tour	Approximately 50,000 beneficiaries	800,000
Tree Planting	Approximately 60 participants	541,335 (Note 1)
Coastal Cleanup	Approximately 273 participants	271,870 (Note 2)
Charity Basketball Camp	Approximately 30 beneficiaries	320,280 (Note 3)
Charity Baseball Camp	Approximately 56 beneficiaries	1,125,198 (Note 4)
Aviation Knowledge Lecture for Remote Rural Areas	1,129 students from various elementary schools	1,185,450 (Note 5)

Benefits to Business Operations		
Indicator	Content / Reach	Amount (TWD)
Media Exposure	Media reports: 123 Facebook Page Likes 1,106,652	12,300,000 (Note 6)
Air Fare Sales / Transportation Fee from Sponsored Events	Flight tickets / transportation fee sponsored at a discount	18,654,900 (Note 7)
Number of Flight Tickets Sponsored	75	5,602,870

The effectiveness of social involvement is calculated as follows:

- Note 1:** Meals, events, transportation, and miscellaneous fees (TWD 530,775) + personnel cost (60 volunteers × TWD 176 (minimum hourly wage based on the Labor Standards Act) × 1 hour) = TWD 541,335.
- Note 2:** Meals, events, transportation, and miscellaneous fees (TWD 269,230) + personnel cost (5 volunteers × TWD 176 (minimum hourly wage based on the Labor Standards Act) × 3 hours) = TWD 271,870.
- Note 3:** Meals, events, transportation, and miscellaneous fees (TWD 315,000) + personnel cost (10 volunteers × TWD 176 (minimum hourly wage based on the Labor Standards Act) × 3 hours) = TWD 320,280.
- Note 4:** Meals, events, transportation, athlete attendance fees, and miscellaneous fees (TWD 1,116,750) + personnel cost (12 volunteers × TWD 176 (minimum hourly wage based on the Labor Standards Act) × 4 hours) = TWD 1,125,198.
- Note 5:** Tuition: TWD 350 / lesson (3 hours) per student × 1,129 students = TWD 1,185,450.
- Note 6:** The benefits from media exposure cannot be estimated and are thus calculated by ad placement: TWD 100,000 / ad × 123 ads = TWD 12,300,000.
- Note 7:** Total amount of flight tickets / transportation fees (TWD 25,167,424) – discount (TWD 6,512,524) = TWD 18,654,900 (revenue).
- Note 8:** As the aforementioned effectiveness of social involvement is hard to quantify, the environmental / social effectiveness is presented by cost.

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2-5-2 Enhancing the Internationalization of Local Education

Theme	Item	2022 Performance	
		Number of Participants / Beneficiaries	Amount Invested (TWD)
Education	Industry-academia collaboration, Lectures by volunteers, charity sport camps	1,215	1,675,066
Environmental Coexistence	Coastal cleanup, tree planting	779,273	813,205

Education

CAL Group is committed to long-term investments for promoting the growth of local education in Taiwan by taking actions to support the UN SDG4 Sustainable Development Strategy. It uses its unique aviation resources and adopts an education approach with interactions and fun to motivate children to learn and ensure substantive improvements in children’s education. In addition, CAL also leverages industry-academia collaboration to teach students about the operations of the aviation industry and broadens young children’s perspectives for future employment. We have also actively engaged in industry-academia partnerships with universities in Taiwan since 2013 to provide opportunities for acquiring professional knowledge and technical skills to support both the industry and academia.

Industry-academia Collaboration

In support of the “Industry-Academia Collaboration for Technical Colleges and Universities and Talent Cultivation” of the Ministry of Education, CAL adopted three approaches for industry-academia collaboration with maintenance and repairs talents, aerospace engineering talents, and campus talent cultivation programs. We shared our extensive practical experience with aviation-related training facilities and

courses and trained 149 aviation professionals in 2022. CAL President Shing-Hwang Kao was invited to give a speech on the topic of “Changing and Unchanging Aspects of CAL in the Pandemic” at the National Taiwan Ocean University to maximize corporate influence. He exchanged ideas with graduate students of the Department of Shipping and Transportation Management and communicated the core business philosophy of the aviation industry based on his practical experience. By sharing and connecting resources of the academia and industry, CAL promotes the sustainable development and cultivation of talents.



President Shing-Hwang Kao Shared the Business Philosophy of the Aviation Industry with Students of National Taiwan Ocean University



President Shing-Hwang Kao Received a Certificate of Gratitude from National Taiwan Ocean University

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Lectures by Volunteers

Since its establishment in 2011, the "China Airlines Volunteers Club" has been dedicated to supporting disadvantaged groups in society. Every year, it regularly visits neighboring schools to give lectures, encourage students to cultivate an international vision, and pass on aviation knowledge and English lessons. We support UN SDG4 and use our corporate expertise and strengths to provide high-quality and equitable education, ensure that education is provided without discrimination, and promote lifelong learning. In 2022, CAL volunteers provided lectures in five schools including Xihai Elementary School, Zhuwei Elementary School, Kuolin Elementary School, and Qing-Xi Elementary School, which benefited 580 students. We hope to provide online

or in-person lectures to more schools in the future to share aviation knowledge, enrich the learning experience, and promote diverse growth.



Volunteers Show Students How to Use Life Vests



CAL Volunteers and Students



CAL Organized a Charity Basketball Camp with The Taoyuan Pilots of P. LEAGUE+



Baseball Player Wei-Yin Chen Taught Students in the Charity Baseball Camp

Charity Sport Camps

In 2022, CAL invited famous Taiwanese athletes to jointly organize a charity baseball camp and a charity basketball camp and combine sport activities with charity. A total of 86 students benefited from the activities, which supported the United Nations' SDG4 for high-quality and equitable education and SDG8 for decent work and economic growth. CAL increased the sponsorship and value of the activities across the board.

Care for Social Equality and Education Issues of the Disadvantaged

Tigerair Taiwan formed a partnership with the Eslite Foundation for Culture and the Arts and organized an internal book donation campaign titled "Second Life for Good Books". It raised 87 books and donated them to the Eslite Foundation for Culture and the Arts to provide to children and teenagers aged 6-15. The books became gifts for children in remote rural areas.



Certificate of Gratitude from the Eslite Foundation for Culture and the Arts



Books Donated to the Eslite Foundation for Culture and the Arts

Flight Simulation Camp

Mandarin Airlines organized the Flight Simulation Camp with instructions provided by professional pilots in the simulator. The simulation system and projection screens simulate realistic operations inside the cockpit and real pilots provide one-on-one instructions for participants to understand flight procedures, cockpit components, and functions of each button. They experienced taxiing, taking off, turning, and landing in a realistic setting, which provided opportunities for learning to students who wish to pursue careers as pilots. In 2022, there will be a total of 4 echelons, and a total of 14 students will complete the flight simulation experience.



Young Aviation Enthusiasts Build Real Dreams in the "Flight Simulation Camp"



Flight Simulator Incorporates the Principles of Flight to Create a Realistic Experience

Environmental Education

CAL upholds its mission and responsibilities for sustainable development. CAL recognizes that the Earth's environment is precious and irreplaceable; we are deeply aware of our corporate responsibility to conserve natural resources and protect the environment. In view of this, CAL has taken the initiative in protecting the environment by organizing social welfare activities and environmental education, in order to uphold the responsibility for environmental sustainability, generation after generation.

Coastal cleanup

In response to the International Coastal Cleanup Day, CAL has organized the annual coastal cleanup at Zhuwei Fishing Harbor since 2011. In 2021, CAL organized an online coastal cleanup course due to the pandemic and a total of 761 employees completed the course, which improved their knowledge regarding coastal cleanup. When pandemic prevention regulations were relaxed in 2022, CAL resumed its real actions for protecting the Earth with 273 employees of CAL Group and their family members. We made use of their knowledge for coastal cleanup and played our part in environmental protection.

Tree Planting

CAL takes real actions to care for the island and joins efforts to create a green and sustainable environment. CAL organized an ESG tree planting activity titled "CAL Plants Trees in Taoyuan" at the Hengshan Calligraphy Art Park in Taoyuan City. The Chairman Su-Chien Hsieh, President Shing-Hwang Kao, and CAL employees jointly

planted more than 140 seedlings of hope under the sun in May. The seedlings are expected to absorb 1,100kg of carbon during the five-year cultivation period. CAL took real actions to care for the island and hopes to use the tree planting activity and meticulous care in the future to help every seedling grow into a tree. CAL shall fulfill its responsibilities and obligations to the protection of resources and the ecological environment and fulfill sustainability actions.



CAL Supports the International Coastal Cleanup Day and Collected Waste With a Total Weight of 198kg in 2022



CAL Group Organized the ESG Tree Planting Activity to Plant Seedlings of Hope

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Charity Donations to Support Environmental Protection and Reuse

CAL has always been committed to environmental sustainability and organized several donation activities in 2022 to support the Earth: CAL ground service employees supported the old shoe donation activity of the Step 30 Project in Taiwan and collected 1,137 pairs of shoes, which were donated to the Step 30 International Ministries. CAL also donated Ghost Festival supplies to Leren Home in Kaohsiung, Muhsiang Sweet Home, and White Home to leverage its role as the top airline company and encourage charitable donations. The donations also promoted the concept of reducing waste and supported sustainable development in Taiwan.



Blue-Tailed Bee-Eater
Source: Taipei Zoo



Blue-Tailed Bee-Eater Egg Retrieval, Nurture, Release, and Training Program



Training Blue-Tailed Bee-Eaters to Feed in Flight

Animal Conservation with Aviation

Mandarin Airlines supports animal conservation with aviation and participated in bird release and training to jointly bear witness to the results of animal conservation. It worked with Taipei Zoo in a long-term collaboration for the conservation of blue-tailed bee-eaters by transporting abandoned eggs from Kinmen to Taipei. In October 2022, 7 blue-tailed bee-eaters were successfully incubated. Flight attendants of Mandarin Airlines attended the bird release event and bore witness to the results of animal conservation. Visitors can now enjoy a marvelous view of the blue-tailed bee-eaters at the Pangolin Dome in the zoo.

Tigerair Taiwan has supported the corporate animal adoption plan of Taipei Zoo since 2015. In addition to adopting the tigers, it also adopted the leopard cats and clouded leopards since 2017 to support animal conservation and academic research with real long-term actions, protect habitats in the wild, and make our environment safe and natural for the coexistence of humans and wild animals.



Abandoned Eggs Kicked Out of Nests by Birds on the Sandy Slopes of a Beach in Kinmen



Tigerair Taiwan Continues to Support the Animal Adoption Plan of Taipei Zoo



Corporate Animal Adoption and Conservation Plan

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Electricity Conservation Day at CAL Songshan Park



Electricity Conservation Day at CAL Songshan Park



Meatless Day
(Sample Employee's Self-Prepared Meal)



Meatless Day
(Sample Employee's Self-Prepared Meal)

Mandarin Airlines Holiday -Low-carbon and Smart Tourism

Mandarin Airlines launched the “Mandarin Airlines Holiday - Low-carbon Tourism” and “Mandarin Shop - Smart Tourism” campaigns in collaboration with Kinmen County Government and tourism e-commerce operator ezfly Group. Kinmen has been designated as a low-carbon island by the Executive Yuan for the 10th year. Low-carbon and sustainability are long-term goals for Kinmen, which partnered with Mandarin Airlines and ezfly to jointly promote Kinmen's kaoliang dried beef, a paradigm of the circular economy. They also integrated digital technology into the tourism experience through the Mandarin Shop to provide visitors in Kinmen with a more sustainable shopping environment and services, attain “low-carbon and smart tourism”, protect the environment, and ensure coexistence.

Actions for Restoring the Environment

To support Earth Hour on March 26, Tigerair Taiwan executes one electricity conservation campaign each quarter. The lights in the area used by Tigerair Taiwan in CAL Songshan Park are switched off for one hour during lunch break to help employees understand how everyone can change their habits during the global climate change to care for the environment and the Earth. Tigerair Taiwan takes the lead in corporate actions to exert its influence. It encourages employees to turn off the lights for one hour during Earth Hour when they go home, and encourages them to adopt low-carbon lifestyles and change habits which deplete the Earth's resources.

In addition, Tigerair Taiwan organizes a “meatless lunch” event every quarter to support the November 25 International Meatless Day (also known as the World Vegetarian Day) to reduce carbon emissions with a meatless diet. According to statistics compiled by the Discovery Channel, one meatless meal reduces carbon emissions for the Earth by 1.92kg. Tigerair Taiwan hopes that the example it sets can influence employees' daily life. If the campaign can be continuously implemented for 21 days, it can reduce the burden of a forest (approximately 5,000 trees) for absorbing carbon emissions. It hopes to connect the influence of more people and preserve the wonders and life of the Earth.



Mandarin Airlines Holiday Offers Local Travel + Unique Gifts



The “Mandarin Shop” Online Shopping Mall Offers a Dazzling Range of Products

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New Environmentally Friendly and Carbon-reduction Self-check-in Kiosk

Mandarin Airlines has introduced a new generation of design concept Kiosk self-check-in kiosk machines, adopting the latest zero-contact technology, and e-operations to reduce traditional paper consumption and manpower. In 2022, a total of 27 Kiosks will be used in 7 airports in the province. The total number of 524,562 people, save labor up to 41,228 hours, reduce carbon emissions and respond to pandemic prevention, zero-contact, hygienic and convenient. The fuselage is in the shape of a Q-version Costin baby, attracting many passengers to take the first-hand experience and take photos with the cute Costin baby. During the pandemic, it was well received and praised by tourists. Improve self-check-in efficiency.



Passengers Quickly Learned How to Use the Kiosk with the Guidance of Service Personnel



It Uses a 19" Infrared Non-Contact Touch Screen that Allows The User to Complete All Check-in Procedures by Hovering Their Fingers Over the Screen Instead of Touching it

Theme	Item	2022 Peformance
		Number of Materials Shipped / Amount Invested
Humanitarian Relief	Transportation of medical supplies including test kits and masks; donations for disaster relief in Ukraine	CAL transported 10,000 test kits and 60,000 masks to the people of Palau; Donated TWD 10,000,000 for disaster relief in Ukraine
	Donated supplies and lunch boxes to: MOHW Taoyuan Hospital, Landseed Hospital, Renai Hospital, Linkou Chang Gung Hospital, Ten-Chen Hospital, pandemic prevention taxis, Aviation Police Bureau, Northern Regional Center of the Centers for Disease Control, Liang Fu Security Corp.	TWD 472,109
Sports Activity	2021 League of Legends Pacific Championship Series (PCS), athletes in the training team of the Golf Association of R.O.C., P.LEAGUE + Taoyuan Pilots, Rising Star RG, table tennis player Chih-Yuan Chuang, fencer Yi-Tung Chen, tennis player Chun-Hsin Tseng, etc.	TWD 3,364,022

2-5-3 Increasing the International Visibility of Local Brands

Humanitarian Relief

Despite the progress made in response to the COVID-19 pandemic in 2022, CAL continued to carry its critical responsibilities for transporting pandemic prevention supplies during the pandemic as one of the main operators int he global aviation industry. CAL supported the policies of the Ministry of Foreign Affairs and transported relief supplies including 10,000 test kits and 60,000 masks to the peopl of Palau. Please refer to the “COVID-19 Special Column” in the Preface. In response to the outbreak of the Russo-Ukrainian War in 2022, CAL upheld the motto of “Taiwan Can Help” as a global citizen and took on the social responsibility by donating TWD 10 million in the name of the CAL Group to the Ukraine relief account. The donation benefited approximately 4 million people and demonstrated CAL’s commitment to international humanitarian aid.

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Supporting the Front Lines of Pandemic Prevention and Broaden Charity Initiatives

CAL and the Pokémon Company worked together in the charitable activity “Flying Pikachu Project” this year. In addition to the Pikachu Jet, the TWD 800,000 in donations from the first Pikachu Jet charity mini-tour was given to the Taiwan Fund for Children and Families, which benefited approximately 50,000 people. CAL also continued the charity initiatives in 2021 and presented front-line medical personnel, Aviation Police Bureau, and drivers of pandemic prevention taxis with special Novotel lunch boxes to thank them for their hard work and contributions to society during the pandemic. A total of 1,443 lunch boxes were donated.



Mini-tour Daytrip Event of the Flying Pikachu Project



Special Novotel Lunch Boxes were Provided for Drivers of Pandemic Prevention Taxis

Sports Activity

CAL has supported the development of Taiwan’s sports and sponsored domestic athletes in overseas competition for many years. Through our own air transportation expertise, we help Taiwanese athletes participate in international sports events, supporting Taiwanese athletes and teams to win international fame with concrete actions. In 2022, CAL sponsored a number of sports events to jointly improve the sports environment in Taiwan and enhance Taiwan’s international competitiveness and rankings.

Sponsorship	Item / Player
Sporting Event	2022 League of Legends Pacific Championship Series (PCS)
Athletes / Teams	P.LEAGUE + Taoyuan Pilots, Rising Star RG, visually impaired runner Kun-Fang Chou in the "2022 Boston Marathon", table tennis player Chih-Yuan Chuang, fencer Yi-Tung Chen, tennis player Chun-Hsin Tseng, athletes in the training team of the Golf Association of R.O.C



CAL Sponsored the Local Team P.LEAGUE + Taoyuan Pilots
Source: Taoyuan Pilots

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2-5-4 Empowering the Disadvantaged to Gain Equal Social Opportunities

Theme	Item	2022 Results	
		Number of Beneficiaries (Persons)	Amount Invested (TWD)
Caring for the Disadvantaged	Disadvantaged students, seniors and members of the general public	534	361,675
	Support for local independent farmers and charity organizations	39,702	6,960,100
	Pingtung Startup Happiness Bus 2.0	17,416	1,500,000

Disadvantaged Students and Communities

One of the Company's teams of volunteers ventures to schools in remote areas of Taiwan each year to communicate professional aviation knowledge. They organized 3 courses in remote areas in 2022, which benefited 164 children. CAL ground service employees also visited Pingzhen Lohas Preschool this year to help with painting. They hope to use their powers to provide disadvantaged children with a better environment and the opportunity to run in joy. CAL presented 539 Buddy Bears sets launched to commemorate the Company's Buddy Bears Liveried Aircraft to MOHW Taoyuan Hospital, Children's Early Treatment Center of Mackay Memorial Hospital, ROC Foundation for Autistic Children and Adults in Taiwan, and elementary schools in remote rural areas in Taitung. CAL hopes to provide care and encourage social participation to help disadvantaged groups obtain equitable opportunities in the society.



The Ground Services Division Received a Certificate of Gratitude for Helping Pingzhen Lohas Preschool with Painting



Group Photo of the Remote Rural Efforts Team in Tao Yuan Junior High School

Caring for the Disadvantaged

CAL is deeply aware that fulfilling our corporate social responsibility isn't only a matter of making donations. Instead, CAL has endeavored to use its resources and specializations and take real actions to care for and help the disadvantaged improve their quality of life and their education levels. By taking care of the elderly and disadvantaged schoolchildren and taking action or making donations to support independent farmers in Taiwan, we hope to fulfill our commitment to social equality.

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Support for Local Independent Farmers and Charity Organizations

To support Taiwan's high-quality agricultural products and help farmers through difficulties, CAL purchased 2,443 cartons of pineapple sugar apples and 800 cartons of pomelos with a value of approximately TWD 2.11 million. The initiative helps citizens learn more about unique local farm produce and supports charity organizations. The Company's Employee Welfare Committee purchased TWD 4.85 million in gift certificates from the Children Are Us Foundation and presented them to employees for CAL's anniversary celebrations. It aimed to exert corporate influence and invite more companies to support charity together. The positive influence improves the society and increases job opportunities and economic support.



The Children are Us Foundation Presented CAL Chairman Su-Chien Hsieh with A Certificate of Gratitude

Senior Citizens

CAL continued its partnership with the Dayuan Branch of Huashan Social Welfare Foundation and regularly provides care to disadvantaged elderly people (disability, loss of support, or dementia) living in Taoyuan on the three Chinese festivals. The Foundation organized three charity activities this year including the "Love the Elderly and Love Team Members", "Love the Elderly by Exercising", and "Love the Elderly by Lighting up Mid-Autumn Festival". CAL continued to sponsor charity initiatives despite the pandemic and provided care packages to the elderly. The contents included rice and nutritious cereal and volunteers assisted in blood pressure measurements onsite to care for the physical and mental health of the elderly. CAL has provided care to 370 elderly people through social services of the Foundation during the pandemic.



CAL Volunteers Club Provided Dragon Boat Festival Gifts to Elderly Who Live Alone



CAL Presented Mid-Autumn Festival Care Packages to Volunteers of Huashan Social Welfare Foundation

Pingtung Startup Happiness Bus 2.0

In 2022, the "Pingtung Startup Happiness Bus 2.0 Integrated Service Pilot Program" was continued in 2021 to help Pingtung County Government improve the quality of public transportation in remote areas while improving social welfare for the elderly and students for seeking medical services and going to school. CAL donated TWD 1.5 million in 2022 to the transportation fund of Pingtung County Government for the townships in the pilot program. Approximately 17,416 people benefited from the program.



Happiness Bus in Manzhou Township, Pingtung Take Children to School
Source: Pingtung County Government

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Future Plans

1. Enhance the Overall Quality of National Education

To continue to support education, CAL made use of aviation resources to introduce the CAL brand and expand the effectiveness of engagement and sponsorship. We adjusted the contents to cultivate children's diverse interests in learning. We plan to expand the scale of volunteer lectures in the future to enrich education for more children in remote areas. We will also evaluate and invest in promoting international education opportunities for young students based on international aviation developments and improve academic exchanges to cultivate professional talents for the future aviation industry.

2. Increasing Taiwan's International Visibility

CAL spares no effort in international relief activities. In addition to supporting government projects and helping deliver relief supplies to the people of Palau, CAL also donated TWD 10 million when the Russo-Ukrainian War to actively enhance the positive global image of Taiwan. We plan to cooperate with organizations/businesses/athletes in Taiwan to organize joint corporate charity events or products in the future. We shall use corporate resources and the value of the aviation industry to increase the international visibility of local brands and give back to society.

3. Helping the Disadvantaged Overcome Difficulties

In 2022, CAL organized 3 long-term charity programs, 1 charity baseball camp, and 1 charity basketball camp to provide disadvantaged groups with equal opportunities with real actions. In addition to investing company resources, we also plan to cooperate with charity organizations/businesses/athletes in Taiwan to organize joint corporate charity projects. In addition to periodic charity sport camps for facilitating positive bilateral communication, we shall also support independent farmers and indigenous culture in their international reach to expand resources and recipients through partnerships, enhance the social welfare of rural and disadvantaged groups in Taiwan, and support the creation of a "positive cycle" in the society.



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HIGHLIGHTS



7th time selected for DJSI Emerging Markets Index

The only Taiwanese airline selected for DJSI Emerging Markets for seven consecutive years and ranked in 1st place among the world's airlines.



7th time selected for FTSE4Good Index Series

Selected in the FTSE4Good Index Series for seven consecutive years.



6th time selected for Taiwan EMP 99 Index and Taiwan HC100 Index

Selected in the Taiwan Employment Creation 99 Index and the Taiwan High Compensation 100 Index for six consecutive years.



Selected for the MSCI Index

Selected as a constituent stock of the MSCI Global Standard Indexes in 2022.



Top 6%-20% of TWSE / TPEX listed companies

Selected as the top 6%-20% of the excellent corporation award in the Eighth Corporate Governance Review.



4th time in GCSA Award

CAL won the Sustainability Reporting Award for the fourth time and won the Gold Award in 2022.



9th time in TCSA Award

CAL won the Taiwan Corporate Sustainability Award for the ninth consecutive year and won the Platinum Award in the Transportation Industry for the Sustainability Report for 2021.



4th time selected for FTSE4Good TIP Taiwan ESG Index

Selected in the FTSE4Good TIP Taiwan ESG Index for the fourth time.



6th time selected for the Sustainability Yearbook

CAL became the only airline company in Taiwan that was selected for the Sustainability Yearbook for the 6th time, and was ranked among the top 1% among aviation companies in the Sustainability Yearbook in 2022.



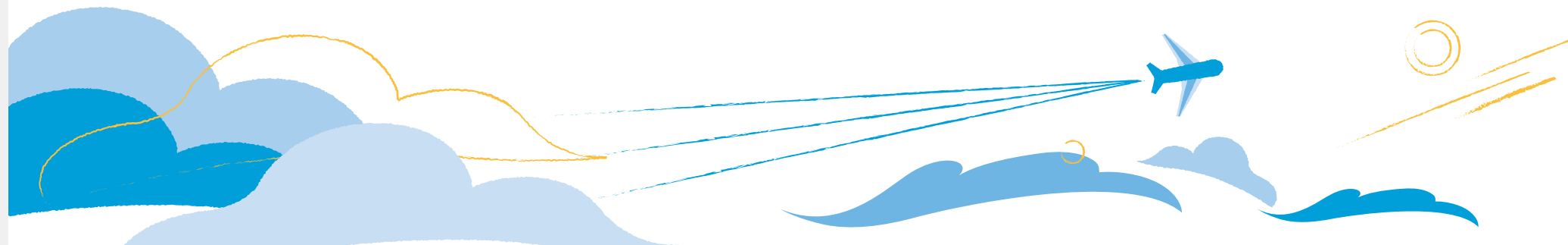
Taiwan Ratings maintained "stable" outlook

Despite the severe challenges to the industry during the pandemic, CAL demonstrated its resilience in operations in 2021 and the EBITDA remained positive, which was a stark contrast to the severe losses sustained by other international airline companies. In October 2022, Taiwan Ratings announced that CAL's long-term and short-term credit ratings were "twBBB+/twA-2" and the outlook remained "stable".



1st National Sustainable Development Award

Received the "Corporate Sustainable Development Award" in the first National Sustainable Development Awards organized by the Executive Yuan in 2022.



3-1 Governance Framework (GRI 2-9, 2-10, 2-11, 2-15, 2-17, 2-19, 2-20)

Board of Directors

As the highest governing organization at CAL, the Board of Directors is responsible for supervising and resolving crucial issues, guiding management, and formulating and complying with policies and rules in accordance with laws and regulations and with the powers granted by the shareholders’ meetings. The composition of the Board of Directors is diverse. According to Article 198-1 of the Company Act, candidates for directors are nominated by the shareholders. The selection is merit-based and does not discriminate based on gender, nationality, or race, and directors have good qualities and expertise or experience in the management of international companies. The Company also considers the views of the China Aviation Development Foundation and the government. A total of 13 directors have been elected to the 22nd Board of Directors, including three independent directors, one of whom is female. Directors are elected for three-year terms (the current term was from August 12, 2021 to August 11, 2024). CAL implements performance evaluation and reviews the special professional skills of directors as the basis for nomination for the next election. Meetings of the Board of Directors are held at least five times a year and may be convened at any time in case of important or urgent matters.

In 2022, the advanced courses for directors included three hours of “Global Risk Awareness - Opportunities and Challenges in the Next Decade” and “2030/2050 Net Zero Carbon Emissions”, and three hours of “The Key to Sustainable Business Growth - Open Innovation”, totaling six hours. After discussions in the Audit Committee and Risk Committee, the Company made major decisions such as the changes to the useful life to the 744F cargo aircrafts and A333 passenger aircrafts, purchase of the 777F cargo aircrafts, purchase of new wide-body aircrafts, and the procurement of backup engines and PBTH for the new 787 wide-body passenger aircrafts. The Board of Directors also oversaw the Corporate Sustainability Committee in its presentation of the Company’s sustainability targets and achievements to the Board of Directors. Please refer to [the CAL Annual Report for more information](#).

Shareholders with at least 5% of CAL’s shares as of December 2022 are listed below:

Major Shareholders	Contributions to Taiwan	Percentage of Shares Held
China Aviation Development Foundation	Striving for the development of Taiwan's aviation business, national traffic construction, research, and event promotion	31.05%
National Development Fund, Executive Yuan	Accelerating industrial innovation, economic transformation, and national development	8.64%

Note: The China Aviation Development Foundation and National Development Fund of the Executive Yuan are also institutional directors of CAL.

To facilitate the objective performance of independent directors, China Airline’s “Corporate Governance Best Practice Principles” stipulate that independent director may not serve more than three consecutive terms to ensure that independence is not reduced by extended association. There were no cases where the independent directors served for more than nine years. CAL values the independence of directors. The Chairman and President are not the same individual or have relations such as spouses or relatives within the first degree of kinship. Directors also do not

have relations within the second degree of kinship. Our independent directors meet the independence criteria stipulated by the competent authority and do not concurrently serve as a director or independent director of more than two other companies. All directors do not concurrently serve as a director of two other public companies. To ensure the effective implementation of board independence, CAL also evaluates the independence of external directors, setting its board independence target to be 80% of the total seats. In 2022, 92.3% of the board members met the independence criteria, which is above the set target.

CAL deficiencies identified by regulators at home and abroad and in internal / external audit reports and their corresponding improvements, and major issues concerning operation and business were reported to the Board of Directors for timely responses. Additionally, CAL has established clear regulations on the avoidance of conflicts of interests for directors who shall uphold a high level of discipline. When the resolutions listed by the Board of Directors have an interest in themselves or the legal person they represent, they shall explain the important content of their interest in the current board meeting, and withdraw from the discussion and voting, and do not exercise voting rights on behalf of other directors. The professional knowledge and independence of the directors of CAL are as follows:

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Name	Basic Composition								Industrial Experience								Professional Competence					
	Title	Independence (Note 1)	Has Employee Status	Nationality	Gender	Age			Length of Office of Independent Director		Airlines	Transport	Professional Services and Marketing	Financial and Finance	Construction and Engineering	Banking, Insurance and Real estate	Business and Supply	Information and Technology	Metal and Machinery	Law	Accounting	Risk Management
						40-50 Years	51-60 Years	61-70 years	Less than 3 Years	Six to Nine Years												
Hsieh, Su-Chien	Chairman	Independent Director	-	R.O.C.	♂	-	>	>	-	-	>	>	>	○	-	-	>	○	-	○	>	
Kao, Shing-Hwang	Director	Executive Director	>	R.O.C.	♂	-	>	-	-	-	>	>	>	○	-	-	>	○	-	○	>	
Chen, Chih-Yuan	Director	Independent Director	-	R.O.C.	♂	-	>	-	-	-	-	>	>	○	-	>	>	○	-	-	>	
Ting, Kwang-Hung	Director	Independent Director	-	R.O.C.	♂	>	-	-	-	-	-	-	>	>	>	>	>	-	-	○	>	
Chen, Han-Ming	Director	Independent Director	-	R.O.C.	♂	>	-	-	-	-	>	-	>	○	>	>	>	-	>	-	>	
Chen, Maun-jen	Director	Independent Director	-	R.O.C.	♂	-	-	>	-	-	-	-	-	-	-	-	>	>	-	-	○	
Wei, Yung-Yeh	Director	Executive Director	>	R.O.C.	♂	-	>	-	-	-	>	-	-	-	-	-	-	-	>	-	○	
Chao, Kang	Director	Executive Director	>	R.O.C.	♂	-	-	>	-	-	>	-	-	>	-	-	-	-	-	-	>	
Wang, Shih-Szu	Director	Independent Director	-	R.O.C.	♀	-	>	-	-	-	-	-	>	-	-	-	-	-	○	-	>	

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	Title	Independence (Note 1)	Has Employee Status	Nationality	Gender	Age			Length of Office of Independent Director		Airlines	Transport	Professional Services and Marketing	Financial and Finance	Construction and Engineering	Banking, Insurance and Real estate	Business and Supply	Information and Technology	Metal and Machinery	Law	Accounting	Risk Management
						40-50 Years	51-60 Years	61-70 years	Less than 3 Years	Six to Nine Years												
Chang, Hui-Chuan	Director	Independent Director	‘	R.O.C.	♂	‘	>	‘	‘	‘	‘	‘	>	‘	‘	‘	>	>	‘	>	‘	>
Huang, Hsieh-Hsing	Independent Director	Independent Director	‘	R.O.C.	♀	‘	>	‘	‘	‘	‘	‘	>	‘	‘	‘	‘	‘	>	>	‘	>
Chang, Hsieh Gen-Sen	Independent Director	Independent Director	‘	R.O.C.	♂	‘	‘	>	‘	‘	‘	‘	>	‘	‘	‘	‘	‘	‘	>	‘	○
Hwang, Chin-Yeong	Independent Director	Independent Director	‘	R.O.C.	♀	‘	‘	‘	‘	‘	‘	‘	‘	‘	‘	‘	‘	>	‘	‘	‘	○

> Indicates the director has the capability. ○ indicates the director has some capability.

Note 1: The Board of Directors of CAL adopts the one-track system. The independent status of external directors adopts the following criteria. It must satisfy at least 4 items in following 9 items, and at least 2 items in the first 3 items:

1. The director must not have been employed by the company in an executive capacity within the last year.
2. The director must not accept or have a "Family Member who accepts any payments from the company or any parent or subsidiary of the company in excess of \$60,000 during the current fiscal year", other than those permitted by SEC Rule 4200 Definitions.
3. The director must not be a "Family Member of an individual who is employed by the company or by any parent or subsidiary of the company as an executive officer."
4. The director must not be (and must not be affiliated with a company that is) an adviser or consultant to the company or a member of the company's senior management.
5. The director must not be affiliated with a significant customer or supplier of the company.
6. The director must have no personal services contract(s) with the company or a member of the company's senior management.
7. The director must not be affiliated with a not-for-profit entity that receives significant contributions from the company.
8. The director must not have been a partner or employee of the company's outside auditor during the past year.
9. The director must not have any other conflict of interest that the board itself determines to mean they cannot be considered independent.

In addition, pursuant to Article 4 of the Regulations Governing Appointment of Independent Directors and Compliance Matters for Public Companies, the Company's independent director may not concurrently serve as an independent director of more than three other public companies.

Note2: For experience / education, concurrent posts, expertise, field of experience, compliance of independence, and the operations of the Board of Directors, please refer to the [CAL Annual Report](#)

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Functional Committees of the Board

The Board of Directors has three functional committees including the Audit Committee, Remuneration Committee, and Risk Management Committee. They help the Board of Directors with its supervision and guidance and convene meetings in accordance with the respective organizational regulations adopted by the Board of Directors. These committees exercise the powers granted them by law to review and discuss relevant issues, then regularly submit their conclusions and recommendations to the Board of Directors for resolution. Based on the powers specified in the CAL's Remuneration Committee Charter, the Remuneration Committee periodically reviews performance evaluations and remuneration policies, systems, standards, and structures for directors and managerial officers.

Functional Committees

	Audit Committee	Remuneration Committee	Risk Management Committee
Members	Hsieh-Hsing Huang, Convener Chin-Yung Huang, Independent Director Gen-Sen Chang Hsieh, Independent Director	Hsieh-Hsing Huang, Convener Chin-Yung Huang, Independent Director Gen-Sen Chang Hsieh, Independent Director	Gen-Sen Chang Hsieh, Convener Hsieh-Hsing Huang, Committee Member Chin-Yung Huang, Committee Member Kwang-Hu Ting, Committee Member Charles C.Y., Chen, Committee Member Kuo-Yuan Liang, Consultant
Meeting Frequency:	At least once per quarter	At least twice per year	Once per quarter
Functions	The Committee is composed of all independent directors and is responsible for helping the Board of Directors perform its duties, including supervision of fair presentation of CAL's financial statements, selection (dismissal), independence and performance of CPAs, implementation of internal controls, and compliance with corporate laws and regulations, as well as other statutory tasks.	The Committee regularly reviews the overall benefit and compensation policy for directors and executives. It also conducts board performance evaluation once a year. In addition, it appoints a qualified external independent institution or external expert team conduct the evaluation once every three years (last time being in 2020 and an external evaluation shall be conducted in 2023). CAL increases the long-term value of the management team to the company through performance evaluation and remuneration systems. The approach creates a sound corporate governance system, and helps CAL achieve sustainability goals. Note: Refer to the CAL Annual Report and the Remuneration Committee Charter for information on director and executive remuneration.  CAL's Remuneration Committee Charter	Responsible for helping the Board of Directors review the establishment, implementation, and countermeasures of CAL's overall strategy for risk management in terms of finance, economy, flight safety, personal information, and information safety.

Note: The Company has not yet appointed a remuneration consultant independent of the Board of Directors and executives.

The performance evaluations and remuneration of directors and managerial officers shall be based on prevailing rates of the industry, as well as their individual achievements, the Company's overall performance, and the reasonableness of future risks. The Company's business performance and future risks also encompass the economic, environmental,

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and human rights impact on topics of concern to different stakeholders. Directors are paid transportation allowances but not director remuneration. The remuneration system for the Chairman, President, and executives (senior vice presidents) is based on the Company's current systems, including the hiring and salary standards, salary adjustments for promotions, performance evaluation, and accounting standards for severance pay. According to Article 18 of the Company's Articles of Incorporation, the Board of Directors is authorized to determine the remuneration of the Chairman in accordance with the Company's regulations for the remuneration for managerial officers based on the Chairman's participation in the operations of the Company. The President's remuneration is based on the Company's remuneration standards for the President. The bonus and employee's remuneration are determined by the Company's overall performance and the existing operation regulations. The remuneration paid to managerial officers is determined based on factors such as their responsibility, position, number of years of service, personal abilities, and experience as well as the Company's remuneration standards for the position, and

prevailing rates in the market. The Company has not yet set clawback mechanisms in the remuneration system of the Chairman, President, and executives.

General Audit Office

To enforce corporate sustainability, the General Audit Office is responsible for auditing the corporate governance system to prevent fraudulent activities and corruption. The results of audits are continually followed and required to be corrected by the given time limit. The audited cases in 2022 are summarized below by category. All of the cases have been corrected and reported to the General Audit Office for approval.

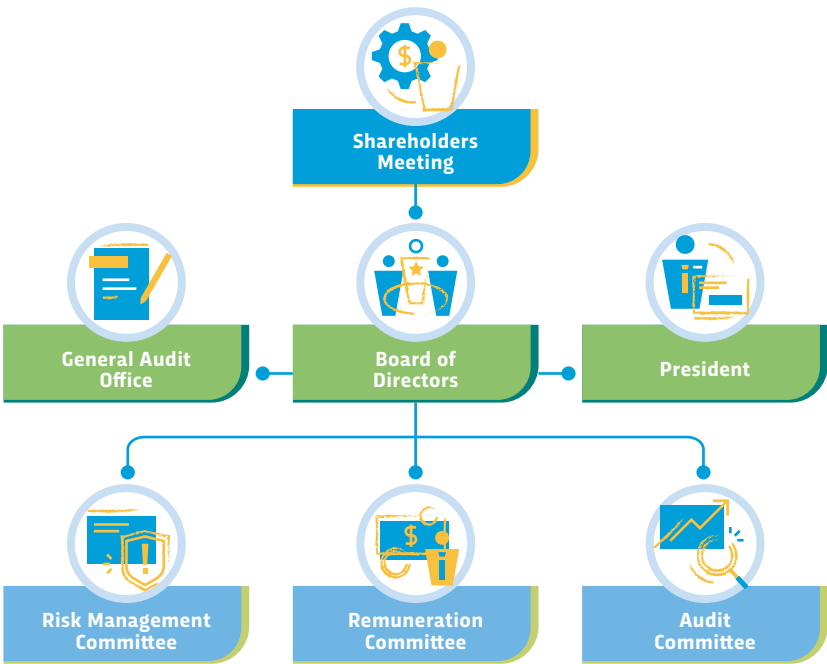
Audited Cases in 2022

Type of Cases	Number of Cases Audited	Number of Comments	Number of Corrections
Head Office	15	95	95
Branch	16	94	94
Subsidiary	11	64	64
Transaction in Derivative Products	12	None, full compliance with regulations	-
Procedures for Lending Funds and Making Endorsements / Guarantees	4	None, full compliance with regulations	-

Every year, the General Audit Office compiles an "overall evaluation" based on self assessments performed by individual departments and improvement of errors and irregularities identified in the annual audits. The overall evaluation is used to verify the effectiveness of the internal control system, and provides the basis for the "Internal Control Statement", which will be submitted to the board of directors for review. The General Audit Office has also established a whistle-blowing mechanism to report fraudulent activities and unethical conduct. If it is found that an employee of CAL or its affiliates is misusing his / her position to take bribes or behave in

violation of his / her duties for the purpose of obtaining unlawful benefits for himself / herself or others, thereby causing losses to CAL's property or reputation, an employee or an external partner (e.g., a supplier) is encouraged to report this matter through the management mechanism or through the independent mailbox (auditor@china-airlines.com) published on the website (Stakeholder Contact-Business Conduct) and in the Annual Report (Corporate Governance Report-Corporate Governance).

Corporate Governance Framework Diagram



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3-2 Operational Achievements (GRI 201-1)

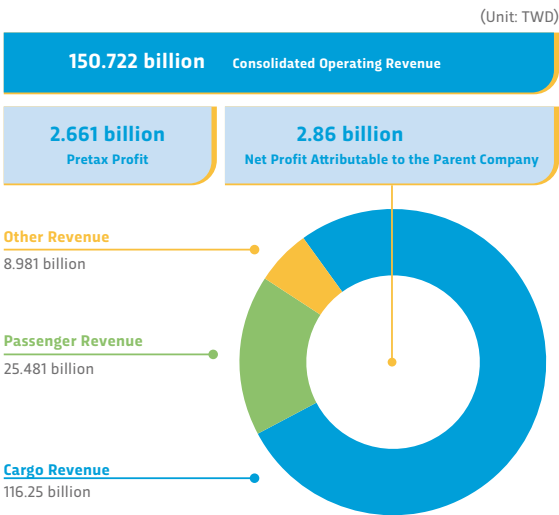
Countries have gradually opened their borders as the COVID-19 vaccination rate increases and the rate of severe cases drops. As the easing of restrictions progressed slower in Asia, the recovery is significantly slower than that of the West. Despite signs of recovery in the passenger transport market of the global aviation industry, there remains significant challenges in the business environment including geopolitical conflicts (Russia-Ukraine War), inflation, interest rate hikes, slow economic growth, border policies, and high inventory levels. The rising cost of fuel, labor, and quarantine also drastically increased operating costs and reduced profitability. The Company responds to market changes with flexibility and shifted its business strategy from focusing on cargo services to focusing on both passenger and cargo services in the post-pandemic era. We continued the fleet renewal programs and with new A321neo and 777F fleets. We also ordered 16 new Boeing 787-9 passenger aircrafts and continued to retire 737-800 and A330-300 passenger aircrafts and 747-400F cargo aircrafts. We optimize and update our fleet, flexibly adjusts passenger and cargo flights, develop a comprehensive flight network, and actively pursue cargo transport business opportunities to expedite business growth in the post-pandemic era. Consolidated operating revenue in 2022 was TWD 150.722 billion (including revenue from passenger transport totaling TWD 25.481 billion, cargo revenue totaling TWD 116.25 billion, and other revenue totaling TWD 8.981 billion). Consolidated operating profit was TWD 2.585 billion; consolidated net profit before tax was TWD 2.661 billion, and final profit after tax attributable to the parent company was TWD 2.86 billion. [Refer to Financial Performance in the Appendix for more details.](#)

Consolidated Financial Statement

(Unit: TWD billion)

Item	2019	2020	2021	2022
Passenger Revenue	111.41	25,704	6,064	25,481
Cargo Revenue	43.79	81,918	124,541	116.25
Other Revenue	13.24	7,628	8,236	8,991
Consolidated Operating Revenue	168.44	115.25	138,841	150,722
Consolidated Pretax Profit	-0.097	-0,654	11,127	2,661

Operational Achievements



Individual Financial Statement

(Unit: TWD billion)

Item	2019	2020	2021	2022
Operating Revenue	146.37	106,327	132,14	141,07
Operating Cost	135.01	95,19	106,23	128,089
Operating Expense	11.28	6,252	6,59	7,063
Income Tax Expense (Benefit)	0.01	0,031	2,594	1,029
Total Salary Expenses	14.48	12,892	16,188	14,494
Total Employee Benefits	21.97	18,931	22,596	20,465
Total Pension	1.62	1,587	1,527	1,466

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2022 Performance of International Passenger and Cargo Transport

Routes	Company	Number of Departures (Flights)	Passenger Transport					Cargo Transport				
			Passengers (Persons)	Market Share (%)	Revenue Passenger Kilometers (RPK)	Available Seat Kilometer (ASK)	Passenger Load Factor (%)	Tonnage (Metric ton)	Market Share (%)	Freight Revenue Ton Kilometers (FRTK)	Freight Available Tonne Kilometers (FATK)	Freight Load Factor (%)
International		42,836	1,453,866	34.5	6,556,748,672	14,836,886,817	44.2	1,465,527	62.5%	6,270,198,884	8,223,791,073	76.2
		778	48,380	1.1	26,959,877	87,778,218	30.7	9,994	0.4%	3,209,089	9,724,513	33.0
		1,392	152,444	3.6	292,181,335	468,306,842	62.4	2,470	0.1%	4,929,286	9,281,998	53.1
	CAL Group	45,006	1,654,690	39.2	6,875,889,884	15,392,971,877	44.7	1,477,991	63.0%	6,278,337,260	8,242,797,584	76.2
Domestic		27,269	1,809,462	37.3	755,810,697	1,067,270,051	70.8	15,846	34.6	1,977,406	10,118,911	19.5
Global	CAL Group	72,275	3,464,152	38.2	7,631,700,581	16,460,241,928	46.4	1,493,836	62.4	6,280,314,666	8,252,916,496	76.1

Source: "Civil Air Transport Statistics (Table 18 Overview of Global Passenger and Cargo Transport on Global Routes by Domestic Airlines)" by CAA of MOTC.

3-2-1 Analysis of Risks and Opportunities in the Business Environment

The aviation industry connects people and logistics across the globe, and the development of the industry is closely associated with the growth and prosperity of the global economy. According to a report released by the International Air Transport Association (IATA) in December 2022, the global aviation market continued its recovery in 2022. The estimated number of passengers increased to 3.424 billion while cargo tonnage decreased to 60.3 million tons. The output rebounded by nearly USD 233 billion and total losses were reduced to USD 6.9 billion. Passenger volume is expected to return to pre-pandemic levels by 2024. CAL has continued to review the risks and opportunities in the business environment and regularly reviews medium and long-term business opportunities and risks. We also focus on material topics of concern to stakeholders and implement the Sustainable Development Strategy to fulfill the Sustainable Development Goals (SDGs) through real actions.

Global Airline industry	2021	2022 Forecast	2022 Compared to 2021	
Production Value (US\$100mn)	5,210	7,540	+2,330	+44.8%
Contribution to Global GDP (%)	0.5%	0.7%	+0.2ppt	
Passengers (100 million persons)	21.85	34.24	+12.39	+56.7%
RPK (1,000bn km)	3,623	6,136	+2,513	+69.4%
Passenger Revenue (US\$100mn)	2,390	4,380	+1,990	+83.3%
Freight Ton (10,000 ton)	6,560	6,030	-530	-8.1%
FRTK (100mn km)	2,720	2,500	-220	-8.0%
Cargo Revenue (US\$100mn)	2,042	2,014	-28	-1.4%
After-tax Earnings (US\$100mn)	-420	-69	+351	+83.6%

Source: International Air Transport Association (IATA).

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Business Opportunities

Post-Pandemic Passenger Transport Opportunities

Countries have gradually relaxed border controls and quarantine measures to restore tourism as the COVID-19 pandemic subsides and the vaccination rate increases. Airline companies have also restored normal passenger services based on market demand and opened new routes to target business opportunities in the post-pandemic era. According to the report published by IATA in December 2022, the overall passenger market is expected to return to pre-pandemic levels by 2024 and the number of domestic and international passengers are expected to return to pre-pandemic levels in 2024 and 2025. As the passenger market recovers, flag carriers are actively developing passenger businesses in response to future market changes. They continue their fleet renewal programs, launched next-generation aircrafts, improve overall operational efficiency, and introduce contactless services to capture business opportunities in the recovery.

Taking Advantage of Geographic Location as a Hub

The trade disputes and technology competition between the United States and China and the COVID-19 pandemic have led to the reorganization of global supply chains. Taiwan is an important hub in Asia-Pacific, and its location is favorable for the development of passenger and cargo transshipment. Taoyuan International Airport supports the government's plan for the "Asia Pacific Operation Center - Air Transshipment Center Project" by planning the construction of Terminal 3 (2015-2026), Runway 3 (2025-2030), and the West Satellite Concourse (2028-2035). It also set up the New Aircraft Maintenance and Repairs Area (2028-2029) and the New Air Cargo Park (2025-2034) to keep up with post-pandemic development and demand. It also continues to improve operation efficiency and international competitiveness to attract transshipment customers, business opportunities for transshipment of cargo, and become a major aviation hub in East Asia. (Taoyuan International Airport aims to increase passenger traffic to 82 million passengers and increase cargo volume to 4.02 million tons by 2040).

Fleet Renewal for Enhanced Operational Efficiency

CAL continues the fleet renewal programs to ensure sustainable development. The next-generation aircrafts offer advantages in terms of aircraft design, fuel economy, operating performance, and product acceptability, which significantly reduces the cost and support CAL's plans to attain net zero carbon emissions by 2050. Six 777F

cargo aircrafts have been delivered since 2020 and we purchased four 777F cargo aircrafts in early 2022. 10 aircrafts will be delivered by 2024 to gradually replace the 747-400F cargo aircrafts. According to the passenger fleet renewal plan, CAL started introducing A321neo next-generation passenger aircrafts into the fleet to replace Boeing 737-800 passenger aircrafts in late 2021. CAL also purchased 16 Boeing 787-9 aircrafts to replace A330-300 aircrafts. The Company leverage the advantages of its fuel-efficient, high-performance, and environmentally friendly fleet in the post-pandemic era.

To expedite business growth in passenger transport in the post-pandemic era, the Company's new A321neo fleet will focus on providing contactless services, superior disease prevention measures, upgraded flat-bed Business Class seats, latest personal entertainment system and largest screen, high-speed Wi-Fi services in the cabin, and free text message services. The new 787-9 passenger aircrafts are next-generation flagship products. The new fleet will have the latest cabin seats and HD personal entertainment system and in-flight Wi-Fi network to provide a better and more comfortable journey. CAL won the APEX Five Star Global Airline in 2023 from the Airline Passenger Experience Association (APEX) for the 7th consecutive year. The global flight network will help promote Taiwan's culture, creativity, and aesthetics onto the international stage for passengers to experience CAL in every exciting, safe, comfortable, and enjoyable journey.

Operational Challenges

Challenges for the Recovery of the Global Aviation Industry (Pandemic, Labor Shortages, Geopolitical Conflicts, and Economic Recession)

The continuous impact of the COVID-19 pandemic, labor shortages, geopolitical conflicts, and economic recession have devastated the global aviation industry. According to the latest IATA estimates, airline companies across the world have suffered a total loss of USD 186.6 billion (2020) (USD 137.7 billion in 2020, USD 42 billion in 2021, and USD 6.9 billion in 2022) during the pandemic.

According to IATA estimates, the overall passenger volume in 2022 increased by 56.7% to 3.424 billion passengers compared to 2021 (75% of pre-pandemic levels). The annual revenue from passenger services increased by 83.3% to USD 438 billion. The cargo volume (tons) decreased by 8.1% compared to 2021 to 60.3 million tons (109% of pre-pandemic levels). The annual revenue from cargo services decreased by 0.5% to USD 201.4 billion. According to IATA estimates, airline companies in Asia

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Pacific have suffered a total loss of USD 69.8 billion (2020) (USD 45 billion in 2020, USD 14.8 billion in 2021, and USD 10 billion in 2022) during the pandemic. Airlines rely on working capital and stable and continuous profitability during the recovery to make up for their immense debts.

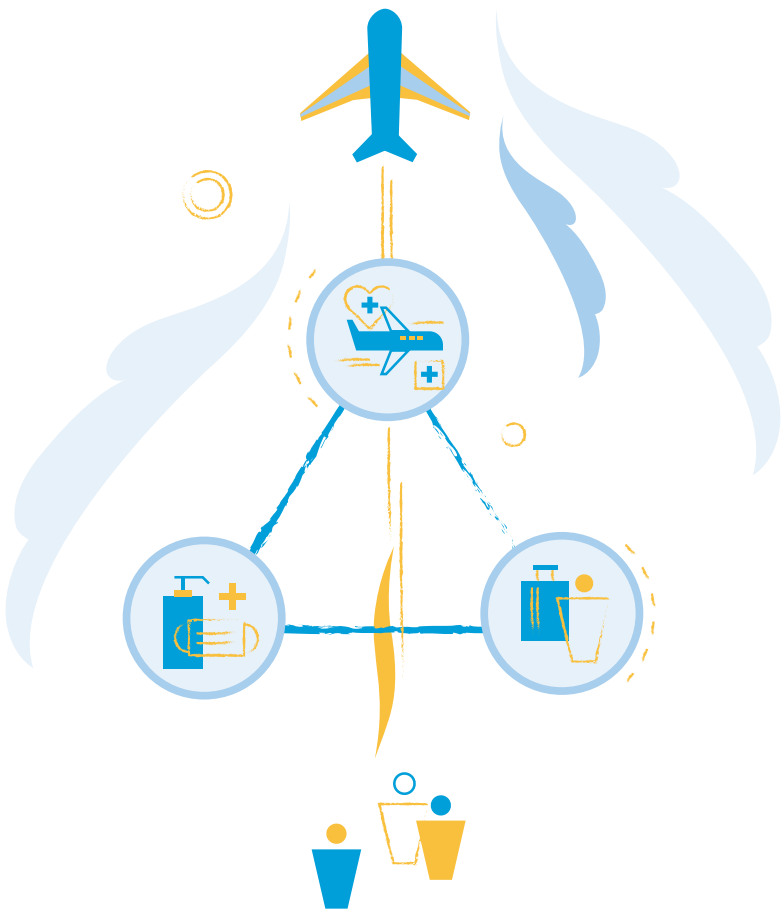
Slow Recovery of Business Travel

The Global Business Travel Association (GBTA) estimates that the scale of business travel will increase 33.8% in 2022 compared to the previous year and the total output will reach USD 933 billion (65% of pre-pandemic levels). As a result of inflation, supply chain bottlenecks, high energy prices, labor shortages, the Russia-Ukraine War, and a sluggish economy, the recovery may be delayed to 2026 (original estimate was 2024). In 2022, the average price of ticket prices was USD 646, which was an increase of 48.5% compared to the previous year. The average price of economy class tickets was USD 464, which was an increase of 37.3% compared to the previous year. The average price of higher cabin class (first class/business class) tickets was USD 3,568 which increased by 45.2% from the previous year. In 2022, the average price of tickets in Asia Pacific was USD 369, which was an increase of 61.8% compared to the previous year. The average price of economy class tickets was USD 265, which was an increase of 40.2% compared to the previous year. The average price of higher cabin class (first class/business class) tickets was USD 3,664 which increased by 85.0% from the previous year. Due to the low willingness of employees, company policies, uncertainties of the pandemic, and the rising cost of business travel (airline tickets, hotels, and car rental), businesses have chosen to reduce travel expenditures and slashed business travel budgets. The widespread use of digital tools increased the use of remote work and video conferencing and indirectly increased the obstacles for the recovery of business travel. These developments will invariably impact the revenue and profitability of airline companies that rely on business travelers.

Use of Limited Air Transportation Resources in the Post-Pandemic Era

According to IATA data, the aviation industry has faced unprecedented challenges since the outbreak of the COVID-19 pandemic. Globally, 86 airlines closed (2020 - 54 airlines; 2021 - 32 airlines), 225 airlines suspended operations (2020 - 156 airlines; 2021 - 69 airlines), and 87 new airlines entered the market (2020 - 29 airlines; 2021 - 58 airlines) during the pandemic. In recent years, airports in Asia Pacific

have expanded facilities and enhanced software and hardware services. Taoyuan International Airport has reached its maximum capacity in terms of terminals, aprons, scheduling, runways, and other support equipment. During the recovery, the Company will face external challenges posed by the resumption of flights of foreign operators as well as internal challenges posed by the entry of a major domestic competitor — Starlux Airlines. The biggest challenges include insufficient ramps for aircrafts in the near future and the allocation of space in Terminal 3. It is evident that with limited air transportation resources, future market competition will invariably intensify.



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3-3 Risk Management (GRI 102-15)

3-3-1 Risk Management Mechanisms (GRI 102-11)

Risk Governance and Organizational Structure

Risk management plays a key role in a company's sustainability. Given the growing number of new forms of risk, CAL has responded by creating a risk management committee under its Board of Directors to hold regular meetings. The General Audit Office sits on the Risk Management Committee and is responsible for assisting the Board of Directors in reviewing the formulation and execution of the Company's risk management strategies and related response measures. The highest ranking person with responsibility for monitoring and auditing risk management performance on an operational level is Auditor General. The committee also requires subordinate departments to manage major risks. The Board of Directors also invites external experts or academics to provide 6 hours of relevant advanced courses for the directors each year. The advanced courses for directors included three hours of "Global Risk Awareness - Opportunities and Challenges in the Next Decade" and "2030/2050 Net Zero Carbon Emissions", and three hours of "The Key to Sustainable Business Growth - Open Innovation" in May and August 2022 (a total of 12 directors attended and the training completion rate was 92%). Furthermore, security and operating risks are cross-departmental operational risks that should be handled on the management level. We have created the Corporate Sustainability Committee, Corporate Security Committee, Information Security and Personal Data Management Committee, and Corporate Environmental Committee under the management of the President. The Corporate Sustainability Committee is the highest unit of the Company for promoting sustainable development and governance. Its Risk Management Team integrates and supervises all units to implement risk management policies and improvements for all aspects of ESG. The highest ranking person with dedicated risk management responsibility on an operational level is Risk Management Team's leader senior vice president of flight operations (The corporate sustainability committee structure please refer to [1-2-1](#)). The responsible units of operations include the Corporate Safety Office, Finance Division, Information Security and Personal Information Management Division, Information Management Division, Corporate Development Office implement risk management. They devise countermeasures before presenting the results to the appropriate committees and meetings.

CAL Risk Governance and Management Chart



Enterprise Risk Management Framework and Procedures

CAL's risk management framework complies with the framework of Enterprise Risk Management (ERM), where a multi-level organizational approach is adopted to manage and control the overall risks of CAL. The framework emphasizes the inter-correlations between different risks to reduce the overall impact. Following the materiality principle, the CAL ERM framework identifies traditional risks and risks of medium / long-term strategies. All risk impacts and countermeasures are analyzed and proposed through event identification, risk analysis, risk assessment, and risk control, and then followed up and reviewed by the Risk Management Committee (quarterly) and the Corporate Sustainability Committee of the Board of Directors. CAL assesses the relevance of the identified risks to the results of the materiality analysis to ensure that the impacts and potential risks to the economy, environment, and people (including human rights) are included in the risk management process. CAL has also implemented effective accounting and internal audit systems. The internal

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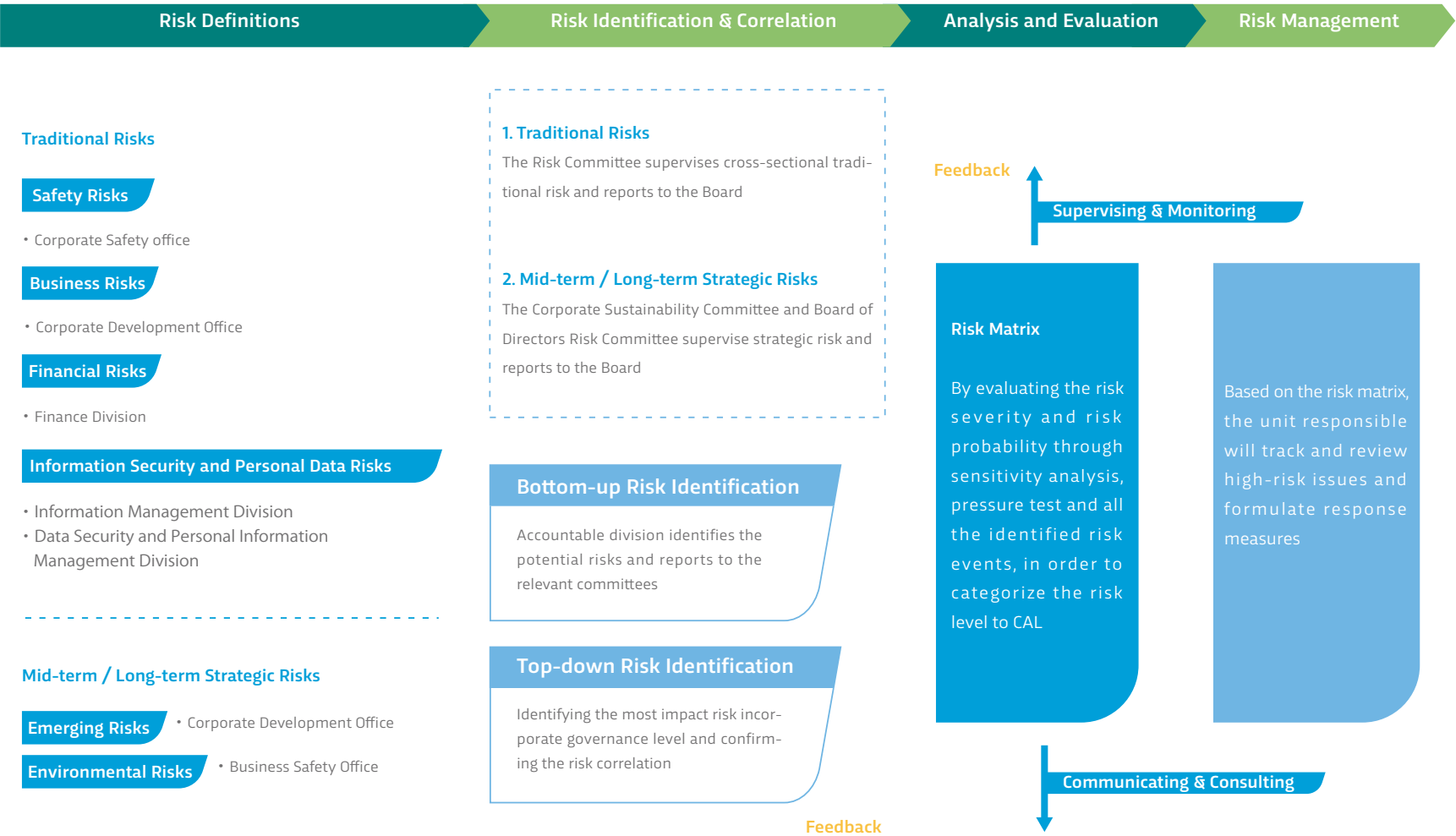
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control system consists of five elements, which are the control environment, risk assessment, control process, information and communication, and supervision procedure. To evaluate the internal control system and the effectiveness of its execution, CAL devises risk-based annual audit plans every year. The General Audit Office conducts regular and ad hoc audits in order to enforce ethical corporate management, reduce related risks to an acceptable level, and prevent corruption and fraud.

CAL Risk Management Model / Procedures



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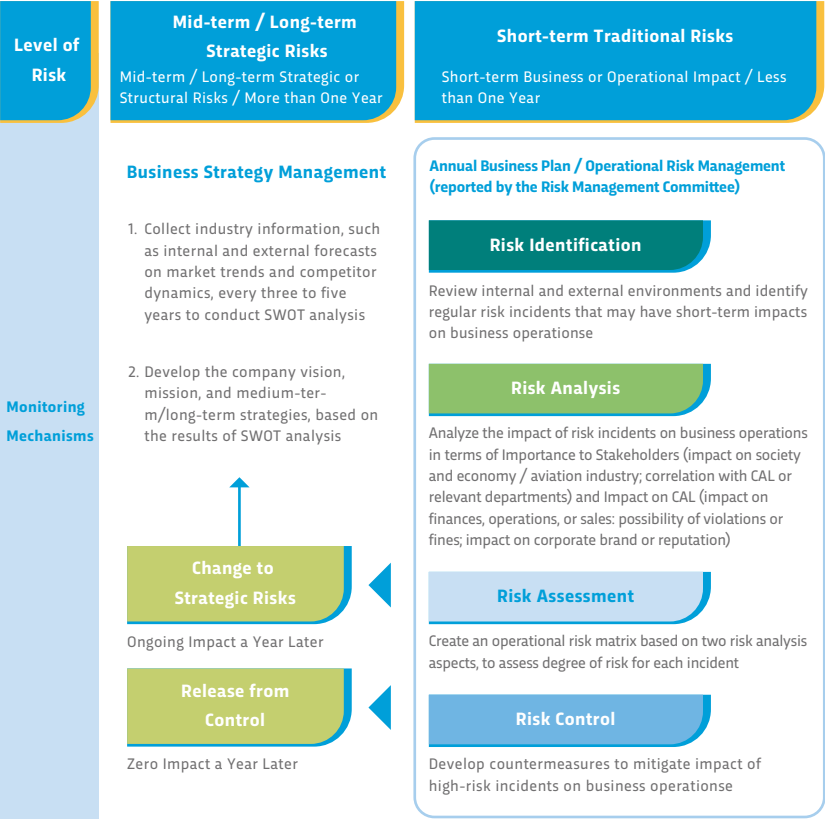
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3-3-2 Risk Identification and Countermeasures

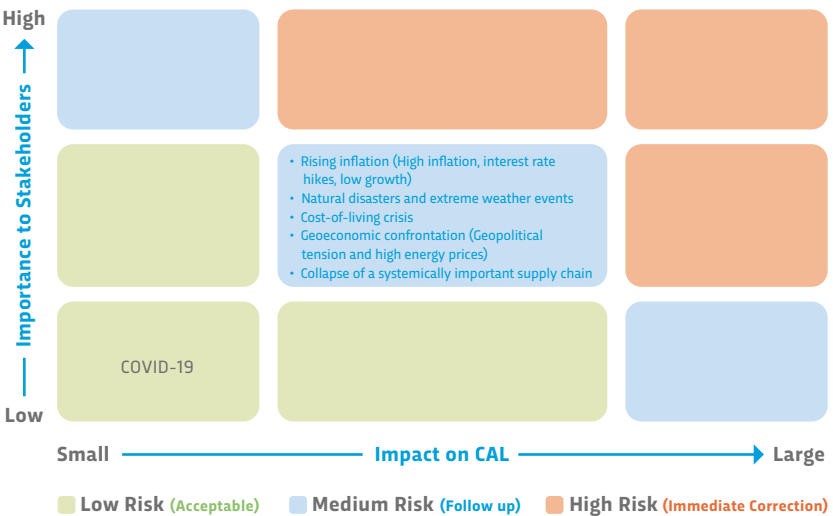
CAL manages risks with consideration of the business environment and daily operations in the aviation industry. Risk incidents have different impacts on business operations, in terms of their regions, degrees, and timeliness; risk incidents fall into certain categories and periods of time. If risks are monitored by a single mechanism, doing so may compromise the risk control results. In view of this, CAL divides risk sources by medium-term / long-term strategic risks and traditional risks, and then monitors the risks through the existing Business Strategy Management and Annual Business Plan / Operational Risk Management.

Risk Management Analysis



CAL has established an emerging risk identification process, completed a risk matrix for emerging risks, regularly conducted risk assessment and develop countermeasures to mitigate the impact of emerging risks in the aviation industry.

Emerging Risk Matrix



Traditional Risks

Traditional risks refer to short-term risk incidents that have an impact on business operations for less than one year and can be solved in a short period of time. Traditional risks are divided into safety, operational, financial, personal information, and information security, and are managed with the goals of mitigating risks, strengthening resilience to crises, protecting stakeholders' interests, and enhancing corporate sustainability.

1. Safety and Security Risk Management

Safety is the foundation of the aviation industry. Customer trust can only be earned by having an outstanding record of flight safety. Based on the Safety Management System (SMS) and the procedures for safety risk management, the Corporate Safety Office reviews and evaluates internal and external operational risks with respect to flight operations, maintenance, cabin services, and ground operations, then proposes corrective measures. Refer to [2-1 Trust](#)

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2. Business Operational Risk Management

The aviation industry faces an ever-changing business environment. Apart from major political and economic turmoil, unexpected incidents internal and external to our organization can also have a considerable impact on the Company's business operations. The Corporate Development Office analyzes potential risk incidents that may have an impact on business operations, and develops concrete countermeasures based on the analysis results in order to reduce the impact of risks on the Business Strategies and the Annual Business Plan. Refer to [3-2-1 Analysis of Risks and Opportunities in the Business Environment](#)

3. Financial Risk Management

An unexpected turn of events in the economic and financial world, both at home and abroad, can affect a company's operating results. In particular, interest rates, exchange rates, inflation, and fuel represent the principal costs for airlines; these costs are very sensitive to external factors and can become quite volatile. Therefore, the Finance Division employs financial hedging instruments to confine the major costs listed above to preset limits and to monitor financial risks on a regular basis. The Division is also responsible for developing relevant strategies and measures to fulfill the objectives of finance-related risk management. Refer to [3-2-1 Analysis of Risks and Opportunities in the Business Environment](#)

4. Information Security and Personal Data Risk Management

CAL appointed the Chief Information Security Officer (CISO) in March 2022. CAL has strengthened its data security framework and management system, continuing to refine the multi-layer defense mechanisms, personnel education and training, social engineering drills and emergency response drills to raise employees' awareness of data security and establish guidelines that comply with laws and regulations and international data security standards. We also integrate the objective results and threat information from third-party verification to reduce overall information security risks. Refer to [2-1-5 Information Security Management](#)

In recent years, increased awareness regarding privacy and personal data security has made personal data protection a critical focus in business management, both in Taiwan and overseas. To enhance the Company's internal audit and personal information management capabilities, we have established a Data Protection Officer (DPO). In 2022, we established a Data Security and Personal Information Management Division as well as a Personal Information Management System to implement, operate, monitor, review, maintain, and improve our personal information protection objectives and policies. The goal is to properly implement our personal information protection management system, strengthen our ability

to respond to personal information incidents, and reduce the risk of personal information risks to maintain customers' trust. Refer to [2-1-6 Privacy Management](#)

Mid-term / Long-term Strategic Risks

Mid-term / long-term strategic risks refer to risk incidents that have a strategic or structural impact on business operations for more than one year, and which cannot be solved in a short period of time. CAL reviews and analyzes its market position and collects industry information, such as internal and external forecasts on market trends and competitor dynamics, every three to five years, then conducts SWOT analysis, and accordingly develops the company vision, mission, and medium-term / long-term strategies.

1. Environmental Risk Management

Recognizing the direct impact and importance of climate issues on the aviation industry, CAL has set three objectives in flight operations and ground operations in response to the voluntary carbon reduction initiatives of the International Civil Aviation Organization (ICAO), the International Air Transport Association (IATA), and "the Civil Aeronautics Administration (CAA)" of the Republic of China (Taiwan). In 2018, CAL further established the Task Force on Climate-Related Financial Disclosures (TCFD). The TCFD is in charge of identifying risks and opportunities, as well as strengthening company-wide carbon management and adaptation to climate change. Refer to [2-3-2 Climate Change Mitigation and Adaptation](#)

2. Emerging Risk Management

The Global Risks Report published by the World Economic Forum (WEF) every January divides risks into five categories of critical risks, namely economic, environmental, geopolitical, social, and technological risks. New risk categories arising from the rapid development of emerging technologies, climate, demographic changes, information security, and cyber attacks have increased, along with gradually increasing likelihoods of such risk incidents. Therefore, CAL has incorporated these identified emerging risks within the scope of risk management, reviews emerging risks on a regular basis, and develops countermeasures.

Emerging Risk Management Mechanisms



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Emerging Risk Identification Results

Category	WEF Risk Category / Risk Topic	Impact and Influence on CAL Operations	CAL Response Measures
 Economic	Rising inflation (High inflation, interest rate hikes, low growth) High inflation and tight monetary policies have contributed to high interest rates and economic recession in major economies around the world. These factors and rising operating costs have reduced profitability.	- Inflation coupled with the significant increase in fuel cost led to a 20% increase in overall operating costs compared to the previous year. - The international passenger market began to recover in the fourth quarter, while the international cargo market approached pre-pandemic levels due to the effects of inflation, interest rate hikes, geopolitical tensions, and the decline in global trade. Cargo revenue remained a major source of revenue in 2022.	- We must stabilize financial conditions, secure a steady supply of capital, and strengthen the financial structure to enhance solvency. - We shall continue to monitor the impact of the geopolitical developments on oil prices. When fuel prices are volatile, we shall reduce the number of cargo flights with passenger aircrafts and expand the number of passenger flights to increase revenue from passenger transport. In terms of cargo operations, we shall maximize overall benefits by making use of the belly of passenger aircrafts and cargo aircrafts.
 Environmental	Natural disasters and extreme weather events In terms of the impact of climate change on operations and aviation safety, the increase in the frequency and intensity of extreme weather events (heat waves, droughts, and floods) has a significant impact on the economy, life, and flight safety.	- There has been a series of international initiatives for supporting green energy and carbon reduction in recent years, and the use of sustainable aviation fuel (SAF) has become unavoidable. - The EU plans to include the aviation industry in the emissions trading scheme to gradually eliminate free emission quotas for air transport, and integrate it into the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA). We must pay close attention to verify whether non-EU airlines will be included.	- CAL continues to use sustainable aviation fuel (SAF) for the delivery flights of new fleets. - The Company launched the first "Net Zero Carbon Flights" for all flights departing from Taiwan and purchased carbon credits for all passengers departing from Taiwan on the same day to attain carbon neutrality. - We attended the Aviation SMS Summit and shared our views on aviation legislation, flight operations, aircraft maintenance and repairs, and safety management. - We continue to implement IOSA certification standards and meet requirements in international regulations to ensure flight safety by taking real actions and providing the best and most reliable services to passengers.
 Social	Cost-of-living crisis The pandemic created an unprecedented crisis for the aviation and tourism industry. Governments have taken three major steps including epidemic prevention, relief, and revitalization to help the industry through the difficulties. Due to the pandemic, industrial transformation, and changes in the workplace, many companies face difficulties in labor shortages during the recovery, creating immense challenges for the restoration for operations and business development.	- Different countries have different timetables for reopening. The aviation industry (ground services, repairs, and pilots) and the tourism industry are plagued by labor shortages, which affect the resumption of flights. - The tech industry also attracted talents from the aviation industry. - Reduced business travel means a slow recovery of sources of high revenue.	- The Company did not lay off employees during the pandemic to protect employees' right to work, and we expanded recruitment programs to increase manpower and strengthen professional training during the recovery. - To create a more flexible and resilient business model in the post-pandemic era, the Company shifted its strategy from focusing on cargo services during the pandemic to focusing on both passenger and cargo services in the post-pandemic era to expedite business growth in the post-pandemic era. - We expanded contactless services to all fleets to protect the health of passengers and ensure flight safety.
 Geopolitics	Goeconomic confrontation (Geopolitical tension and high energy prices) Due to the Russia-Ukraine War, airline companies are forced to adjust their routes to avoid high-risk areas. The increase in flight time and cost, coupled with the impact of high oil prices, exacerbated the difficulties and challenges for businesses.	- Avoiding high-risk areas requires adjustments in cargo routes to Europe and the Americas, which increases flight time and fuel consumption. - The Russia-Ukraine War, caused international oil prices to rise and increased fuel cost by nearly 70%, which accounted for 40% of operating costs.	- We use fuel hedging and adjust fuel surcharges to offset parts of the fuel cost. - We deploy four fuel saving strategies including, Renew Fleet, Reduce Weight of Aircraft, Enhance Operational Improvements, and Advance Maintenance & Operation to reach the goal of net zero carbon emissions by 2050.
 Economic	Collapse of a systemically important supply chain The power struggle between the United States and China has been transformed from trade tensions into a technology competition, which has led to the reorganization of the global supply chain. It contributed to the regionalization and localization of the manufacturing industry and the New Southbound Policy and New Eastbound Policy will also create changes in the movement of people and goods.	- Taiwan is an export-oriented economy and is highly sensitive to changes in the global economy. High inflation, tightened monetary policies, decline in end-user demand, inventory adjustments in the industry chain, reduced demand, and an influx of belly capacity in passenger aircrafts on the market resulted in a decline in cargo volume and prices. - The Company's export volume accounted for 20% and transshipment volume accounted for over 60%. The cargo tonnage in 2022 decreased by 16% compared to the previous year.	- We actively pursue business opportunities for passenger and cargo services as supply chains expand overseas. - We added cargo flights to Europe and the Americas and pursued business opportunities for high-price charter flights and medium to long-term customized services to expand competitive advantages and consolidate Taiwan's position as a hub. - We expanded potential destinations in Southeast Asia for passenger services and added routes to Southeast Asia that connect to Europe and the Americas to target passengers on transfer flights.

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(GRI 2-23, 2-24, 2-25, 2-27, 205-2, 206-1, 412-2)

Internal Regulations and Code of Conduct

Regulatory compliance and integrity are the basis of business management. CAL shapes its corporate culture and values through the formulation of internal regulations and codes of conduct that emphasize business integrity. The Board of Directors, employees, and business partners have completed related training programs in accordance with the code of conduct and commitments. To establish sound corporate governance as its business foundation, CAL has set the Code of Corporate Governance, the Board Directors Code of Ethical Conduct, Executive Code of Ethical Conduct, the Procedure for Handling Material Inside Information, the Ethical Corporate Management Best Practice Principles, and the Procedures for Ethical Management and Guidelines for Conduct. CAL fully complies with related laws and regulations and is committed to six major principles: protecting shareholders' rights and interests, strengthening Board of Directors functions, adhering to regulations concerning the Board, adopting decision-making procedures of the Board (including avoidance of conflicts of interests), respecting stakeholders' rights and interests, and enhancing information transparency. In accordance with Article 9 of the Procedures for Ethical Management and Guidelines for Conduct, CAL takes a politically neutral stance and has never provided political donations. In addition, the Board of Directors Code of Ethical Conduct (the anti-corruption training for directors were implemented in 2021; training details as shown under "3-3 Compliance" in the [2021 CAL Sustainability Report](#) for detailed information), and Employee Code of Conduct have been formulated to ensure that the Board of Directors and employees behave ethically and comply with anti-corruption laws. In 2017, CAL launched a three-year awareness-raising program to strengthen our corporate sustainability DNA and added the new CAL Group Code of Conduct and implemented related training that all employees have completed in 2020, and continued training new recruits, with a total training completion rate of 100% (training details for 2017-2019 as shown under "3-1-2 Compliance" in the [2019 CAL CSR Report](#); training details for 2020 as shown under "3-1-3 Compliance" in the [2020 CAL CSR Report](#); training details for 2021 as shown under "3-3 Compliance" in the [2021 CAL Sustainability Report](#)). In 2022, CAL completed training for 288 new employees and the total training completion rate remained 100% (**Note 2**). To maintain compliance awareness, we organized training for all employees in February 2023 totaling 10,778 attendances and the training completion rate was 99.9% (as of March 14) (**Note 1 and Note 2**). CAL employee who violates the code of conduct of the China Airlines Group will be punished in accordance with the relevant provisions of the employee reward and

punishment regulations and included in the performance evaluation mechanism; depending on the situation, annual bonus / salary adjustment will not be paid according the annual bonus and salary promotion regulations. In 2022, there is no corruption, violation of customer privacy, conflict of interest, or money laundering / insider trading cases happened in CAL. We provided training on the Code of Conduct to affiliates in 2018. We also organized training on the Code of Conduct and the corporate sustainability vision to promote CSR awareness in 2020 for 5,140 participants. We have attained our medium-term sustainability goal of providing more than 2 CSR training courses for affiliates by 2025. The Company also organized a management meeting of the Group in 2022 to communicate the responsibilities and obligations of directors and supervisors and matters of compliance for affiliates in response to the amendment of financial regulations. The Company will continue to promote related training programs in the future. As suppliers are important partners of the Company, we requested all suppliers that have signed contracts with the Company in 2022 to sign and implement the Supplier Code of Conduct (including compliance with laws and regulations and anti-corruption regulations).

Note 1: Trainees include separated employees.

Note 2: Only applicable to CAL.

In recent years, the Company has continued to strengthen its compliance with the Fair Trade Act and antitrust regulations. The Company used a major international antitrust case as an example to remind its management and all business practitioners to remain vigilant, and the Company also held physical education training in 2020 on "Compliance with the Fair Trade Act" and invited the Fair Trade Commission, the competent authority, to promote the concept of compliance with the Fair Trade Act to our head office, branches, and affiliated companies. In addition, since 2013, front-line business unit supervisors are required to complete an Antitrust Audit Checklist, which is included in the auditor's random checks. In 2021, we conducted E-learning on antitrust compliance for personnel of the passenger units; for personnel of the cargo units, the Cargo Division instructed all stations across all lines to promote the idea of not negotiating with or inappropriately collaborating with competitors to avoid the risk of breaking the law. In 2022, the Company appointed Stellex Law Firm to produce antitrust compliance training materials and organized in-person and online training for all passenger and cargo service employees of the Company (including outstations). We uploaded the Antitrust Audit Checklist for trainees to fill out for future reference. There were no antitrust-related penalties in 2021 and 2022. Please refer to page the [Annual Report](#) for more information on whether the Company was implicated in violations of laws, contents of violations, and penalties.

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List of Standards Documents

Item	Regulating Object (s)	Purpose
Code of Corporate Governance	CAL and its subsidiaries	To establish a sound corporate governance system and an effective corporate governance framework
Ethical Corporate Management Best Practice Principles	Directors, managers, employees, and appointees of CAL and those having substantial control	To strengthen CAL's corporate culture that values business integrity and to improve the business environment for sustainable development
Procedures for Ethical Management and Guidelines for Conduct	Directors, managers, employees, and appointees of CAL and its subsidiary companies and organizations and those having substantial control	To implement the policy of business integrity, to actively prevent fraudulent conduct, and to regulate matters that should be taken care of by employees when performing business
China Airlines Ltd. Procedure for Handling Material Inside Information	Directors, managers, and employees of CAL and those knowing CAL's material inside information due to their identity, occupation or control	To avoid improper disclosure of information and to ensure the consistency and correctness of information published by CAL
Board Directors Code of Ethical Conduct	All Directors	To regulate the ethics and conduct of directors when performing their duties in pursuit of CAL's maximum benefits and sustainable development
Executive Code of Ethical Conduct	CAL's representative (Chairman) and managers (including President, Senior Vice President and equivalents, head of Finance Division, head of Accounting Division, and officers managing affairs and having the right to sign on behalf of the Company)	To guide executives to follow the ethics and conduct and to help stakeholders better understand the Company's code of ethics
Employee Code of Conduct	All employees	To guide employees to follow the codes of conduct covering anti-corruption in the workplace
CAL Code of Conduct	Employees and suppliers of the Company and its subsidiaries, any foundation to which the Company's direct or indirect contribution of funds exceeds 50 percent of the total funds received, and other institutions or juridical persons which are substantially controlled by the Company	To guide the CAL Group to follow related laws and regulations and shape a corporate culture that creates sustainable value for stakeholders
Supplier Code of Conduct	All suppliers and contractors	To achieve the goal of sustainable supply chain management, so as to increase the sustainability of a large number of suppliers

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Financial Performance

I. Five-Year Financial Summary

Consolidated Condensed Balance Sheet - Based on IFRS (CAL Group)

(Unit: TWD thousands)

Item		Financial Summary for the Last Five Years				
		2018	2019	2020	2021	2022
Current assets		52,827,560	51,822,342	61,872,468	85,849,590	69,822,343
Property, Plant and equipment		163,107,718	145,886,971	141,481,694	129,632,046	128,207,404
Intangible assets		1,210,796	1,182,692	1,076,351	1,008,992	883,420
Other assets		12,990,508	94,155,974	79,763,571	78,230,453	95,499,026
Total assets		230,136,582	293,047,979	284,194,084	294,721,081	294,412,193
Current liabilities	Before distribution	62,649,715	60,949,892	76,351,527	53,239,105	71,255,078
	After distribution	62,086,170	76,351,527	62,649,715	58,239,105	-
Non-current liabilities		109,139,606	156,564,335	160,832,796	164,276,958	150,703,673
Total liabilities	Before distribution	170,089,498	232,915,862	223,482,511	217,516,063	221,958,751
	After distribution	171,225,776	232,915,862	223,482,511	222,516,063	-
Equity attributable to shareholders of the parent		57,081,572	56,553,772	57,559,483	74,043,573	70,000,201
Capital stock		54,209,846	54,209,846	54,209,846	59,412,243	60,135,374
Capital surplus	Before distribution	1,241,214	2,488,907	1,187,327	2,694,529	3,120,311
	After distribution	1,241,214	1,191,065	836,746	2,694,529	-
Retained earnings	Before distribution	1,615,661	-1,297,842	-350,581	9,253,848	7,309,766
	After distribution	4,253,848	0	0	4,253,848	-
Other equity interest		58,223	1,196,233	2,543,766	2,713,828	-534,375
Treasury shares		-43,372	-43,372	-30,875	-30,875	-30,875
Non-controlling interest		2,965,512	3,578,345	3,152,090	3,161,445	2,453,241
Total equity	Before distribution	60,047,084	60,132,117	60,711,573	77,205,018	72,453,442
	After distribution	58,910,806	60,132,117	60,711,573	72,205,018	-

Consolidated Condensed Statement of Comprehensive Income - Based on IFRS (CAL Group)

(Unit: TWD thousands; EPS (net) = TWD)

Item		Financial Summary for the Last Five Years				
		2018	2019	2020	2021	2022
Revenue		170,711,607	168,444,160	115,250,550	138,841,403	150,722,471
Gross profit		17,207,531	16,686,928	10,219,201	23,354,457	11,370,213
Operating Profit (Loss)		4,022,383	2,665,821	2,184,416	14,968,035	2,584,734
Non-operating Income and Expenses		-941,134	-2,762,638	-2,838,213	-3,841,430	76,026
Pretax Profit (Loss)		3,081,249	-96,817	-653,797	11,126,605	2,660,760
Income from operations of continued segments - after tax		2,272,684	-675,002	-279,814	8,956,664	2,245,401
Income from discontinued operations		-	-	-	-	-
Net Income (Loss)		2,272,684	-675,002	-279,814	8,956,664	2,245,401
Other comprehensive income (Income / Loss after taxes)		-578,363	462,758	864,072	30,581	-3,043,929
Total Comprehensive Gain (Loss) for the Year		1,694,321	-212,244	584,258	8,987,245	-798,528
Net income attributable to shareholders of the parent		1,790,361	-1,199,798	140,000	9,379,905	2,859,503
Net income attributable to non-controlling interest		482,323	524,796	-419,814	-423,241	-614,102
Comprehensive income attributable to Shareholders of the parent		1,258,035	-647,085	966,968	9,429,042	-292,972
Comprehensive income attributable to non-controlling interest		436,286	434,841	-382,710	-441,797	-505,556
Earnings (Loss) per share		0.33	-0.22	0.03	1.67	0.48

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Condensed Balance Sheet - Based on IFRS (CAL Only)

(Unit: TWD thousands)

Item		Financial Summary for the Last Five Years				
		2018	2019	2020	2021	2022
Current assets		42,932,859	40,989,612	51,858,785	73,846,790	59,536,245
Property, Plant and Equipment		149,029,054	131,029,886	126,414,462	115,174,548	114,770,352
Intangible assets		979,708	971,298	867,453	754,349	654,596
Other assets		21,972,600	95,885,709	81,769,065	80,875,029	93,131,005
Total assets		214,914,221	268,876,505	260,909,765	270,650,716	268,092,198
Current liabilities	Before distribution	55,179,834	68,000,173	56,740,010	45,666,704	62,280,883
	After distribution	56,316,112	68,000,173	56,740,010	50,666,704	-
Non-current liabilities		102,652,815	144,322,560	146,610,272	150,940,439	135,811,114
Total liabilities	Before distribution	157,832,649	212,322,733	203,350,282	196,607,143	198,091,997
	After distribution	158,968,927	212,322,733	203,350,282	201,607,143	
Equity attributable to shareholders of the parent		57,081,572	56,553,772	57,559,483	74,043,573	70,000,201
Capital stock		54,209,846	54,209,846	54,209,846	59,412,243	60,135,374
Capital surplus	Before distribution	1,241,214	2,488,907	1,187,327	2,694,529	3,120,311
	After distribution	1,241,214	1,191,065	836,746	2,694,529	
Retained earnings	Before distribution	1,615,661	-1,297,842	-350,581	9,253,848	7,309,766
	After distribution	479,383	0	0	4,253,848	-
Other equity interest		58,223	1,196,233	2,543,766	2,713,828	-534,375
Treasury shares		-43,372	-43,372	-30,875	-30,875	-30,875
Non-controlling interest		-	-	-	-	-
Total equity	Before distribution	57,081,572	56,553,772	57,559,483	74,043,573	70,000,201
	After distribution	55,945,294	56,553,772	57,559,483	69,043,573	-

Condensed Statement of Comprehensive Income -Based on IFRS (CAL Only)

(Unit: TWD thousands; EPS (net) = TWD)

Item	Financial Summary for the Last Five Years				
	2018	2019	2020	2021	2022
Revenue	150,264,792	146,372,401	106,327,123	132,140,248	141,069,849
Gross profit	12,649,836	11,364,235	11,136,944	25,910,694	12,980,501
Operating Profit	1,847,567	80,235	4,884,855	19,320,396	5,917,040
Non-operating Income and Expenses	468,064	-1,267,561	-4,713,760	-7,346,456	-2,028,138
Pretax Profit (Loss)	2,315,631	-1,187,326	171,095	11,973,940	3,888,902
Income from operations of continued segments - after tax	1,790,361	-1,199,798	140,000	9,379,905	2,859,503
Income from discontinued operations	-	-	-	-	-
Net Income (Loss)	1,790,361	-1,199,798	140,000	9,379,905	2,859,503
Other comprehensive income (Income / Loss after taxes)	-532,326	552,713	826,968	49,137	-3,152,475
Total Comprehensive Gain (Loss) for the Year	1,258,035	-647,085	966,968	9,429,042	-292,972
Net income attributable to shareholders of the parent	0.33	-0.22	0.03	1.67	0.48

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II. Five-Year Financial Analysis

Consolidated Financial Analysis - Based on IFRS (CAL Group)

Item		Financial Summary for the Last Five Years				
		2018	2019	2020	2021	2022
Financial structure (%)	Debt Ratio	73.91	79.48	78.64	73.80	75.39
	Ratio of long-term capital to fixed assets	103.73	148.54	156.59	186.28	174.06
Solvency (%)	Current ratio	86.67	67.87	98.76	161.25	97.99
	Quick ratio	67.50	54.57	84.18	144.08	81.48
	Interest earned ratio (times)	338.05	103.79	74.92	566.29	194.07
Operating performance	Accounts receivable turnover (times)	18.30	18.13	12.64	11.98	12.25
	Average collection period	19.95	20.13	28.87	30.46	29.80
	Inventory turnover (times)	-	-	-	-	-
	Accounts payable turnover (times)	-	-	-	-	-
	Average days in sales	-	-	-	-	-
	Property, plant and equipment turnover (times)	1.08	1.09	0.80	1.02	1.17
	Total assets turnover (times)	0.75	0.64	0.40	0.48	0.51
Profitability	Return on total assets (%)	1.48	0.76	0.75	3.76	1.45
	Return on stockholders' equity (%)	3.81	-1.12	-0.46	12.99	3.00
	Pre-tax income to paid-in capital (%)	5.68	-0.18	-1.21	18.73	4.42
	Profit ratio (%)	1.33	-0.40	-0.24	6.45	1.49
	Earnings per share (NT\$)	0.33	-0.22	0.03	1.67	0.48
Cash flow	Cash flow ratio (%)	44.34	49.15	15.52	93.70	65.75
	Cash flow adequacy ratio (%)	366.94	518.33	579.28	825.91	678.90
	Cash reinvestment ratio (%)	8.17	12.24	2.98	15.20	13.23
Leverage	Operating leverage	6.00	14.20	16.28	3.11	13.40
	Financial leverage	1.52	-3.95	-2.50	1.19	58.82

Financial Analysis - Based on IFRS (CAL Only)

Item		Financial Summary for the Last Five Years				
		2018	2019	2020	2021	2022
Financial structure (%)	Debt Ratio	73.44	78.97	77.94	72.64	73.89
	Ratio of long-term capital to fixed assets	107.18	153.31	161.51	195.34	179.32
Solvency (%)	Current ratio	77.81	60.28	91.40	161.71	95.59
	Quick ratio	57.87	45.87	76.90	142.97	77.14
	Interest earned ratio (times)	292.02	60.78	99.48	660.63	258.73
Operating performance	Accounts receivable turnover (times)	16.57	16.72	12.34	11.83	11.90
	Average collection period	22.46	21.83	29.57	30.86	30.67
	Inventory turnover (times)	-	-	-	-	-
	Accounts payable turnover (times)	-	-	-	-	-
	Average days in sales	-	-	-	-	-
	Fixed assets turnover (times)	1.03	1.05	0.83	1.09	1.23
	Total assets turnover (times)	0.70	0.61	0.40	0.50	0.52
Profitability	Return on total assets (%)	1.33	0.51	0.89	4.18	1.72
	Return on stockholders' equity (%)	3.14	-2.11	0.25	14.25	-3.97
	Pre-tax income to paid-in capital (%)	4.27	-2.19	0.32	20.15	-12.90
	Profit ratio (%)	1.19	-0.82	0.13	7.10	-2.03
	Earnings per share (NT\$)	0.33	-0.22	0.03	1.67	-0.48
Cash flow	Cash flow ratio (%)	43.61	48.16	24.19	109.78	73.20
	Cash flow adequacy ratio (%)	381.09	557.30	610.31	708.23	600.13
	Cash reinvestment ratio (%)	7.68	11.34	4.50	16.38	13.80
Leverage	Operating leverage	11.25	396.38	7.15	2.46	5.82
	Financial leverage	3.45	-0.03	2.32	1.13	-1.60

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III. Aggregate Mapping of Our Eligibility and Alignment to the Sustainability Taxonomies

(Unit: TWD thousands)

Item	Revenue		Capital Expenditure		Operational Expenditure	
Total figures	141,069,849	100.0%	26,631,017	100.0%	135,152,809	100.0%
Total of which is Taxonomy- Eligible	0		0		0	
Total of which is Taxonomy- Aligned	0		0		0	
Total of which is not Taxonomy Eligible	141,069,849 (100%)		26,631,017 (100%)		135,152,809 (100%)	

Note : CAL is actively introducing new-generation energy-saving aircraft to improve fuel efficiency and reduce carbon emissions effectively. At the same time, it also reduces air pollutants such as NOx, STHC, NMHC, CO, PM, and noise pollution. CAL has successively introduced energy-saving aircraft such as A350, B777, B777F, and A321neo from 2016 to 2022. Taiwan announced sustainability taxonomy guidelines at the end of 2022, but they have not started to apply, and there are no guidelines or technical screening standards applicable to the aviation industry. CAL complies with the "Forward-looking economic activities" of the Taiwan Financial Supervisory Committee, "The application of low-carbon transportation technology" has made substantial contributions to the mitigation of climate change and meets the requirements of "No significant harm to other environmental purposes and social security."

Customer Satisfaction Table in 2022

Passenger Satisfaction

Item	2020	2021	2022
Yearly Goal (%)	87.8	87.8	87.8
Passenger Satisfaction (%)	88.6	90.7	90.5

Passenger Service Satisfaction Rate

Item	2020	2021	2022
Airport Services	90.5	92.8	92.3
Cabin Crew Service	90.2	93	93.2
Cabin Cleaning	89.8	93	92.5
Catering Services	82.8	84	84.2
Multimedia Entertainment Contents	85.5	85.4	86.0

IV. Organizations, Initiatives, Policies, Contributions and Other Expenses

Item	2019	2020	2021	2022
Lobbying, interest representation or similar	0	0	0	0
Local, regional or national political campaigns / organizations / candidates	0	0	0	0
Trade associations or tax-exempt groups (e.g. think tanks)	57,184,184	33,250,413	30,734,332	36,942,418
Other (e.g. spending related to ballot measures or referendums)	0	0	0	0
Total contributions and other spending	57,184,184	33,250,413	30,734,332	36,942,418
Data coverage (as % of denominator, indicating the organizational scope of the reported data)	100	100	100	100

Note : Total contributions and expenditures to political activities, political organizations, lobbying or lobbying organizations, trade associations, and other tax-exempt groups in past years

Freight Service Customer Satisfaction

Item	2020	2021	2022
Yearly Goal (%)	88.0	88.0	88.0
Freight Service Customer Satisfaction (%)	88.5	88.3	89.5

Engineering and Maintenance Factory Customer Satisfaction

Item	2020	2021	2022
Goal (Note 1)	8.40	8.4	8.4
Engineering and Maintenance Factory Customer Satisfaction	8.57	8.24	8.8

Note 1 : Highest score is 10 points.

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Environmental Performance

Item	Unit	Unit	2019	2020	2021	2022	2022 Objective	Achievement Rate
Category 1 GHG Emissions	Flight operations	Tons CO ₂ e	7,059,083	5,787,751	5,875,531	5,435,050	5,903,148	108%
	Ground Operations	Tons CO ₂ e	4,981	3,051	2,897	4,041		
Category 2 GHG Emissions	Ground Operations	Tons CO ₂ e	18,169	17,572	16,697	16,468	18,368	112%
Category 3-6 GHG Emissions (Note 1)	Ground Operations	Tons CO ₂ e	1,607,690	1,326,227	1,364,016	1,240,935	1,369,752	110%
Aviation Fuel Efficiency	All Aircrafts (non-renewable energy)	Tons	2,230,971	1,829,328	1,857,073	1,717,758	Fleet fuel efficiency 0.2405 Tons / Thousand RTK	99.85%
	Sustainable Aviation / Alternative Fuel	Tons (%)	0	0	7.7 (4.15E-4)	14.8 (8.6E-4)	Used 10% SAF for the delivery flights of new aircrafts	100%
Aviation Fuel Efficiency	Passenger Aircraft	L/RPK*100	4.2859	15.2246	18.9433	7.2469	15.2246	210%
	Cargo Aircraft	L/FRTK	0.2285	0.2252	0.1830	0.2060	0.2252	109%
	All Aircrafts (Note2)	Tons / thousand RTK	0.2459	0.2586	0.2442	0.2472 0.2409*	0.2405	97.3% 99.85%
Energy Consumption	Fossil Fuels	MWh	29,114,586	23,873,099	24,234,273	22,415,669	Energy consumption	108%
	Electricity Purchased	MWh	34,088	34,523	33,260	32,354	24,368,673	
	Elevator Power Regeneration	kWh	1,423	1,177	889	11,213	Full operation	100%
	Renewable Energy (Solar)	MWh	90	117	127	110	120	92%

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

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

Item	Item	Unit	2019	2020	2021	2022	2022 Targets	Achievement Rate
Water Resources	Tap water withdrawal	Million tons	0.146490	0.126774	0.112768	0.099207	0.143918	145%
	Total waste recycling and reuse	Tons	1,550	964	675	911	1,446	159%
Waste disposal (including in-flight/ground)	Total waste disposal	Tons	3,573	1,375	758	1,435	2,062	144%
	Incineration (energy recovery)	Tons	2,468	851	271	745	1,277	171%
	Incineration (without energy recovery)	Tons	966	425	410	629	638	101%
	Waste processing via other disposal methods	Tons	139	99	77	61	98	160%
NOx	Passenger Aircraft	g / RPK	0.0149	0.0400	0.0538	0.0183	0.0400	219%
	Cargo Aircraft	g / RTK	0.0321	0.0317	0.0290	0.0291	0.0317	109%
	Food waste produced (including in-flight and VIP lounge services)	Tons	3000	1018	245	774		
Food waste management	Coverage	%	65%	65%	85%	85%	1,526	197%
	Percentage of alternative disposal	%	100	100	100	100	100	100%
	Food waste ratio	kg/meal	0.32	0.58	1.73	0.65	0.86	134%
Plastic packaging (plastic packaging related to passenger /cargo transport) (Note 3)	Weight of plastic packaging	Tons	479	353	411	682	423	62%
	Percentage of purchase of plastic packaging (Note 4)	%	0.15%	0.06%	0.02%	0.1%	0.06%	60%
	Percentage of recyclable plastic packaging	%	32.5%	81.3%	91.2%	81.4%	81.3%	100%
	Percentage of recycled plastic packaging (Note 5)	%	21.62%	9.83%	3.4%	4.42%	3.50%	126%
Environmental investment(Note 6)	Green investment	TWD thousand	238,770	175,074	177,098	170,852	-	-
	Saving and cost avoidance	TWD thousand	867,680	864,422	557,807	525,707	-	-
Item	Total Weight of Package (ton)	Percentage of Purchase (Note 4)	Percentage of Recycled materials and Certified Materials (Note 7)			2022 Targets	Achievement Rate	
Wood or Paper Packaging	115	0.01%	52.76%			52%	101%	
Metal Packaging	285	0.54%	100%			100%	101%	
Glass Packaging	4	0.00%	100%			100%	101%	

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

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

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

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

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

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Management of Material Human Rights Issues in 2022 (GRI 412-1)

The mitigation and remedial measures in the table below shall apply to all locations of operations of CAL across the globe based on local conditions.

Node of Value Chain		Human Rights Issues	Mitigation Measures (Prevention)	Remedial Measures (Response)
Upstream	Supply Chain Partners	Right to Privacy	Formulated the "Personal Information Entrustment Management Procedure" to regulate the matters requiring attention and rights and responsibilities for product / service providers (suppliers) entrusted to handle personal information. The Privacy Protection Policy and Statement on CAL's official website also specify that when CAL provides the involved party's personal information for the third party to use, the third party is requested to comply with the relevant policies, rules, and regulations	CAL has established a sustainable supply chain management mechanism, and the high-risk sustainability issues of supply chain partners are audited, guided, and improved through review
		Protection of Labor Conditions	- Established the China Airlines Policy Statement on Sustainable Supply Chain Management and the China Airlines Supplier Code of Conduct, requiring all suppliers to implement management in accordance with the information security, labor human rights, and labor conditions, as well as the occupational safety spirit as stipulated - Kept abreast of the current status of critical suppliers management through the periodic supply chain sustainability risk survey	
		Forced Labor	- Established the China Airlines Policy Statement on Sustainable Supply Chain Management and the China Airlines Supplier Code of Conduct, requiring all suppliers to eliminate forced labor and protect the freedom of labor as stipulated - Kept abreast of the current status of critical suppliers management through the periodic supply chain sustainability risk survey	
Midstream	CAL's Operations	Right to Privacy	Formulated a standard operating procedure in accordance with CAL's "Personal Information Management System" for collecting, handling and, using personal information to ensure regulatory compliance	Formulated a standard operating procedure in accordance with CAL's "Personal Information Management System" for collecting, handling and, using personal information to ensure regulatory compliance
		Protection of Labor Conditions	- Held regular labor-management meetings at the headquarters and each unit to negotiate labor conditions and welfare with employee representatives - Formed the Occupational Safety and Health Committee, Labor Pension Reserve Supervisory Committee, and Employee Welfare Committee to protect employees' labor rights and improve the work environment - CAL signed three-year collective bargaining agreements with the corporate union and Taoyuan Union of Pilots at the end of 2021 to protect employee rights and interests - The manpower-lean policies were implemented to address COVID-19 and to balance business operation and employees' labor conditions	Established diversified response and grievance channels for employees to report grievances in accordance with the employee complaint procedures. The Company shall process and respond to ensure that any harm to employees' labor rights are adequately addressed.
		Forced Labor	- Stated that forced labor is prohibited in the human rights policy and established the methods for employees to perform duties in the Human Resource Manual and the Working Rules to ensure compliance with the Human Rights Policy - Cabin crew scheduling assignments are based on standards superior to regulations, and provided with fatigue management mechanisms, a system to review and adjust shift schedules and achieve even distribution of flight assignments as much as possible, and regular meetings for review and improvements - Reserve passenger seats or crew bunks on specific flights to allow the crew rest on board and relieve work fatigue whenever necessary - Use the scheduling or attendance system to monitor employees' daily work hours to ensure compliance with regulations - Organize compliance training on human resource regulations for managers to ensure that they are familiar with requirements in related government regulations and company rules - All overtime work must be approved by the employee and the supervisor and no employee shall be forced to do overtime work - Organize surveys on employees' willingness to be assigned overseas or to affiliates and no employee who is unwilling to be assigned overseas or to affiliates will be forced to do so	- Operated various committees with employees' participation to discuss labor conditions, work environment, and workplace safety and to ensure improvements as well as remedial and preventive measures against violations of rights and interests - CAL has always been committed to upholding human rights and protecting employees' rights and benefits. We provide employees with special leave and benefits superior to requirements in the Labor Standards Act - There were no penalties from labor inspections or any forced or compulsory labor in 2022
Downstream	Customers	Right to Privacy	CAL has always been committed to protecting customers' personal information and privacy in accordance with the Personal Data Protection Act of the R.O.C, the General Data Protection Regulation (GDPR), the California Consumer Privacy Act (CCPA). CAL collects, processes, and uses personal information in a reasonable and safe manner based on the specific purposes authorized by customers, ensuring that the customer can exercise their rights to inquiries, amendment, removal, restriction of personal data use, and withdrawal of consent under the Personal Data Protection Act	CAL has formulated the online form of "Inquiry and Application for Personal Data Rights" and set the DPO mailbox for customers to consult and apply for personal data rights; we also respond to customers within the period specified in the Personal Data Protection Act
		Protection of Labor Conditions	Not applicable	Not applicable
		Forced Labor	Not applicable	Not applicable

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Relevant Data Statistics of Human Resources (GRI 2-21)

Workforce Structure of CAL Group in 2022

Category		Groups									
			Total	Male	Female	Total	Male	Female	Total	Male	Female
Full-time Employees			10,604	5,465	5,139	758	377	381	631	282	349
Non-full-time Employees			102	16	86	38	5	33	44	10	34
Temporary Employees			26	17	9	0	0	0	0	0	0
Age	Under 30		834	311	523	131	31	100	233	61	172
	31-50		6,760	3,151	3,609	462	197	265	359	159	200
	Above 51		3,138	2,036	1,102	203	154	49	83	72	11
The Job Category	Business		2,963	1,231	1,732	327	114	213	278	101	177
	Air Service		4,055	1,520	2,535	202	83	119	342	153	189
	Maintenance		2,123	2,031	92	120	117	3	26	24	2
	Others (Note 1)		1,591	716	875	147	68	79	29	14	15
Ranking	Senior Management (Note 2)		118	88	30	22	21	1	11	9	2
	Mid-level Management		335	233	102	36	25	11	26	16	10
	Junior Manager		169	124	45	37	26	11	44	22	22
	Non-executive Employees		10,110	5,053	5,057	701	310	391	594	245	349
Region	Taiwan		9,445	4,925	4,520	760	368	392	672	291	381
	China		180	95	85	36	14	22	-	-	-
	Asia		699	295	404	-	-	-	3	1	2
	USA		255	113	142	-	-	-	-	-	-
	Europe		106	47	59	-	-	-	-	-	-
	Oceania		47	23	24	-	-	-	-	-	-
Education	Master / PhD		1,378	790	588	73	49	24	82	45	37
	Bachelor		8,783	4,291	4,492	668	293	375	575	236	339
	Senior High		492	367	125	55	40	15	14	10	4
	Others		79	50	29	-	-	-	4	1	3
Total			10,732	5,498	5,234	796	382	414	613	282	349
The Total Number Includes	Indigenous Employees		77	39	38	8	-	8	6	2	4
	Disabled Employees		108	76	32	4	2	2	6	3	3
Interns (Not Included in the Number of Employees)	Interns		44	7	37	14	3	11	-	-	-

Note 1: Job duties - others: including senior executives at the level of vice president and above, auditing and accounting, information technology staff, and all other personnel not categorized above.

Note 2: Senior executives: Level 1 managers and deputies or above; Mid-level managers: Level 2 managers and deputies; Junior-level supervisors: Level 3 managers and deputies.

Note 3: Interns are not included in the total number of employees.

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Workforce Structure of CAL Group by Region in 2022

Company	Category	Groups	2022					
			Taiwan	China	Asia	USA	Europe	Oceania
	Full-time Employees		9,342	180	687	247	103	45
	Non-full-time Employees		86	-	3	8	3	2
	Temporary Employees		17	-	9	-	-	-
	Total		9,445	180	699	255	106	47
	Full-time Employees		722	36	-	-	-	-
	Non-full-time Employees		38	-	-	-	-	-
	Total		760	36	-	-	-	-
	Full-time Employees		628	-	3	-	-	-
	Non-full-time Employees		44	-	-	-	-	-
	Total		672	-	3	-	-	-

Note 1: Full-time Employees are those whose contracted work hours are normal work hours.

Note 2: Non-full-time Employees are those whose contracted work hours are lower than normal work hours.

CAL Contracted Employees (Workers who are not Employees)

Distribution of Dispatched Workers			
Job Type	Male	Female	Total
Maintenance, Cleaning, Marshalling, and other General Ground Services	60	15	75
Paperwork Processing	8	34	42
Number of People	68	49	117

Note 1: The calculation is based on the number of employees as of December 31, 2022.

Note 2: CAL / Tigerair Taiwan have no contracted employees.

Workforce Breakdown by Nationality

Breakdown Based on Nationality	Share in Total Workforce (as % of Total Workforce)	Share in All Management Positions, Including junior, Middle and Senior Management (as % of Total Management Workforce)
Taiwan	89.0	86.5
China	1.64	2.57
Japan	1.71	3.22
USA	1.41	2.09
Malaysia	0.79	0.80
Others	5.45	4.82

Workforce Gender Diversity of CAL in 2022 and Targets

Indicator	Current Conditions (0 - 100%)	Objectives
Share of women in total workforce (as % of total workforce)	48.77%	48% / Target year: 2023
Share of women in all management positions (as % of total management positions)	28.46%	27% / Target year: 2030
Share of women in junior management positions (as % of total junior management positions)	26.63%	27% / Target year: 2025
Share of women in top management positions (as % of total top management positions)	25.42%	25% / Target year: 2025
Share of women in management positions in revenue-generating functions (i.e. excluding support functions such as HR, IT, Legal, etc.)	29.08%	29% / Target year: 2025
Share of women in STEM-related positions (as % of total STEM positions)	10.6%	8% / Target year: 2025

Note: According to DJSI definition, STEM refers to positions related to science, technology, engineering, and math.

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Employee Turnover Statistics of CAL Group in 2022

Category	Groups																		
		2020		2021		2022		2020		2021		2022		2020		2021		2022	
		Amount	Percentage (%)	Amount	Percentage (%)	Amount	Percentage (%)	Amount	Percentage (%)	Amount	Percentage (%)	Amount	Percentage (%)	Amount	Percentage (%)	Amount	Percentage (%)	Amount	Percentage (%)
Age	Under 30	317	40.75%	152	29.12%	106	20.11%	59	57.84%	44	40.37%	25	23.36%	43	63.24%	109	61.46%	107	39.77%
	31-50	189	24.29%	172	32.95%	227	42.67%	21	20.59%	47	43.12%	58	54.21%	20	29.41%	59	30.21%	35	53.41%
	Above 51	272	34.96%	198	37.93%	198	37.22%	22	21.57%	18	16.51%	24	22.43%	5	7.35%	29	8.33%	47	6.82%
Gender	Male	353	52.35%	310	59.39%	302	56.77%	59	57.84%	69	63.30%	67	62.62%	31	45.59%	8	45.83%	6	50.00%
	Female	425	45.37%	212	40.61%	230	43.23%	43	42.16%	40	36.70%	40	37.38%	37	54.41%	44	54.17%	44	50.00%
Region	Taiwan	501	64.40%	311	59.58%	310	58.27%	91	89.22%	106	97.25%	75	70.09%	68	10.00%	96	10.00%	88	10.00%
	China	22	2.83%	19	3.64%	58	10.90%	11	10.78%	3	2.75%	32	29.91%	-	-	-	-	-	-
	Asia	220	28.28%	125	23.95%	98	18.42%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
	USA	221	2.70%	49	9.39%	40	7.52%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
	Europe	8	1.03%	10	1.92%	10	1.88%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
	Oceania	6	0.77%	8	1.53%	16	3.01%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
Voluntary	-	416	3.65%	371	3.41%	393	3.66%	-	-	-	-	-	0.00%	-	-	-	-	-	-
Involuntary	-	362	3.18%	151	1.39%	139	1.30%	-	-	-	-	-	0.00%	-	-	-	-	-	-
Total		778	6.83%	522	4.80%	532	4.96%	102	10.73%	109	12.47%	107	13.44%	68	9.34%	96	14.86%	88	13.04%

Note: Voluntary termination includes resignation, retirement prior to retirement age, application for dismissal, and other factors; involuntary termination includes reaching retirement age and layoffs.

Unpaid Parental Leave Statistics of CAL Group in 2022

Unpaid Parental Leave Statistics									
	Female	Male	Total	Female	Male	Total	Female	Male	Total
Numbers of employees eligible for parental leave in 2022 (A)	593	376	969	23	20	43	47	14	61
Actual Numbers of employees applying for parental leave in 2022 (B)	396	48	444	22	2	24	30	3	33
Rate for employees applying for parental leave in 2022 (B*100 / A)	66.78%	12.77%	45.82%	96%	10%	56%	63.83%	21.43%	54.10%
Numbers of employees expecting to return in 2021 after parental leave in 2022 (C)	223	15	238	20	1	21	16	2	18
Numbers of employees applying to return in 2022 (D)	177	33	210	3	1	4	10	1	11
Return rate in 2022 (D*100 / C)	79.37%	220.00%	88.24%	15.00%	100.00%	19.0%	62.50%	50.00%	61.11%
Total number of employees returning after parental leave in 2021 (E)	175	21	196	5	1	6	14	1	15
Number of employees completing one full year of service after returning from parental leave in 2021 (F)	172	21	193	5	1	6	14	1	15
Rate on return after parental leave in 2022 (F*100 / E)	98.29%	100.00%	98.47%	100.00%	100.00%	100%	100.00%	100.00%	100.00%

Note: (A): Number of employees whose children's date of birth is between January 1, 2019 and December 31, 2022

Gender Pay Gap Analysis of CAL in 2022

Indicator	Difference between Men and Women Employees (%)
Gender pay gap (mean)	17%
Gender pay gap (median)	18%
Bonus gap (mean)	15%
Bonus gap (median)	19%

Note: Due to the differences in salary structure, pilots are not included in the scope of calculation of the table.

Annual Total Compensation Ratio in 2022 (Other Employees is 1) (GRI 2-21)

Indicator	CAL	AE	IT
The annual total compensation for the organization's highest-paid individual to the median annual total compensation for all employees (excluding the highest-paid individual)	2.80	1.89	3.69
The percentage increase in annual total compensation for the organization's highest-paid individual to the median percentage increase in annual total compensation for all employees (excluding the highest-paid individual)	0.61	1.15	0.37

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Employee Training Statistics of CAL Group from 2020 to 2022

Company	Category		2020			2021			2022					
			Training Hours	Amount	Average Hours	Training Hours	Amount	Average Hours	Training Hours	Amount	Average Hours	Total expenses	Number of classes opened	Training completion rate
	The Job Category	Business	115,129	2,110	54.56	98,204	3,301	29.75	90,321	3,282	27.52	227,962,087	4,742	96.00%
		Air service	149,128	4,360	34.20	134,727	4,408	30.56	240,993	4,360	55.27			
		Maintenance	52,568	2,256	23.30	92,594	2,284	40.54	85,491	2,236	38.23			
		Others	31,669	1,381	22.93	28,970	1,631	17.76	34,504	1,767	19.53			
	Gender	Male	162,915	5,240	31.09	167,488	5,705	29.36	243,212	5,772	42.14			
		Female	185,578	4,867	38.13	187,007	5,919	31.59	208,097	5,873	35.43			
	The Job Category	Business	8,462	322	26.28	5,123	310	16.52	3,307	239	13.83	45,879,785	9,254	100.00%
		Air service	15,828	267	59.28	10,713	257	41.68	10,857	223	48.69			
		Maintenance	13,970	151	92.52	9,530	153	62.28	7,424	134	55.40			
		Others	1,548	70	22.11	886	39	22.71	1,796	65	27.63			
	Gender	Male	27,766	424	65.49	18,657	394	47.35	17,187	349	49.25			
		Female	12,044	386	31.20	7,939	365	21.75	6,196	312	19.86			
	The Job Category	Business	7,299	360	20.27	6,352	299	21.24	6,339	3,977	1.59	22,691,140	1,543	94.00%
		Air service	19,092	308	61.99	9,141	287	31.85	84,944	994	85.46			
		Maintenance	296	27	11.06	522	27	19.33	307	18	17.06			
		Others	365	33	45.80	282	33	8.55	2,206	1,247	1.77			
	Gender	Male	14,884	325	30.19	8,503	289	29.42	68,762	2,268	30.32			
		Female	12,168	403	10.96	7,794	357	21.83	23,020	2,735	8.42			

Note 1: Others include executives higher than the rank of vice president, auditors, accountants, information technology personnel, and other employees that are not within the aforesaid categories. For Tigerair Taiwan, others include the Chief Financial Officer, Chief Operating Officer, Chief Commercial Officer, Chief Executive Officer, and Chairman, as well as the Finance Department, Accounting Department, and Information Department.

Note 2: Training hours exclude those at outstations.

Note 3: Average training hours = Total training hours / total number of employees in the category. For CAL, completion rate of training = average completion rate of training. For Mandarin Airlines and Tigerair Taiwan, completion rate of training = completion rate of training in each unit / number of units.

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Comparing the Frequency-Severity Indicator (FSI) in the Past 3 Years

Year	Unit	CAL Park	EMO	Taipei	ohsiung Brar	Taichung Branch (Note 9)	Total
2020	Number of Annual Disabling Injuries	18	6	1	4	0	29
	Absence Days of Annual Disabling Injuries	376	177	6	15	0	574
	FR	134	1.28	1.32	3.65	0	1.45
	SR	28	37	7	13	0	28
	FSI	0.19	0.21	0.09	0.21	0.00	0.20
2021	Number of Annual Disabling injuries	11	7	0	1	Not applicable	19
	Absence Days of Annual Disabling injuries	318	99	0	0	Not applicable	417
	FR	0.84	1.48	0	0.92	Not applicable	0.97
	SR	24	21	0	0	Not applicable	21
	FSI	0.14	0.17	0.00	0.00	Not applicable	0.14
2022	Number of Annual Disabling injuries	7	5	2	0	Not applicable	14
	Absence Days of Annual Disabling Injuries	44	119	132	0	Not applicable	295
	FR	0.53	1.10	2.72	0	Not applicable	0.72
	SR	3	26	180	0	Not applicable	15
	FSI	0.03	0.16	0.69	0.00	Not applicable	0.10

Note 1: Calculated at 8 hours per day per person.

Note 2: Disabling injury frequency rate (FR) refers to the number of disabling injuries per million working hours. The calculation of the FR is as follows: (Number of annual disabling injuries ÷ annual working hours) × 1,000,000 The number of annual disabling injuries includes the number of annual fatalities, permanent total disabilities, permanent partial disabilities, and temporary total disabilities. Numerical approximation of calculation results: The calculation is rounded to two decimal places.

Note 3: Disabling injury severity rate (SR) refers to the total number of days of losses due to disability and injury per million working hours. The calculation of the SR is as follows: (Absence days of annual disabling injuries ÷ Annual working hours) × 1,000,000 The absence days of different types of disabling injuries are calculated based on the online Occupational Hazard System. Numerical approximation of calculation results: The calculation is rounded to the nearest integer.

Note 4: Frequency-Severity Indicator (FSI) is calculated as the square root of (FR) multiplied by (SR) and divided by one thousand. $FSI=\sqrt{((FR\times SR)/1000)}$ Numerical approximation of calculation results: The calculation is rounded to two decimal places.

Note 5: 2020-2022 averages in the air transport industry published by the Ministry of Labor, Executive Yuan: FR=1.37, SR=28, FSI=0.19. COVID-19 cases were excluded.

Note 6: Continue to review the FSI to understand the operational performance of each unit's occupational disaster prevention and implement improvements.

Note 7: TPE has established an occupational safety unit since 2013.

Note 8: This statistic does not include commuter traffic accidents.

Note 9: The organization of Taichung branch has been deleted since 2021.

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Occupational Hazards Statistics of CAL Group in 2022

Item							
	Male	Female	Total	CAL Park	EMO	Taipei Branch	aohsiung Branc
The Number of Recordable Occupational Injuries	6	8	14	7	5	2	0
Disabling Injury Frequency Rate	0.59	0.87	0.72	0.53	1.10	2.72	0
Disabling Injury Severity Rate	12	19	15	3	26	180	0
Incidents Resulting in Work-Related Fatalities	0	0	0	0	0	0	0
The Rate of Fatalities as a Result of Occupational Injury	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Occupational Disease Rate	0.00	0.00	0.00	0.00	0.00	0.00	0.00
The Number of High-consequence Occupational Injuries	0	0	0	0	0	0	0
The Rate of High-consequence Occupational Injuries	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Absence Rate	0.86%	1.26%	1.05%	0.85%	1.35%	3.39%	0.87%
The Total Working Hours	10,147,248	9,163,200	19,310,448	13,139,232	4,507,896	733,056	930,264

Item						
	Male	Female	Total	Male	Female	Total
The Number of Recordable Occupational Injuries	2	0	2	0	1	1
Disabling Injury Frequency Rate	2.69	0.00	1.23	0.00	1.29	0.73
Disabling Injury Severity Rate	110	0	50	0	29	16
Incidents Resulting in Work-Related Fatalities	0	0	0	0	0	0
The Rate of Fatalities as a Result of Occupational Injury	0.00	0.00	0.00	0.00	0.00	0.00
Occupational Disease Rate	0.00	0.00	0.00	0.00	0.00	0.00
The Number of High-consequence Occupational Injuries	0	0	0	0	0	0
The Rate of High-consequence Occupational Injuries	0.00	0.00	0.00	0.00	0.00	0.00
Absence Rate	1.16%	1.73%	1.46%	0.89%	0.83%	0.86%
The Total Working Hours	742,344	873,984	1,616,328	591,712	770,352	1,362,064

Note 1: Frequency of recordable occupational injuries (i.e., disabling injury frequency rate):
(Number of annual disabling injuries ÷ Annual working hours) × 1,000,000.

Note 2: Disabling Injury Severity Rate:
(Absence days of annual disabling injuries ÷ Annual working hours) × 1,000,000.

Note 3: Absence Rate: (Absence days ÷ Annual working days) × 100%. The absence rate target in 2022 is 1.8%. Due to the different labor laws and regulations across countries, the data coverage is based on all employees of China Airlines in Taiwan.

Note 4: Mandarin Airlines/Tigerair Taiwan only have one business location in Taiwan.

Note 5: Disabling Injury Frequency Rate is equivalent to the definition of Recordable Occupational Injuries Rate in the GRI Standards.

Note 6: High-consequence Occupational Injuries: Occupational injuries that lead to fatalities or that are barely possible / difficult to completely recover within six months. Rate of high-consequence occupational injuries (excluding fatalities)=(Number of high-consequence occupational injuries (excluding fatalities) / Number of hours worked)x1,000,000.

Note 7: The most common type of occupational injuries is falling.

Note 8: The organization of Taichung branch has been deleted since 2021.

Note 9: This statistic does not include commuter traffic accidents.

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Non-Employee Occupational Hazards Statistics of CAL Group in 2022

Company	Item	Contracted employees	Contractors
Non-employees of CAL	The Number of Recordable Occupational Injuries	1	2
	Disabling Injury Frequency Rate	4.29	6.05
	Incidents Resulting in Work-Related Fatalities	0	0
	The Rate of Fatalities as a result of Occupational Injury	0.00	0.00
	The Number of High-consequence Occupational Injuries	0	0
	The Rate of High-consequence Occupational Injuries	0.00	0.00
	The Total Working Hours	233,064	330,672

Note: There were no non-employee occupational hazards in Mandarin Airlines / Tigerair Taiwan



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GRI Content Index (GRI 2-4,2-6)

GRI 1, GRI 2, and GRI 3 are based on the GRI Universal Standards 2021, GRI 306 updated to 2020 version, GRI 303 and GRI 403 updated to 2018 version, and others remained 2016 versions)

Usage Statement	CAL discloses information from January 1, 2022 to December 31, 2022 in accordance with the GRI Standards			
GRI 1 in use	GRI 1: Foundation 2021			
GRI Standards / Other Sources	Disclosure Item		Location (Page Number)	Supplementary Description (Including omissions, requests, reasons, and explanation)
General Disclosures				
GRI 2: General Disclosures 2021	2-1	Organizational details	3, 8	
	2-2	Entities included in the organization's sustainability reporting	3	
	2-3	Reporting period, frequency and contact point	3	
	2-4	Restatements of information	-	No restatements of information
	2-5	External assurance	3	
	2-6	Activities, value chain and other business relationships	8, 87, 203	
	2-7	Employees	135	
	2-8	Workers who are not employees	135	
	2-9	Governance structure and composition	22, 172	Refer to the section on the Board of Directors in the Annual Report
	2-10	Nomination and selection of the highest governance body	172	
	2-11	Chair of the highest governance body	172	Refer to the section on the Board of Directors in the Annual Report
	2-12	Role of the highest governance body in overseeing the management of impacts	22	
	2-13	Delegation of responsibility for managing impacts	22	
	2-14	Role of the highest governance body in sustainability reporting	22	Refer to the section on independence in the Annual Report
	2-15	Conflicts of interest	172	Refer to the section on independence in the Annual Report
	2-16	Communication of critical concerns	22	
	2-17	Collective knowledge of the highest governance body	172	
	2-18	Evaluation of the performance of the highest governance body	22	
	2-19	Remuneration policies	172	Refer to Article 5 of the CAL Remuneration Committee Charter
	2-20	Process to determine remuneration	172	Refer to Article 4 of the CAL Remuneration Committee Charter
	2-21	Annual total compensation ratio	142, 196, 198	
	2-22	Statement on sustainable development strategy	6	
	2-23	Policy commitments	131, 186	
	2-24	Embedding policy commitments	186	
	2-25	Processes to remediate negative impacts	131, 186	
	2-26	Mechanisms for seeking advice and raising concerns	29, 35	
	2-27	Compliance with laws and regulations	186	
	2-28	Membership associations	35	
	2-29	Approach to stakeholder engagement	29	
	2-30	Collective bargaining agreements	142	
Material Topics				
GRI 3: Material Topics 2021	3-1	Process to determine material topics	38	
	3-2	List of material topics	38	
	3-3	Management of material topics	38	

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GRI Standards / Other Sources		Disclosure Item	Location (Page Number)	Supplementary description (Including omissions, requests, reasons, and explanation)
General Disclosures				
Material Topics				
Economic				
GRI 201: Economic Performance	201-1	Direct economic value generated and distributed	177	
	201-2	Financial implications and other risks and opportunities due to climate change	102	
	201-3	Defined benefit plan obligations and other retirement plans	142	
	201-4	Financial assistance received from government	-	No such occurrences
GRI 202: Market Presence	202-2	Proportion of senior management hired from the local community	135	
GRI 204: Procurement Practice	204-1	Proportion of spending on local suppliers	89	
GRI 205: Anti-corruption	205-2	Communication and training about anti-corruption policies and procedures	186	
	205-3	Confirmed incidents of corruption and actions taken	-	No such occurrences
GRI 206: Anti-competitive Behavior	206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	186	
Environmental				
GRI 301: Materials	301-1	Materials used by weight or volume	112	
GRI 302: Energy	302-1	Energy consumption within the organization	112	
	302-2	Energy consumption outside of the organization	112	
GRI 2: General Disclosures 2021	302-3	Energy intensity	114	
	302-4	Reduction of energy consumption	112	
	302-5	Reductions in the energy requirements of products and services	112	
GRI 303: Water and Effluents 2018	303-1	Interactions with water as a shared resource	117	
	303-2	Management of water discharge-related impacts	117	
	303-3	Water withdrawal	117	
	303-4	Water discharge	117	
	303-5	Water consumption	117	
GRI 305: Emissions	305-1	Direct (Scope 1) GHG emissions	112	
	305-2	Energy indirect (Scope 2) GHG emissions	112	
	305-3	Other indirect (Scope 3) GHG emissions	112	
	305-4	GHG emissions intensity	114	
	305-5	Reduction of GHG emissions	112	
GRI 306: Waste 2020	305-7	Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	118	
	306-2	Management of significant waste-related impacts	119	
	306-3	Waste generated	119	
GRI 307: Environmental Compliance	307-1	Non-compliance with environmental laws and regulations	-	There were no cases of penalties
GRI 308: Supplier Environment Assessment	308-2	Negative environmental impacts in the supply chain and actions taken	89	

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GRI Standards / Other Sources	Disclosure Item		Location (Page Number)	Supplementary description (Including omissions, requests, reasons, and explanation)
General Disclosures				
Material Topics				
Society				
GRI 401: Employment	401-1	New employee hires and employee turnover	135	
	401-2	Benefits provided to full-time employees that are not provided to temporary or parttime employees	142	
	401-3	Parental leave	142	
GRI 402: Labor/Management Relations	402-1	Minimum notice periods regarding operational changes	142	
GRI 403: Occupational Health and Safety -2018	403-1	Occupational health and safety management system	147	
	403-2	Hazard identification, risk assessment, and incident investigation	147	
	403-8	Workers covered by an occupational health and safety management system	147	
	403-9	Work-related injuries	147	
	403-10	Work-related ill health	147	
GRI 404: Training and Education	404-1	Average hours of training per year per employee	139	
	404-2	Programs for upgrading employee skills and transition assistance programs	61	
GRI 405: Diversity and Equal Opportunity	405-1	Diversity of governance bodies and employees	135	
	405-2	Ratio of basic salary and remuneration of women to men	142	
GRI 406: Non-discrimination	406-1	Incidents of discrimination and corrective actions taken	131	
GRI 407: Freedom of Association and Collective Bargaining	407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	89, 131	
GRI 408: Child Labor	408-1	Operations and suppliers at significant risk for incidents of child labor	-	No such occurrences
GRI 409: Forced or Compulsory Labor	409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	-	No such occurrences
GRI 412: Human Rights Assessment	412-1	Operations that have been subject to human rights reviews or impact assessments	131, 195	
	412-2	Employee training on human rights policies or procedures	186	
GRI 412: Human Rights Assessment	412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	-	No such occurrences
GRI 414: Supplier Social Assessment	414-2	Negative social impacts in the supply chain and actions taken	89	
GRI 415: Public Policy	415-1	Political contributions	-	No such occurrences
GRI 418: Customer Privacy	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	76, 79	

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Airlines Sustainability Accounting Standard

Topic	Accounting Metric	Unit of Measure	Category	Code	Data	Corresponding Section	Page Number
Greenhouse Gas Emissions	Gross global Scope 1 emissions	Tons of CO ₂ e	Quantitative	TR-AL-110a.1	5,439,091	ESG Data and Appendix Environmental Performance	194
	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	NA	Qualitative	TR-AL-110a.2	NA	2-3 Environment	112-116
	1) Total fuel consumed (2) percentage alternative (3) percentage sustainable	Gigajoule Percentage (%)	Quantitative	TR-AL-110a.3	(1) 76 (2) 0 (%) (2)8.6E-4 (%)	2-3 Environment ESG Data and Appendix Environmental Performance	115 206 194
Labor Practices	Percentage of active workforce covered under collective bargaining agreements	Percentage (%)	Quantitative	TR-AL-310a.1	98.41%	2-4-4 Employee Rights	146
	(1) Number of work stoppages (2) Total days idle	Number of people Number of days	Quantitative	TR-AL-310a.2	0	2-4-4 Employee Rights	145
Competitive Behavior	Total amount of monetary losses as a result of legal proceedings associated with anticompetitive behavior regulations	Currency	Quantitative	TR-AL-520a.1	0	3-4 Regulatory Compliance	186
Accident & Safety Management	Description of implementation and outcomes of a Safety Management System	NA	Qualitative	TR-AL-540a.1	NA	2-1-1 Flight Safety	55-65
	Number of aviation accidents	Case	Quantitative	TR-AL-540a.2	0	2-1 Trust	55
	Number of governmental enforcement actions of aviation safety regulations	Case	Quantitative	TR-AL-540a.3	2	2-1 Trust	57
Activity Metrics	Available seat kilometers (ASK)	ASK	Quantitative	TR-AL-000.A	16,460,241,928	3-2 Operational Achievements	178
	Passenger load factor	Percentage	Quantitative	TR-AL-000.B	46.4%	3-2 Operational Achievements	178
	Revenue passenger kilometers (RPK)	RPK	Quantitative	TR-AL-000.C	7,631,700,581	3-2 Operational Achievements	178
	Revenue ton kilometers (RTK)	RTK	Quantitative	TR-AL-000.D	6,280,314,666	3-2 Operational Achievements	178
	Number of departures	Number	Quantitative	TR-AL-000.E	72,275	3-2 Operational Achievements	178
	Average age of fleet	Years	Quantitative	TR-AL-000.F	Average age of aircrafts: 9.97 years Passenger aircrafts: Average age of aircrafts is 8.52 years Cargo aircrafts: Average age of aircrafts is 14.32 years	Preface Business Overview	8

The United Nations Global Compact Comparison Table

Category	The Ten Principles	Corresponding Section	Page Number
Human Rights	Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights	2-4-1 Human Rights Management Framework	131-132
	Principle 2: Make sure that they are not complicit in human rights abuses	3-4 Regulatory Compliance 2-2-2 Sustainable Supply Chain Management	186 89
Labor	Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining	2-4-1 Human Rights Management Framework	131-132
	Principle 4: The elimination of all forms of forced and compulsory labor	2-4-1 Human Rights Management Framework	131-132
	Principle 5: The effective abolition of child labor	2-4-1 Human Rights Management Framework	131-132
	Principle 6: The elimination of discrimination in respect of employment and occupation	2-4-1 Human Rights Management Framework	131-132
Environment	Principle 7: Businesses should support a precautionary approach to environmental challenges	2-3-2 Climate Change Mitigation and Adaptation	108-112
	Principle 8: Undertake initiatives to promote greater environmental responsibility	2-3-1 Governance of Environmental Sustainability	102-107
	Principle 9: Encourage the development and diffusion of environmentally friendly technologies	2-3-3 Achievements in Environmental Sustainability	112-127
Anti-corruption	Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery	3-4 Regulatory Compliance	186

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Independent Limited Assurance Report



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Independent Limited Assurance Report

To China Airlines Ltd.:

We were engaged by China Airlines Ltd. ("CAL") to provide limited assurance over the selected information attached as Appendix I ("the Underlying Subject Matters") on the 2022 Corporate Sustainability Report of CAL ("the Report") for the year ended December 31, 2022.

Reporting Criteria of the Underlying Subject Matters

CAL shall prepare the Underlying Subject Matters in accordance with Global Reporting Initiative Standards ("GRI Standards") issued by Global Sustainability Standards Board as set forth in Appendix I.

Management's Responsibility for the Report

CAL is responsible for determining its objectives with respect to sustainable development performance and reporting, including the identification of stakeholders and material aspects, and using the reporting criteria to fairly prepare and present the Underlying Subject Matters. CAL is also responsible for establishing and maintaining internal controls relevant to the preparation and presentation of the Underlying Subject Matters that is free from material misstatement, whether due to fraud or error.

Our Responsibilities

We performed our work in accordance with International Standard on Assurance Engagements (ISAE) 3000: "Assurance Engagement other than Audits or Reviews of Historical Financial Information" issued by the International Auditing and Assurance Standards Board and to issue a limited assurance conclusion on whether the Underlying Subject Matters is free from material misstatement. Also, we have considered appropriate limited assurance procedures according to the understanding of relevant internal controls in the circumstances, but not for the purposes of expressing a conclusion as to the effectiveness of the internal control over the design or implementation of the Report.

Independence, Professional Standards and Quality Control

We have complied with the independence and other ethical requirements of the Code of Professional Ethics for Certified Public Accountant in the Republic of China, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior. In addition, we applied Standards on Quality Management. Accordingly, we maintained a comprehensive system of quality management including documented policies and procedures regarding compliance with ethical requirements and professional standards as well as applicable legal and regulatory requirements.

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*KPMG is a member organization of the International Federation of Accountants (IFAC). Global member firms of IFAC are collectively known as the KPMG network. The KPMG network is not a legal entity and does not provide any services to clients. The KPMG network is not a legal entity and does not provide any services to clients.



Summary of Work Performed

As stated in reporting criteria of the Underlying Subject Matters paragraph, our main work on the selected information included:

- Reading the Report of CAL;
- Inquiries with responsible management level and non-management level personnel to understand the operational processes and information systems used to collect and process the Underlying Subject Matters;
- On the basis of the understanding obtained mentioned above, perform analytical procedures on the Underlying Subject Matters and if necessary, inspect related documents to gather sufficient and appropriate evidence in a limited assurance engagement.

The work described above based on professional judgment and consideration of the level of assurance and our assessment of the risk of material misstatement of the Underlying Subject Matters, whether due to fraud or error. We believe that the work performed and evidence we have obtained are sufficient and appropriate to provide a basis of our conclusion. However, the work performed in a limited assurance engagement varies in nature and timing from, and is less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained has a reasonable assurance engagement been performed.

Inherent limitations

The Report for the year ended December 31, 2022 includes the disclosures of non-financial information that involved significant judgments, assumptions and interpretations by the management of CAL. Therefore, the different stakeholders may have different interpretations of such information.

Conclusion

Based on the work we have performed and the evidence we have obtained, as described above, nothing has come to our attention that causes us to believe that the Underlying Subject Matters has not been properly prepared, in all material aspects, in accordance with the reporting criteria.

Other Matters

The management of CAL is responsible for the maintenance of its website where includes the Limited Assurance Report; we shall not be responsible for any further changes on the Underlying Subject Matters or its applicable reporting criteria, nor be responsible for reconducting any assurance work after the issuance date of the Limited Assurance Report.

KPMG

Taipei, Taiwan (Republic of China)
Jan 9, 2023

Notes to reader

The limited assurance report and the accompanying selected information are the English translation of the Chinese version prepared and used in the Republic of China. If there is any conflict between, or any difference in the interpretation of, the English and Chinese language limited assurance report and the selected information, the Chinese version shall prevail.

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