



2019

China Airlines Corporate Sustainability Report

Contents

0

0-1	About the Report	4
0-2	Letter from Management	6

1

1-1	About China Airlines	12
1-2	Sustainability Strategies and Goals	16
1-3	True Value of China Airlines	19
1-4	Sustainability Management Structure	20

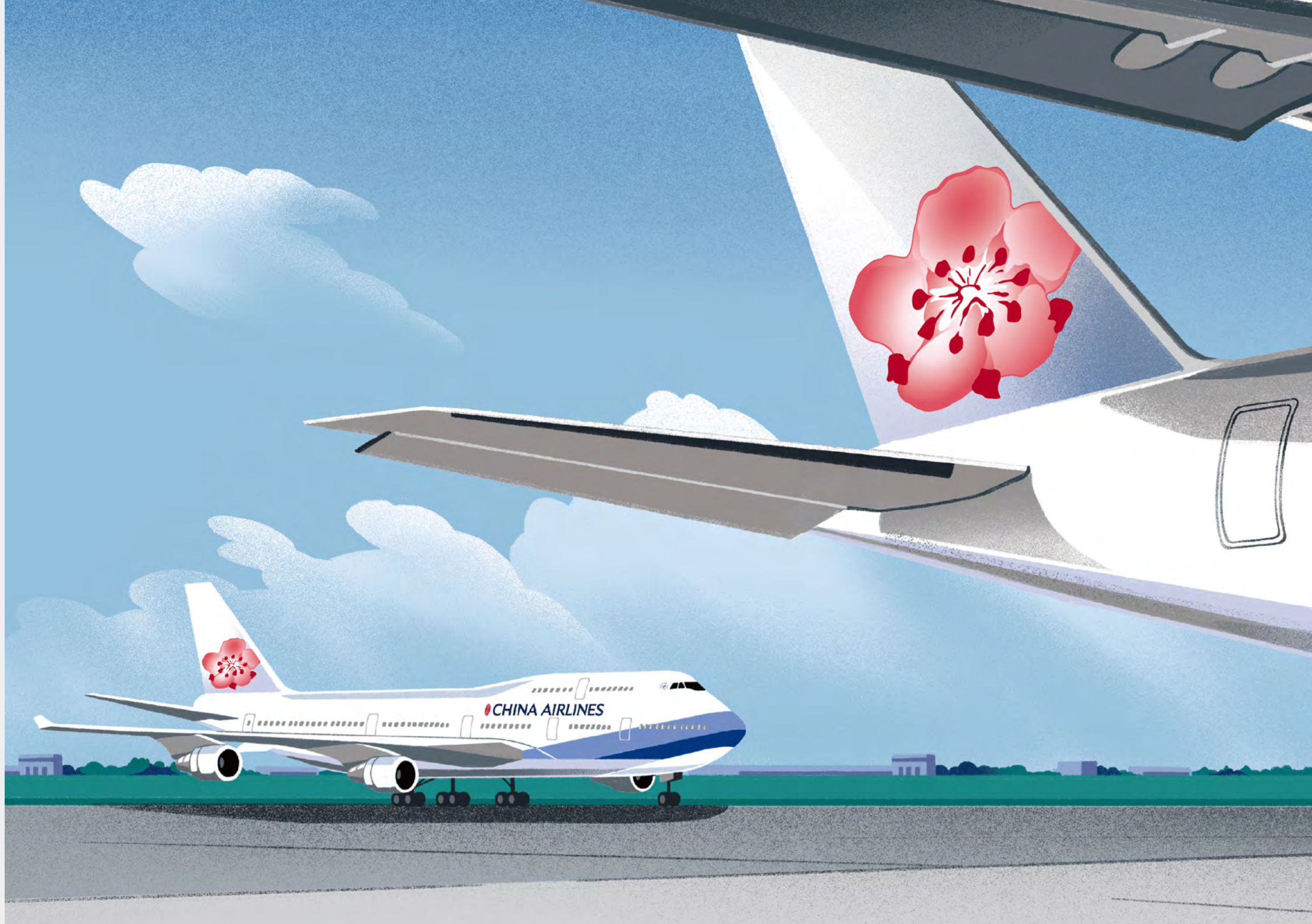
2

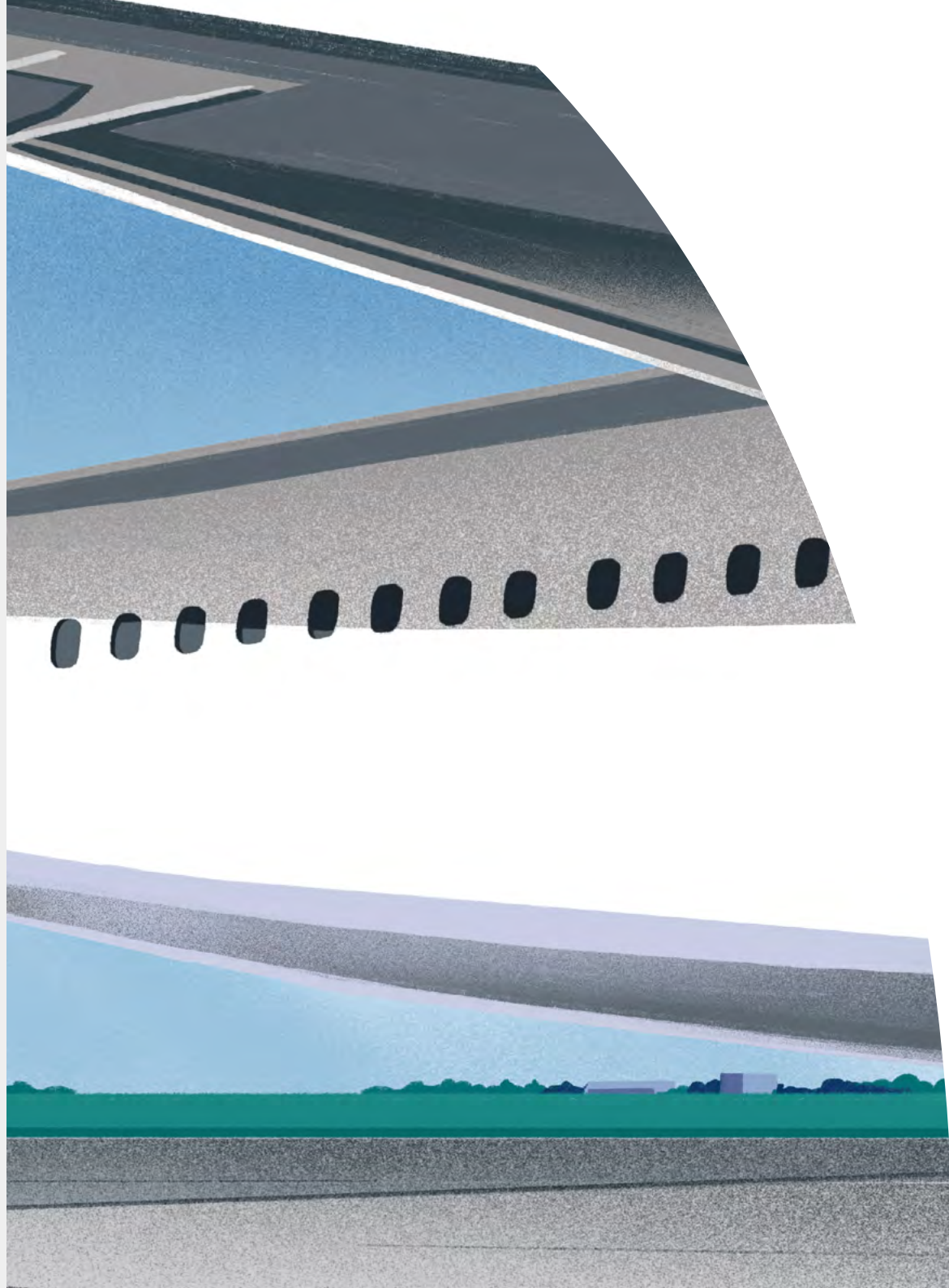
2-1	Trust	34
2-2	Human Resources	48
2-3	Cooperation	72
2-4	Environment	78
2-5	Society	102

3

3-1	Corporate Governance	114
3-2	Risk Management	117

	Financial Performance	124
	Customer Satisfaction Table in 2019	127
	Management of Material Human Rights Issues in 2019	127
	Environmental Performance	129
	GRI Content Index	132
	The United Nations Global Compact Comparison Table	135
	Independent Limited Assurance Report	136





CHAPTER

0

Preface

0-1 About the Report

0-2 Letter from Management

0-1

About the Report

China Airlines (hereinafter referred to as "CAL") publishes corporate sustainability reports and discloses related information on its CSR website on a regular basis to maintain good and smooth communications with all stakeholders. Over the past 60 years, CAL has treated each passenger carefully with all our hearts. The infinity symbol "∞" is used as inspiration for celebrating CAL's 60th anniversary, and the number "60" in the CAL signature colors also represents a fresh start to get up and "Go." Like soaring wings, the logo as a whole represents hope and success for CAL's next 60 years.



Cover Story

On the runway is our newest aircraft, A350-900, taking off. With symmetrical composition and our new visual element "Journey Curve" connects to the Sustainability Logo and 60th anniversary icon, the cover is a clear and firm demonstration of CAL's sustainability achievements over the past 6 decades. In the face of a new era, CAL will continue to break new ground in pursuit of sustainable development, ultimately becoming the preferred airline in Taiwan.

Reporting Principles & Standard Disclosures GRI 102-54

The Report is prepared in accordance with the International IR Framework published by the International Integrated Reporting Council (IIRC), the GRI Standards Core Option published by the Global Sustainability Standards Board and the United Nations (UN) Global Compact. [The GRI Content Index](#) and [UN Global Compact Comparison Table](#) are described in the appendix.

Report Period & Boundary GRI 102-45,102-50

• Report Period

The Report discloses CAL's information from January 1, 2019 to December 31, 2019. Some material information up to April 30, 2020 is also reported.

• Report Boundary

The Report discloses all information on CAL. Considering commercial correlation between CAL and its subsidiaries and the financial materiality ^(Note), Mandarin Airlines and Tigerair Taiwan are also disclosed in some index in the Report.

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

Guarantee of Truthful Reporting GRI 102-56

• Internal Audit

All data and information disclosed in the Report are provided by the responsible departments of CAL, 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 Corporate Social Responsibility and 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 appendix for the [Independent Limited Assurance Report](#).

• Data Quality Management

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

CSR Website



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

Publication History GRI 102-51,102-52

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

First edition release date	August 2014
Previous edition release date	June 2019
Current edition release date	June 2020
Next edition release date	June 2021

Feedback GRI 102-1,102-53

If you have any suggestions or questions about the Report, please contact:

China Airlines Ltd.	
Unit	Strategic Planning Department, Corporate Development Office
TEL	886-3-399-8530
E-mail	csr@china-airlines.com
Address	No. 1, Hangzhan South Road, Dayuan District, Taoyuan City, Taiwan
Website	http://calec.china-airlines.com/csr/en/

0-2

Letter from Management

GRI 102-14

Review of Internal and External Challenges

Looking back on 2019, the global aviation industry was affected by the China-US trade war. Although the global oil prices rose at a slower rate, social issues emerged one after another, including the Anti-Extradition Bill movement in Hong Kong, restrictions on Chinese tourists, and clouded cross-strait relations. Many challenges remained in the business environments internally and externally, including reduced revenue due to the emergence of low cost carriers, limited capacity and jammed timeslots at Taiwan Taoyuan International Airport, and increasing awareness of labor rights in Taiwan. Facing these challenges, CAL continued to strengthen operational efficiency by introducing new aircraft, optimizing the passenger / cargo service network to develop potential markets and customer segments, and taking advantage of group resources to enhance corporate identity and customer loyalty through brand visualization. All of this brought profits to CAL for our 60th anniversary.

Flight Safety and the Rule of Law

Flight Safety and the Rule of Law are the cornerstones of CAL's sustainable development. As an airline, it is incumbent on CAL to maintain flight safety; and the rule of law is the corporate essence that CAL strives to follow. CAL constantly reforms our internal audit and internal control systems to increase all employees' awareness of the rule of law. CAL has shouldered the responsibility to lead the way in future aviation industry trends, and in achieving sustainable aviation industry development. In addition, CAL always maintains strict control over flight safety and abides by the latest laws and regulations, thus gaining public confidence. We believe that only by implementing the concept of sustainable development and optimizing our core business can we repeat success, create a virtuous cycle of continuous profits, and achieve the goal of sustainable development.

Corporate Sustainability

As a global corporate citizen, CAL has incorporated sustainability into our corporate culture and values. We have adopted sustainable development strategies, in terms of Safety; Governance; Fleet and Network; Products and Services; Group Business; and Brand Awareness. Our goals in doing so are to support nine of the United Nations' Sustainable Development Goals (SDGs). According to the SDG Compass, CAL has also set short-term, medium-term, and long-term sustainable development goals for six task forces, which are respectively in charge of; Trust; Human Resources; Cooperation; Environment; Society and Corporate Governance.



All of this is focused on realizing sustainable development for CAL. As 2019 marks CAL's 60th anniversary, CAL has long been aware of the corporate responsibility to conserve natural resources and protect the environment. In 2019, CAL made reductions of 124,000 tons of CO₂e. Office electricity consumption and ground operations carbon emissions in Taiwan have decreased ten years in a row; in addition to the crew training building being certified with a Green Building Label, CAL continued to achieve our sustainable development goals in 2019 by spearheading the pilot scheme for sustainable aviation fuels (SAF) in Taiwan's aviation industry.

We invited passengers and employees to participate in the carbon offsetting program, ECO Travel, to achieve "net zero emission," thus becoming the first and only airline in Taiwan's aviation industry to sign the Task Force on Climate-related Financial Disclosures (TCFD). In addition to a commitment to environmental protection, CAL makes "Giving back to society and creating social value" equally important to our sustainable development. CAL has striven to take care of the disadvantaged and improve their quality of life and education, in hopes of using investment in social welfare to ensure substantial improvements in schoolchildren's education. CAL also promotes stable development for domestic athletes, in order to increase opportunities for domestic athletes to compete on an international stage.

In the 2019 Global Corporate Sustainability Awards (GCSA) and the Taiwan Corporate Sustainability Awards (TCSA) announced by the Taiwan Institute for Sustainable Energy, CAL won the GCSA-Reporting Award for the first time, and the TCSA for six consecutive years. CAL won five awards at the 2019 TCSA. CAL has won numerous domestic and international accolades for its sustainability initiatives including Top 5% in Corporate Governance Evaluation and FTSE4Good TIP Taiwan ESG Index two times, inclusion in the Taiwan High Compensation 100 Index and Taiwan Employment 99 Index three times, being picked by the Dow Jones Sustainability Index - Emerging Markets (DJSI) and FTSE4Good Emerging Index for four consecutive years, as well as the Bronze Class Award in the aviation industry and Industry Mover Award in the latest sustainability yearbook published by RobecoSAM. The awards represent not only recognition of CAL's efforts but also help stakeholders understand the carrier's commitment to corporate sustainable development. Moreover, CAL became more adamant in creating value for itself and its stakeholders, on the road to sustainable development.

Prospects

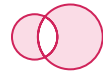
Always upholding the idea that "we can do better," CAL has aimed at "creating more wonderful moments through flying" to fulfill our commitment to all stakeholders, step by step. Looking forward to 2020, CAL will lead our suppliers and stakeholders to pass down Chinese history, promote Chinese culture, and exalt Taiwan to the global arena, so as to achieve sustainable development and ultimately become the preferred airline in Taiwan.

Chairman and President

Su-chien Hsieh

S. C. Hsieh

2019 Key Performance and External Affirmation



DJSI / 4th

4th Time selected for DJSI Emerging Markets Index

The only Taiwanese airline selected for DJSI Emerging Markets for four consecutive years and ranked in 3rd place among the world's airlines.



FTSE / 4th

4th Time selected for FTSE4Good Emerging Index

Selected in the FTSE4Good Emerging Index for four consecutive years.



TIP / 2nd

2nd Time selected for FTSE4Good TIP Taiwan ESG Index

Selected in the FTSE4Good TIP Taiwan ESG Index for two consecutive years.



Top 5% of TWSE / TPEx listed companies

Ranked in the top 5% of TWSE / TPEx listed companies in the fifth Corporate Governance Evaluation.



GCSA / 1st

1st Time in GCSA Award

Awarded in the Global Corporate Sustainability Award for the first year.



TCSA / 6th

6th Time in TCSA Award

Awarded in the Taiwan Corporate Sustainability Award for six consecutive years along with five TCSA awards.



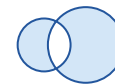
3rd Time selected for Taiwan EMP 99 Index and Taiwan HC100 Index

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



1st Taiwanese airline to implement and strengthen the sustainability audit plan

The first Taiwanese airline to implement and strengthen the sustainability audit plan.



2nd Time received highest scores in supply chain management criteria of DJSI

Granted the highest score in supply chain management criteria of DJSI for the two consecutive years.



Selected as Presidential Aircraft

With outstanding cabin operations and ground services, and in recognition of our professional transportation services, CAL was selected as the presidential aircraft multiple times.

ECONOMIC



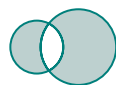
ISMS introduced to certify core information systems and ensure information security

Received ISO27001:2013 Information Security Management System (ISMS) certification in November 2019 for legal and regulatory compliance, and for improving total quality management of corporate information security.



Organized three flight safety / international security seminars

Organized three flight safety / international security seminars in cooperation with the China Aviation Development Foundation and the Flight Safety Foundation.



4th Time selected in DJSI, and got highest scores in environmental policies, management systems, and climate strategies in 2019

Four consecutive times selected in DJSI emerging markets index and got highest score in environmental policies, management systems, and climate strategies of DJSI in 2019.



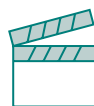
One and only Taiwanese airline that has the translation of TCFD into traditional Chinese

The only airline in Taiwan that has been invited to sign the TCFD initiative and participate in translation into traditional Chinese version while supporting a number of industrial and governmental promotion events in 2019.



6th Time in TCSA Climate Leadership Award

Awarded in TCSA Climate Leadership Award for six consecutive years since 2014.



2nd Time recognized by Annual Taipei Golden Eagle Micro-Movie Festival

Recognized by the Annual Taipei Golden Eagle Micro-Movie Festival for the second time with its "Fly to ECO," including four awards, namely "Best Environmental Resources," "Excellent Shooting Ideas," "Excellent Social Inclusion," and "Excellent Management".



Benchmark recognition of energy conservation

Won the silver award in Energy Conservation Benchmark Awards awarded by the Ministry of Economic Affairs, the Taipei Energy Conservation Leadership Awards, the first place in the Taiwan Taoyuan International Airport Energy Conservation and Carbon Reduction Evaluation, and a Water Conservation Improvement Competition excellence award, given by the Ministry of Economic Affairs.



A- CDP SER Leadership Level

Ranked Leadership (A-) in CDP Supplier Engagement Rating 2019.

ENVIRONMENTAL

SOCIAL



99.48% participation

99.48% of employees participating in labor unions.



22.06 Million

Invested TWD 22,068,438 in charity activities throughout 2019.



Over 3,200 students

CAL's Love All Around team visited 53 elementary & junior high schools in 15 cities / counties and 27 townships across Taiwan, providing care for 3,207 students.



500 senior citizens

Provided care for 500 disadvantaged senior citizens at four events throughout 2019.



45,000 students

Sponsored book programs for 102 schools throughout Taiwan to help approximately 45,000 students.



3rd Time in TCSA Social Inclusion Award

Awarded in TCSA Social Inclusion Award for three consecutive years.



CHAPTER

1

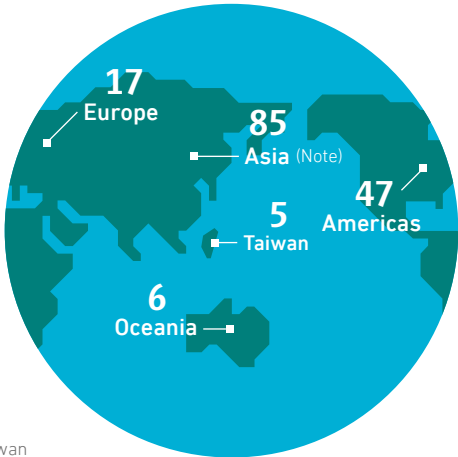
Sustainability Management Overview

- 1-1 About China Airlines
- 1-2 Sustainability Strategies and Goals
- 1-3 True Value of China Airlines
- 1-4 Sustainability Management Structure

1-1

About China Airlines

Number of Destinations



Note: Excluding Taiwan

Destinations (including the CAL Group and code-shared routes)

Country	29	Destination	160
---------	----	-------------	-----

Note1: Statistics as of December 31, 2019.

Note2: [The latest destinations](#) please refer to the website.

Passenger Load (including the CAL Group)


China	80.3%	Oceania	78.9%
Hong Kong	73.8%	Americas	84.1%
Northeast Asia	80.4%	Europe	80.3%
Southeast Asia			79.8%

1-1-1 Business Overview

GRI 102-2, 102-3, 102-4, 102-6, 102-7

China Airlines (2610) is the largest airline in Taiwan. Based in Taiwan Taoyuan International Airport, CAL mainly provides international passenger and freight air transport services. CAL also has two subsidiary airlines: Mandarin Airlines and Tigerair Taiwan. Mandarin Airlines serves domestic and regional markets, while Tigerair Taiwan offers a low-cost business model. With a multi-brand strategy, members of the CAL Group share resources and complement one another's strengths and weaknesses to provide a variety of options for customers based on an established network.

For more information on the business development of the fleet and route network, refer to [CAL's Annual Report](#). Through codeshare agreements with other airlines, the CAL Group offered flights to / from 29 countries and 160 destinations worldwide as of the end of December 2019, while Tigerair Taiwan flies to 22 destinations on 29 routes.



TWD 54.2 billion

Capital

12,110


Employees

91

Fleet Size

Taoyuan

Headquarter (No.1, Hangzhan S. Rd., Dayuan Dist., Taoyuan City)



TWD 2 billion

Capital

1,023


Employees

13

Fleet Size

Taipei

Headquarter (No.3, Alley 123, Ln. 405, Dunhua N. Rd., Songshan Dist., Taipei City)



TWD 2 billion

Capital

711

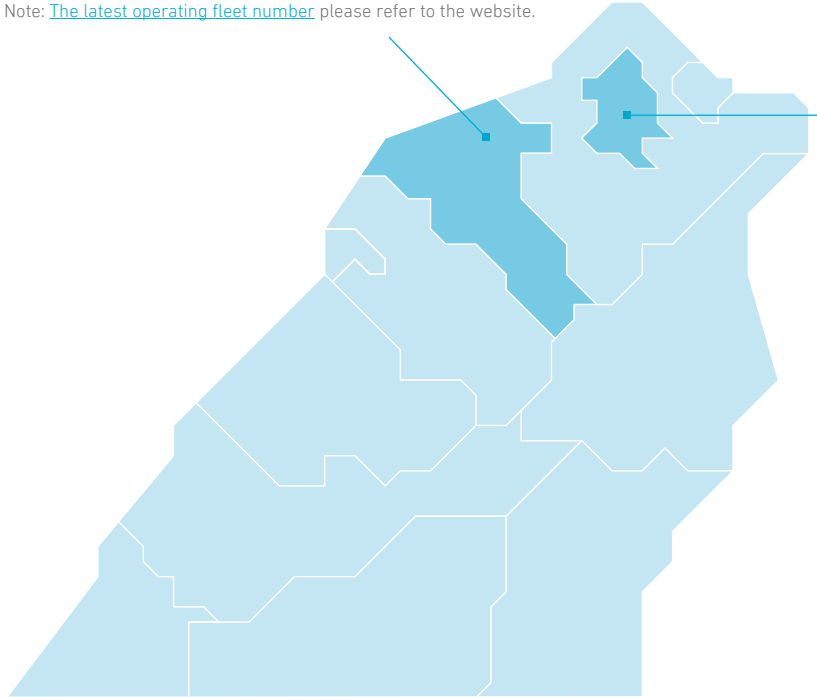
Employees

11

Fleet Size

Taipei

Headquarter (No.3, Alley 123, Ln. 405, Dunhua N. Rd., Songshan Dist., Taipei City)

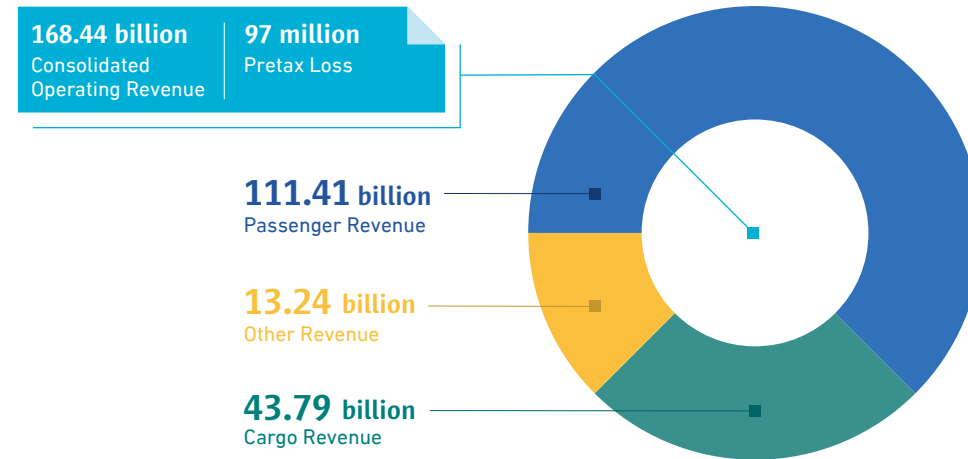


Note: [The latest operating fleet number](#) please refer to the website.

CAL Group's Operational Achievements GRI 201-1

CAL's management and employees continuously work to strengthen its operational structure through a variety of improvement strategies and integration of Group businesses. The aviation market encountered extreme stress in 2019; the Anti-Extradition Bill movement in Hong Kong and curbs on China's group tours took a toll on passenger transport; freight transport was affected by the global trade slowdown caused by the Chinese-US trade war, resulting in negative growth as a whole. Consolidated operating revenue totaled TWD 168.44 billion, comprising TWD 111.41 billion from passenger transport, TWD 43.79 billion from freight transport, and TWD 13.24 billion from other segments. Consolidated net loss before tax was TWD 97 million. For more information, refer to the "[Financial Performance](#)" in the Appendix.

Operational Achievements



Consolidated Financial Statement

(Unit: TWD billion)




Item	2016	2017	2018	2019
Passenger Revenue	95.28	102.22	108.35	111.41
Cargo Revenue	35.72	43.33	49.85	43.79
Other Revenue	10.08	10.57	12.52	13.24
Consolidated Operating Revenue	141.08	156.12	170.71	168.44
Pretax Profit	1.88	3.52	3.08	-0.097

Individual Financial Statement

(Unit: TWD billion)

Item	2016	2017	2018	2019
Operating Revenue	127.52	139.82	150.26	146.37
Operating Cost	112.25	121.85	137.62	135.01
Operating Expense	10.80	10.61	10.80	11.28
Income Tax Expense (Interest)	0.97	0.88	0.53	0.01
Salary Expenses	14.18	15.18	15.01	14.48
An Analysis of Employee Benefits Expense by Function	19.72	21.22	21.55	21.97
Post-employment Benefits	1.05	1.24	1.69	1.62

2019 Performance of International Passenger and Freight Transport

Company	Flights	Passenger Transport		Freight Transport	
		Passengers	Market Share	Tonnage (Metric Ton)	Market Share
	75,970	13,900,100	23.45%	847,056	37.37%
	34,379	1,288,578	2.17%	14,589	0.64%
	18,537	2,783,726	4.70%	857	0.04%
Total	128,886	17,972,404	30.32%	862,502	38.05%

Source : Civil Air Transportation Statistics, "Table 16: Market Share of International and Cross-Strait Passenger and Freight Transport of National Airlines, and Table 18: Passenger and Freight Traffic of Global Lines by National Airlines." Civil Aeronautics Administration, M.O.T.C.

1-1-2 Business Environment in the Aviation Industry

International dealings between passengers and freight rely heavily on air transport; therefore, air transport is a derivative need, and its volume is greatly affected by the social and economic environment. According to statistics released by the International Air Transport Association (IATA), civil aviation transport operators carried 4.5 billion passengers and 250 million tons of freight in 2019. This in turn created an output of USD 873 billion and 70.4 million job opportunities, and contributed 1.0% of the global GDP. This shows that air transport promotes the development of society and the economy, and vice versa. CAL has routinely adjusted its Sustainability Strategy by reviewing the business environment of the aviation industry, as well as undertaking stakeholder engagement and materiality analysis to strengthen its long-term development.

Business Opportunities

- **Growth of Global Air Transport Remains Optimistic, with Asia-Pacific Region Higher than Average**

According to IATA statistics, revenue passenger kilometers (RPK) and freight tonne kilometers (FTK) have increased by an average of 6.8% and 4.5%, respectively, worldwide over the past five years. Due to economic growth in emerging markets and the rise of the middle class, RPK and FTK in the Asia-Pacific region have maintained growth rates of 8.5% and 2.3%, respectively, with RPK growing at a faster pace than in other regions worldwide. Looking to 2019 and regardless of tensions from the China-US trade war, global air transport will continue growing at a slow pace thanks to expansionary fiscal policies and easing monetary policies.

In 2020, the international air passenger and freight markets are expected to grow by 4.1% and 2.0%, respectively. In the Asia-Pacific region, volume and capacity growth rates are estimated at 4.8% and 5.5%, respectively. Compared with 2019, overall market has shown a slight downward trend. This is the first time in recent years that capacity has grown faster than volume. With the recent effects of the novel coronavirus (COVID-19) outbreak, the IATA has lowered global RPK by 0.6% and RPK in the Asia-Pacific region by 8.2%.

- **Market Liberalization Sweeps Asia-Pacific Countries**

Air rights are critical to an airline's route network and destinations, as well as to aviation markets. Except for restrictions on cross-strait destinations, Taiwan has entered into open-skies agreements with the United States, Australia, Singapore, Malaysia, and Thailand. Existing airlines are offering additional flights, and new airlines have been granted air rights to provide consumers with more options. In addition, ASEAN has actively entered into the ASEAN Multilateral Agreement on Air Service to create a single aviation market, which significantly reduces restrictions on civil aviation transport operators in ASEAN and promotes the growth of aviation markets in the Asia-Pacific region.

- **Policy Supports Travel Demand in Taiwan**

Since 2016, the government of Taiwan has implemented the New Southbound Policy, which focuses on "economic and trade cooperation, talent exchange, resource sharing, and regional connectivity" to strengthen strategic partnerships with 10 countries in ASEAN, 6 countries in South Asia, Australia, and New Zealand, and to promote tourism in Taiwan.

To continue expanding into more quality markets worldwide, CAL pursued two strategies: Increasing international marketing outlets and consolidating operations for key prospects; and expanding cross-border, cross-domain, and cross-industry cooperation, while improving the competitiveness of Taiwan's tourism. According to statistics published by the Tourism Bureau of the Ministry of Transportation and Communications, there were approximately 11.84 million visitors to Taiwan in 2019, an increase of about 7% over the 11.07 million in 2018. Visitors from China increased by a slight 0.5%. Visitors from countries other than China increased by a strong 9%; in particular, total visitors from Japan exceeded 2 million on December 9, 2019. Visitors from Japan and South Korea both hit record highs, with an increase of 10%–20% each. Visitors from the 18 southbound countries increased by about 6%. This shows that the New Southbound Policy helped drive the development of the civil aviation industry.

- **E-commerce Is Gradually Transforming the Air Cargo Market**

In the 2000s, internet technology gradually matured. E-commerce models have advanced from portals and search engines, to business to business (B2B), business to consumer (B2C), and consumer to consumer (C2C). With the popularity of internet access, consumers start to shop via virtual channels, leading to the replacement of physical channels by fast-growing e-commerce.

- **CAL Introduces Modern, Efficient Fleets**

CAL has continued to update our fleet, and has introduced new aircraft and short-haul flights. We are expecting to introduce the Boeing 777 Freighter (777F) in 2020, and the Airbus A321neo family of narrow-body jet airliners in 2021. To offer improved in-flight service and product consistency, CAL is currently introducing portable Wi-Fi streaming audio / video products on the Boeing 737-800, refurbishing the Airbus A330-300 cabin interior, and upgrading products and Wi-Fi signal receivers on the Boeing 777-300ER and the Airbus A350-900 Premium Economy. In the future, the Airbus A321neo family will have state-of-the-art cabin equipment, including full-flat seats in Business Class; lightweight, ergonomic seats in Economy Class; and 4K high definition in-flight entertainment systems with the industry's fastest Wi-Fi, to provide more entertaining, comfortable travel experiences to every passenger.

Business Risks

• Global Trade Tensions Caused by Protectionism

After World War II ended in 1945, the post-war new order was set by liberalization, privatization, and marketization. This further led to neoliberalism and globalization in the trade, finance, and air transport markets. Financial risks and economic inequality were the underlying causes of the Global Financial Crisis of 2008. Afterwards, protectionism rose as countries intended to protect their own benefits, including punitive tariffs in the China-US trade war and Brexit, which had an impact on the global supply chain. According to IATA statistics, the China-US trade war had the most severe impact of all of these on air freight. For 2019, FTK was revised from a 0% growth rate down to -3.3%, marking the worst performance since the global financial crisis in 2008-2009. In the long run, protectionism may erode international trade and hinder economic recovery worldwide.

• Fluctuations in Oil Price and Exchange Rates Affecting Airline Operations

The price of oil is affected by the global political and economic situation. As one of the uncontrollable costs of airlines, the price of oil is one of the five major operating costs in parallel with depreciation and rental expenses, ground and depot fees, personnel expenses, and maintenance costs. According to IATA statistics, the average price of aviation fuel in 2019 was USD 79.70 per barrel, and the cost of aviation fuel accounted for 23.7% of costs; a decrease of 10.6% compared with 2018. This indicates that oil is extremely sensitive to airline operations. Due to the impacts of the China-US trade war and the novel coronavirus (COVID-19), the long-term trend has been toward a sluggish global economy. Slowing demand and oversupply are likely to have an impact on the crude oil market. The IATA has estimated average jet fuel price will be US\$75.60 / barrel for 2020. In response to the downward trend in oil demand, the Organization of Petroleum Exporting Countries (OPEC) and its allies reached an agreement to reduce oil production in December 2019 in order to avoid aggravated oversupply.

• Intense Competition and Emerging Airlines

With a trend of market liberalization in the aviation industry, countries have gradually removed their control over civil aviation transport operators and have adopted an open-sky policy. According to IATA statistics, the number of passengers in the Asia-Pacific region is expected to double to 3.9 billion by 2037. This is as a result of the continuing expansion of route networks by existing airlines and the rise of emerging airlines, including low cost

carriers (LCC). In 2019, many foreign airlines initiated flights to Taiwan, making competition even more intense. The global aviation industry suffered a severe jolt in 2019, with a total of 26 airlines worldwide going bankrupt or closing down — the largest number in history. Starlux Airlines commenced operations on January 23, 2020, breaking into a market once dominated by two major players, CAL and EVA Air. As the aviation industry is capital-intensive, high-cost, and low-profit, ways to create operating cost advantages through innovative business models in unfavorable market conditions will become the key to airline survival.

• Boeing 737 MAX Grounded in 2019

The crashes of Lion Air Flight 610 and Ethiopian Airlines Flight 302 resulted from Boeing electronic system malfunctions. Since March 2019, a total of 387 Boeing 737 MAX airplanes have been grounded. The delivery of newly manufactured 737 MAX airplanes was also suspended. In January 2020, Boeing suspended production of the 737 MAX. The two crashes and the grounding of the 737 MAX cost Boeing US\$9 billion (about TWD 270 billion), further causing its suppliers to lay off employees. As the resumption of Boeing 737 MAX flights recedes into the distance, the aviation industry has repeatedly delayed the return of the Boeing 737 MAX, affecting airlines' profits and growth plans.

1-2

Sustainability Strategies and Goals

1-2-1 Sustainability Vision

To show its determination to create value for stakeholders, CAL has established a sound sustainable management mechanism in line with 17 Sustainable Development Goals (SDGs) officially launched by the United Nations(UN) in 2016, hoping to maximize the benefits for the country, society, and all stakeholders. As a corporate citizen, CAL supports the UN's SDGs and focuses its sustainable development on nine SDGs in accordance with 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.

9 Sustainable Development Goals Focused from China Airlines



1-2-2 Sustainability Strategy

In addition to offering a strong framework that is required to regulate sustainable development, corporate sustainability also allows an organization to maintain its commitment to stakeholders in both the value chain and the industry chain. CAL's vision and the core of its sustainable development is to become the preferred airline in Taiwan. CAL's sustainability strategy is based on safety and governance, with the following focuses: fleet and network, product and service, Group business, and brand awareness. Established through the value creation model, such focuses cover the aspects of economy, environment, and society; and they echo the UN's 9 Sustainable Development Goals (SDGs). In view of the Group's resources and the issues of concern to stakeholders, CAL strives to improve its values regarding trust, human resources, cooperation, environment, and society.

China Airlines Sustainability Strategy



Vision

Become the preferred airline in Taiwan



Mission

Create more wonderful moments through flying



Value

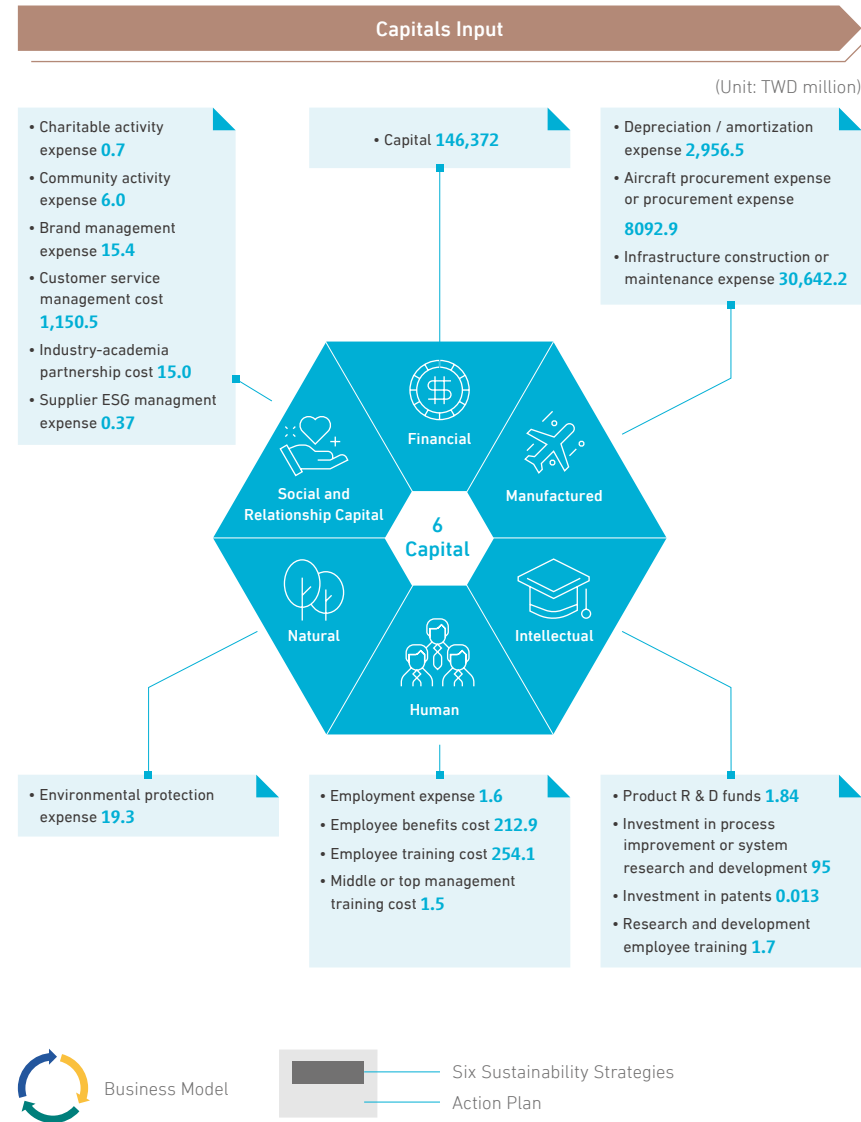
Believe we can always do better

Sustainability Strategy Framework

Sustainability Strategies	Direction	Echo to UN SDGs
Safety	<ul style="list-style-type: none">Flight SafetyTraining	<div></div>
Governance	<ul style="list-style-type: none">TalentInfluence	<div><div></div><div></div></div>
Fleet and Network	<ul style="list-style-type: none">EfficiencyGreen Transportation	<div><div></div><div></div></div>

Sustainability Strategies	Direction	Echo to UN SDGs
Product and Service	<ul style="list-style-type: none">Mutual BenefitTechnology	<div></div>
Group Business	<ul style="list-style-type: none">Multi-BrandPartnership	<div></div>
Brand Awareness	<ul style="list-style-type: none">Local BrandAccessibility	<div><div></div><div></div></div>

1-2-3 Business Model and Value Creation



Six Sustainability Strategies :

Fleet and Network — Promote highly efficient fleets and network to forward environmental friendliness

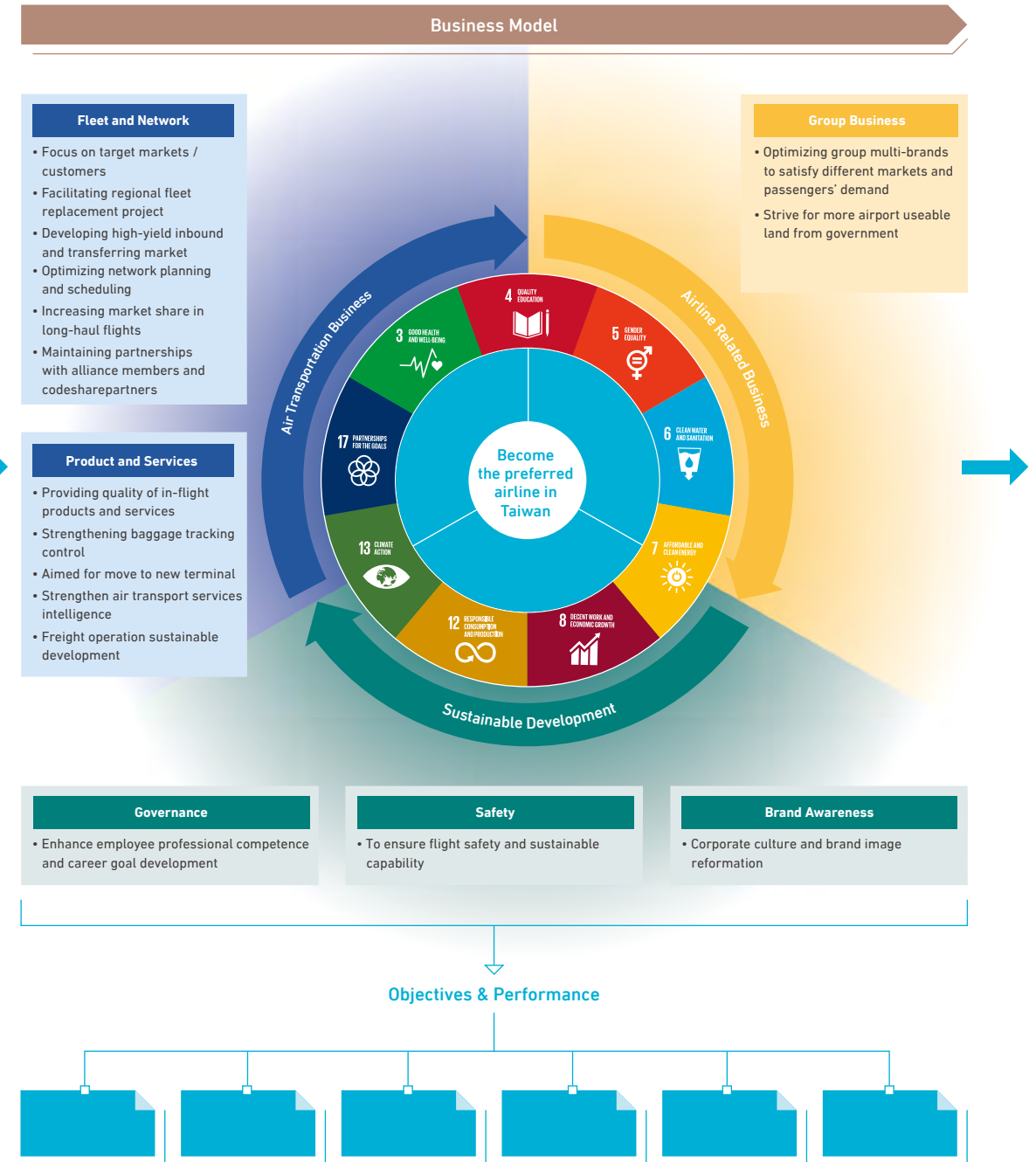
Product and Services — Create sustainable services with sustainable value and technology

Governance — Root sustainable concept in value chain to make positive influence

Safety — Embed the safety culture into products and services

Brand Awareness — Promote local brand and transportation friendly

Group Business — Spread sustainability to group business to improve cooperation and sustainable development



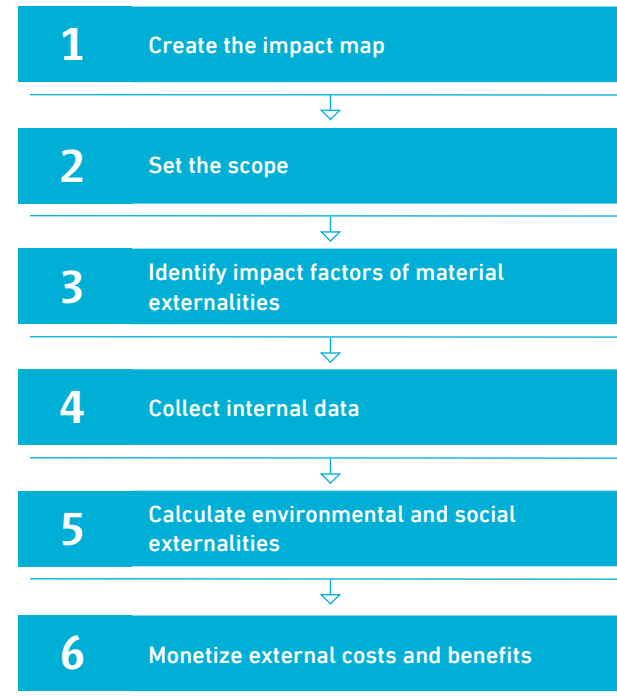
Value Creation

	Output	Outcome	Corresponding Chapter
Financial	Operating revenue (TWD million): 146,372	Revenue reduced by 3% Compared to 2018, the EBITA rate increased by 37%	• 1-1 About China Airlines (P.12)
Manufactured	<ul style="list-style-type: none"> • 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): 77 passenger destinations / 36 freight destinations • Number of passengers/freight worldwide: RPK 42,533 (million) / FRTK 5,363 (million) 	<ul style="list-style-type: none"> • The punctuality rate of high-level repair and maintenance service was above the target (97%) • Promote a safety culture based on the spirit of "safety awareness, full participation, active management, and implementation" to achieve zero safety incidents • For freighters, two destinations (Nagoya, Japan and Mumbai, India) were added to increase the flexibility of the service network • Compared to 2018, the number of passengers grew by 1.89% and the volume of freight reduced by 9.2% worldwide 	<ul style="list-style-type: none"> • 1-1 About China Airlines (P.12) • 2-1 Trust (P.34)
Intellectual	<ul style="list-style-type: none"> • Revenue / number of passengers (seats) created by newly launched products or services: 12,553 • Number of cost-saving patents: 57 • Number of patents obtained: 1 • Number of R&D employees trained: 240 	<ul style="list-style-type: none"> • Improved quality of cabin equipment and optimized quality of audio-visual programs and system stability on A330 • Improved comfort of premium economy class seats on Boeing 777 • Cabin design of the new aircraft A321neo • Improved quality of in-flight WiFi on Boeing 777 and A350 • 63.3 man-month / year was saved • The cost of TWD 676.5 million was saved • 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 	<ul style="list-style-type: none"> • 2-1 Trust (P.34) • 2-2 Human Resources (P.48)
Human	<ul style="list-style-type: none"> • Number of new employees: 506 • Retention rate: 96.58% • Employee turnover: 5.62% • Total number of employee training hours: 300,598 • Total number of middle or top management training hours 13,754 	<ul style="list-style-type: none"> • New employees retention rate increased by 5.21% • Compared to 2018, the retention rate increased by 0.04% • Compared to 2018, employee turnover decreased by 0.26% • Related training was organized based on the needs of business operations • Job-related training was organized to improve management knowledge and consensus 	• 2-2 Human Resources (P.48)
Natural	<ul style="list-style-type: none"> • Electricity consumption (kWh): 34,087,981 • Carbon reduction (tons): 7,082,232.84 • Waste reduction (kg): 5,123,655 • Water consumption (thousand tons): 146.49 • Number and percentage of green buildings: 2 / 66.67% • Solar photovoltaic investment (kWh): Power generated: 90,000 	<ul style="list-style-type: none"> • 928,781 kWh of electricity was saved through a sound energy management system • Carbon emission reductions of 124,365 tons were achieved through various carbon reduction measures • 136,206 kg of waste was reduced through improved waste management • 3,244 liters of water were saved through continuous water management • Elevator power recycled: 1,423 kWh • Cumulative power saved: 216,000kWh 	• 2-4 Environment (P.78)
Social and Relationship Capital	<ul style="list-style-type: none"> • Number of charitable activities: 13 • Number of beneficiaries: 800 • Number of community activities: 49 • Number of participants: 1264 • Number of sponsorships: 52 • Result of brand promotion (TWD million): 48.9 • Passenger transport customer satisfaction rate: 87.7% • Number of passenger transport customer complaints: 2,946 • Freight customer satisfaction rate: 88.6% • Number of freight customer complaints: 0 • Number of industry-academia partnerships: 32 • Number of industry-academia partnership projects: 5 • Number of participants: 99 • Coverage of sustainable supply chain management: 65.27% • Number / proportion of suppliers under sustainability audit: 12.69% 	<ul style="list-style-type: none"> • Support was provided for the disadvantaged to improve quality of life, level of education, and social balance • Students were trained to develop a habit of independent reading • Revenue of TWD 27,571,992 was created through improved business development and brand image • CAL's promotional video, "What Travel Brings You," was well received and successfully increased the brand favorability, driving the sales to grow by 48% • Compared to 2018, the overall passenger satisfaction rate increased by 0.5 points • Compared to 2018, passenger satisfaction rate increased by 1.3 points which was 0.6 points beyond the target • Compared to 2018, freight customer complaints decreased by 100% • The purpose of industry-academia partnerships was to develop national aviation professionals • Up 15.74% in 2020 from 2019 • Up 16.54% in 2020 from 2019 	<ul style="list-style-type: none"> • 2-1 Trust (P.34) • 2-2 Human Resources (P.48) • 2-3 Cooperation (P.72) • 2-5 Society (P.102)

1-3 True Value of China Airlines

In order to embrace mutual prosperity along with our stakeholders and endeavoring to create sustainable value for all stakeholders, CAL 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

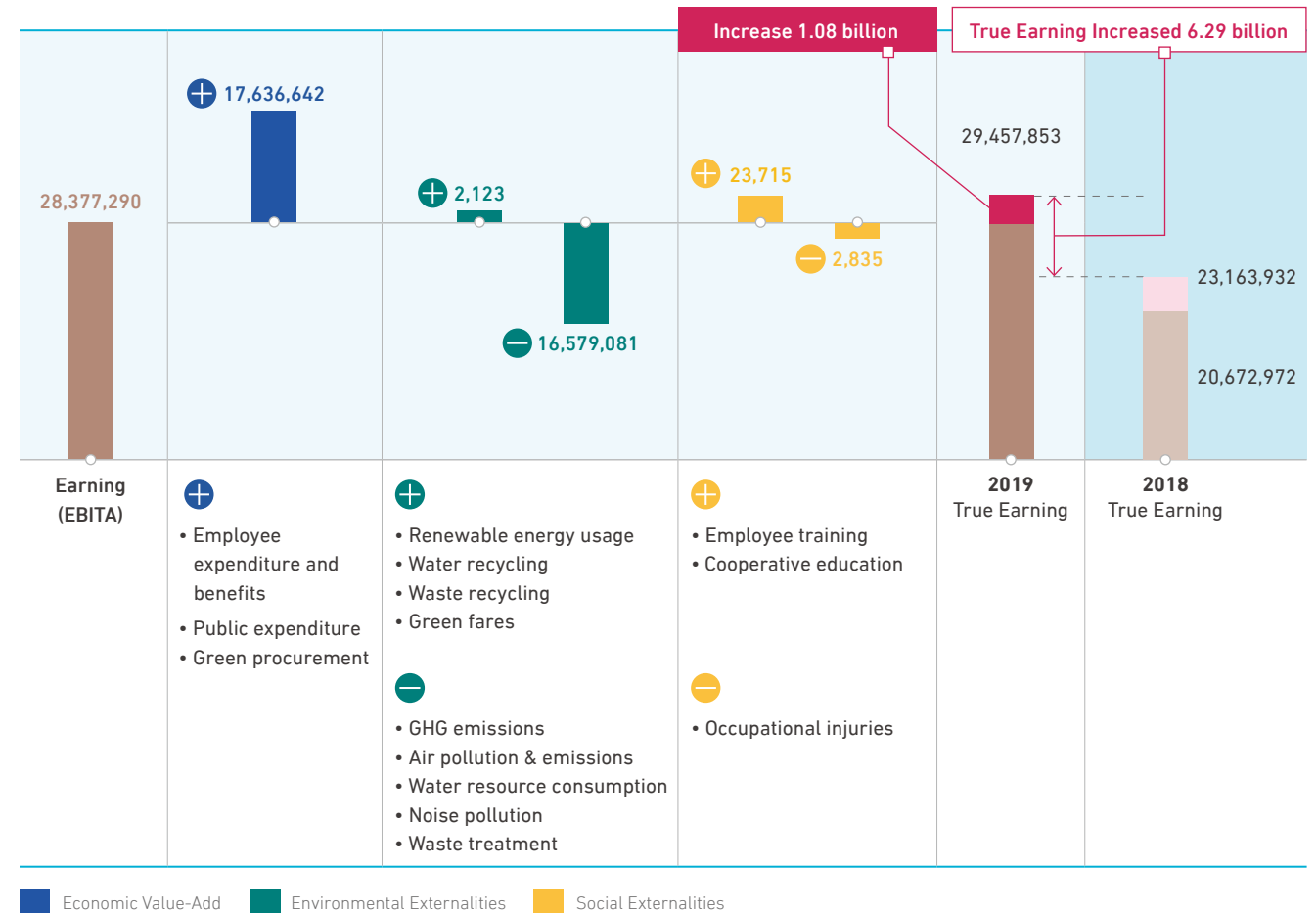


True Value

According to the result of the calculation, CAL's traditional financial performance (earnings before interest, taxes, depreciation, and amortization, EBITA) increased by 37% to TWD 28.37 billion in 2019 from 2018; the true earnings generated in economic, environmental and social aspects came to around TWD 29.45 billion in 2019, reflecting a positive difference of TWD 1.08 billion and TWD 6.29 billion compared to EBITA and true earnings in 2018 respectively due to the positive benefits created by the respective increases of 17.9%, 438.4%, and 481% in "waste recycling," "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 1.92% and 27.2% respectively in 2019 from 2018, showing CAL's active engagement in environmental sustainability initiatives such as "GHG reduction," "noise pollution prevention," "waste and water recycling," and "green fares." In CAL's true earnings in 2019, environmental external costs totaled TWD 16.6 billion, and positive benefits created by additional economic value and social externalities totaled TWD 17.7 billion.

True Value of China Airlines

(Unit: TWD thousand)



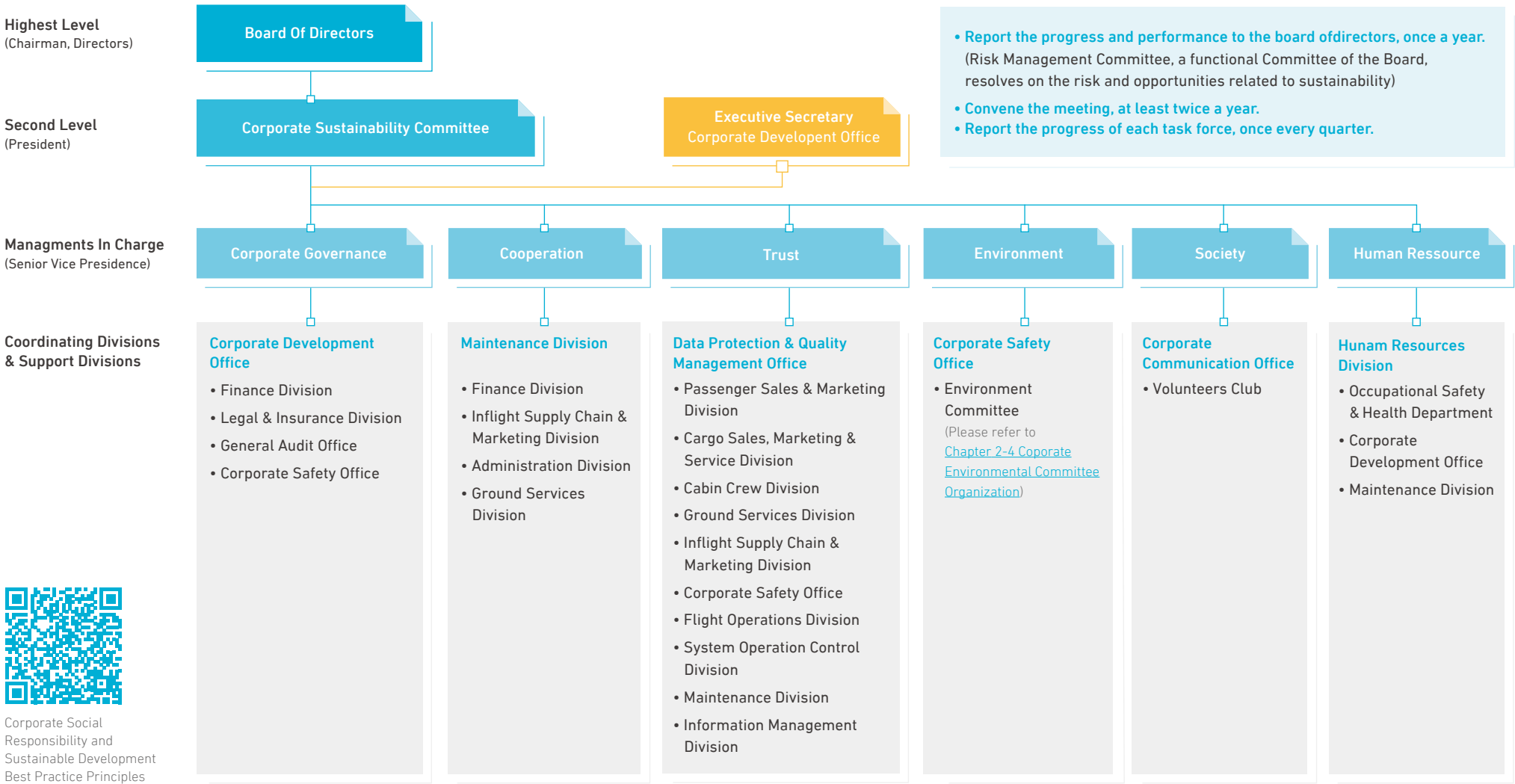
1-4

Sustainability Management Structure

1-4-1 Corporate Sustainability Committee

Under the challenging and rapid changing environment with the growing trend regarding sustainability, CAL followed by the international trend of sustainability and referred to the experience from the benchmarking companies to establish its Corporate Sustainability Committee in 2014 (see figure below), the highest governing body of sustainability promotion, and set the [Corporate Social Responsibility and Sustainable Development Best Practice Principles](#). The Corporate Sustainability Committee comprises six task forces in all, and they are responsible for setting and implementing short-term, middle-term, and long-term sustainable development goals to enforce the sustainable development.

Corporate Sustainability Committee


























Corporate Social Responsibility and Sustainable Development Best Practice Principles

- Report the progress and performance to the board of directors, once a year.
(Risk Management Committee, a functional Committee of the Board, resolves on the risk and opportunities related to sustainability)
- Convene the meeting, at least twice a year.
- Report the progress of each task force, once every quarter.

Sustainability Goals of Each Task Force

Task Force	Corresponding Material Issues	Short-term Goals (2020)	Medium-term Goals (2025)	Long-term Goals (2030)
Corporate Governance  	<ul style="list-style-type: none"> ◆ Governance and Integrity Management ◆ Risk and Crisis Management ◆ Financial Performance ◆ Brand Management ◆ Fleet Development and Management 	Achieving 100% of sustainability tasks for the year and establishing 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	Assisting industry partners in building up capacity for sustainable development	Supporting global sustainability initiatives to expand the industry influence
Trust     	<ul style="list-style-type: none"> ◆ Flight Safety Management ◆ Passenger Service Management ◆ Freight Service Management ◆ Privacy and Information Security ◆ Customer Relationship and Satisfaction ◆ Sustainable Innovation and Development ◆ Market Competitiveness 	Implementing personal data management systems, in accordance with GDPR and personal data protection laws	Received ISO27701 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; reaching 90 points or more in Dow Jones Sustainability Index (DJSI) Personal Data Protection evaluation criteria
		Increasing the freight customer satisfaction rate to 88%	Increasing the freight customer satisfaction rate to 89%	Increasing the freight customer satisfaction rate to 90%
		Introducing robotic process automation (RPA) to optimize internal operating procedures and customer service mechanisms, organizing RPA training, and installing chat bots	Promoting a smart airport: Establishing a smart airport at Terminal 3 of Taiwan Taoyuan International Airport; improving customer satisfaction through digital innovation initiatives	Promoting intelligent tourism: Integrating tourism-related industries (such as transportation, hospitality, insurance, catering, and tourist attractions) to provide a one-stop smart travel eco-system
		Continuously participating in aviation associations and increasing influence	Publishing aviation study results to improve aviation industry technical capacity	Developing innovation initiatives with other airlines to drive innovation momentum
		Strengthening the promotion of just culture	Strengthening safety culture	Continuously enhancing the safety management system (SMS)
Human Resources   	<ul style="list-style-type: none"> ◆ Labor Relations and Management ◆ Human Rights ◆ Sustainable Employment and Talent Attraction ◆ Occupational Safety and Health Management 	Organizing eight insider sharing sessions to provide an opportunity for internal cross disciplinary networking	Completing the establishment of all internal online training materials in various professional fields	Application to Taiwan's aviation talent development
		Establishing CAL's aviation management talent pool	Establishing the optimal learning path for CAL's aviation management talent pool	Promoting Taiwan's aviation talent development
		Percentage of female manager reaching 24.5%	Percentage of female manager reaching 25%	Percentage of female manager reaching 27%

Task Force	Corresponding Material Issues	Short-term Goals (2020)	Medium-term Goals (2025)	Long-term Goals (2030)
<div>Cooperation</div> <div></div>	◆ Sustainable Supply Chain Management	Maintain SAQ Score at 85 points	Maintain SAQ score at 87 points	Maintain SAQ score at 89 points
		Optimize risk management for sustainable supply chain, implement SAQ, and audit 30% of critical tier-1 suppliers by 2020	Expand the scope of supply chain management, implement SAQ audits, and audit 100% of critical tier-1 suppliers by 2025	Providing supply chain training, improve assistance mechanisms, and continuously implement a SAQ
<div>Environment</div> <div></div>	◆ Climate Change Mitigation and Adaptation ◆ Environmental Management System Development ◆ Energy Management ◆ Resource Management ◆ Green Service Operations	Improving annual aviation fuel efficiency by 1.5% (flight operations)	Improving annual aviation fuel efficiency by 1.5% and maintaining carbon-neutral growth from 2020 (flight operations)	Improving annual aviation fuel efficiency by 1.5% and maintaining carbon-neutral growth from 2020 (flight operations)
		Reducing carbon emissions by 38% as compared with 2009 (ground operations)	Reducing carbon emissions by 40.43% compared with 2009 (ground operations)	Reducing carbon emissions by 42.34% compared with 2009 (ground operations)
		Implementing TCFD (Taskforce on climate-related financial disclosure) evaluation and disclosure	Implementing carbon pricing operation	Implementing carbon pricing operation
		Reducing general waste (non recyclable) by 2% compared with 2018	Reducing general waste (non-recyclable) by 7% compared with 2018	Reducing general waste (non-recyclable) by 12% compared with 2018
		Industrial waste recycling ratio reaching 40%	Industrial waste recycling ratio reaching 45%	Industrial waste recycling ratio reaching 50%
		Reducing water consumption by 1.5% compared with 2018 (Ground)	Reducing water consumption by 5% compared with 2018 (Ground)	Reducing water consumption by 7% compared with 2018 (Ground)
		Reducing paper consumption by 5% compared with 2018	Reducing paper consumption by 10% compared with 2018	Reducing paper consumption by 15% compared with 2018
		Embargoing transport of endangered species and prohibiting use of illegal species as food ingredients	Embargoing transport of endangered species and prohibiting use of illegal species as food ingredients	Embargoing transport of endangered species and prohibiting use of illegal species as food ingredients
<div>Society</div> <div></div>	◆ Social Feedback and Engagement	Increasing proportion of sponsorship for charity events	Developing opportunities for students to receive international education	Improving quality of education in underdeveloped areas / developing countries
		Organizing at least one long-term social welfare project	Promoting economic growth and employment assistance in underdeveloped areas / developing countries; improving social well-being	Enhancing the benefits of sponsorships regarding improving society

◆ Economic ◆ Social ◆ Environmental

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

1-4-2 Materiality Analysis and Stakeholder Engagement

Materiality Analysis GRI 102-46, 102-47, 103-1

CAL identified eight stakeholders in accordance with the five major principles defined in the AA1000 Stakeholder Engagement Standard (SES), then established the following procedures for materiality analysis based on the reporting principles of the GRI Standards (stakeholder inclusiveness, sustainability context, materiality and completeness) to identify material issues of stakeholders' primary concern. Different channels of communication are also established to respond to stakeholders' needs and expectations.

Step 1

Stakeholder Identification

CAL identified eight stakeholders, namely employee, customer, investor, government, partner, community, media, and association in accordance with the five principles set in AA1000 Stakeholder Engagement Standard (SES).

Step 2

Review and Identification

Based on the results of the 2018 materiality analysis, and after reviewing new sustainability and aviation industry trends and major incidents in which CAL and the aviation industry were involved in 2019, CAL identified 23 material issues, including the newly added issue Privacy and Information Security.

Step 3

Evaluation and Prioritization

After identifying material issues, CAL used the materiality matrix (based on results from 307 questionnaires conducted in 2018) to evaluate stakeholders' degree of concern, their level of impact on business operations, and the materiality of major domestic and international incidents that occurred in 2019. Following this, we then prioritized the material issues based on the GRI Standards reporting principles, including issues' degree of importance to CAL, impact on stakeholders' evaluation and decision making, and significance of the issues' impact on the economy, environment and society. The prioritization results were then reviewed and discussed by both external experts and internal sustainability officers, then matched with specific topics and boundaries under the GRI Standards. In particular, the materiality of Labor Relations and Engagement, Fleet Development and Management, and Climate Change Mitigation and Adaptation increased.

Step 4

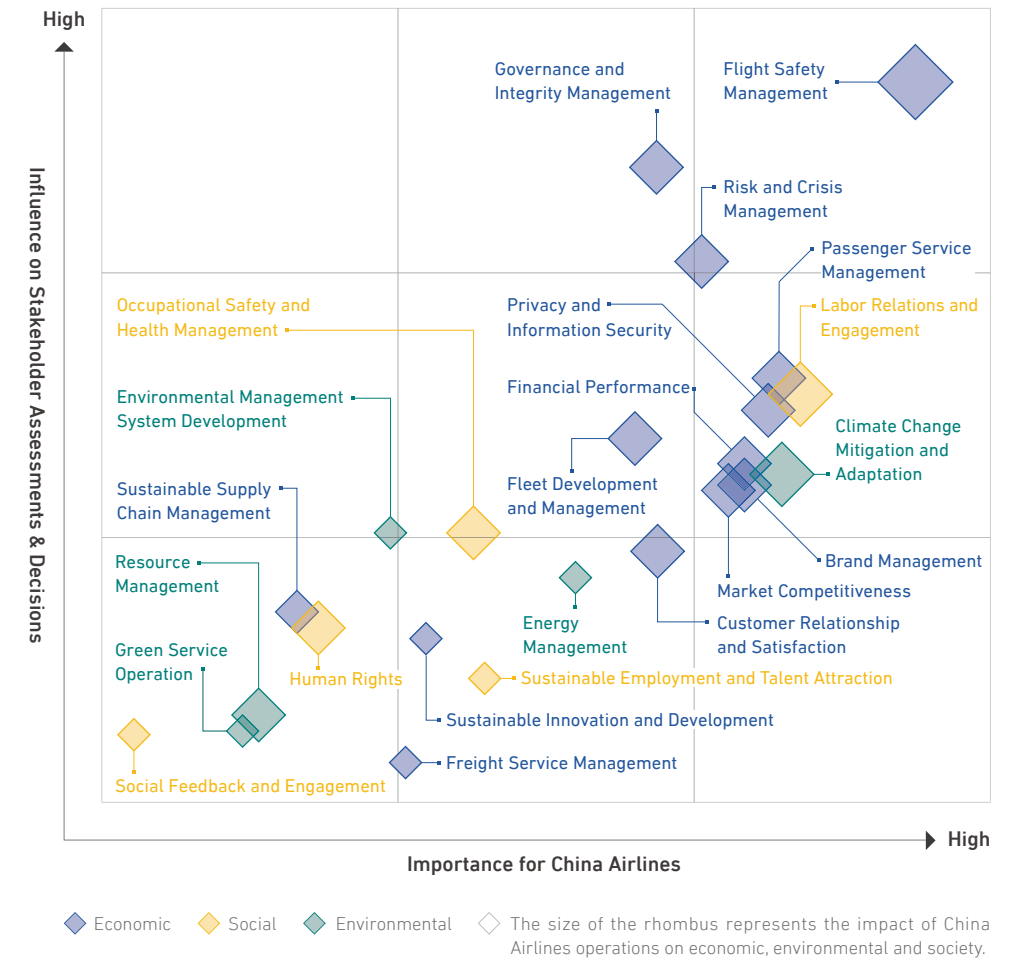
Validation and Response

The Corporate Sustainability Committee, the highest governing organization of corporate sustainability, resolved on the material issues in 2019 and disclosed each material issues in the Report and on CAL's [CSR website](#).



CSR Website

2019 China Airlines Materiality Matrix



Importance of and Changes in Material Issues for 2019

Material Issues	Change	Importance to CAL
◆ Flight Safety Management	None	Zero flight safety accidents form the basis for creating sustainable customer value
◆ Governance and Integrity Management	None	A robust corporate governance framework and sound ethical corporate management are fundamental to corporate sustainability
◆ Risk and Crisis Management	None	Risk management plays a key role in Company's sustainable development. Faced with ever-increasing categories of risk, CAL is committed to reducing risks and improving our resilience to crises
◆ Passenger Service Management	None	CAL aims to provide quality products and services, to meet passengers' needs and become the preferred airlines in Taiwan
◆ Labor Relations and Engagement	Adjusted priorities in degree of stakeholder concern: The labor strike took place at Lunar New Year and attracted attention from the media and investors	Maintaining harmonious labor-management relations is a priority for Company. CAL is committed to strengthening diversified communication with employees and creating an equal and friendly work environment
◆ Privacy and Information Security	A new issue, privacy and information security, was added due to its increased importance. The implementation of the EU's GDPR has seen huge fines successively imposed, attracting worldwide media attention	With the popularization of information systems, and in order to comply with domestic and foreign information security laws and regulations, CAL continuously improves our information security governance system and protection capabilities, and prioritizes information security control in daily business operations. The protection of personal data and customer privacy is closely tied to our reputation and customer trust
◆ Financial Performance	None	The pursuit of profit through operating and financial performance is the foundation of our stable operations
◆ Brand Management	None	Through brand management, we create the "Most Reliable" brand image, enhance global brand visibility, and strengthen customer loyalty, which facilitates business and market expansion
◆ Climate Change Mitigation and Adaptation	Adjusted priorities in degree of stakeholder concern: Responded to the World Tourism Organization's COP25 proposal that the aviation industry continue to grow while also shouldering responsibility for carbon reduction	As global climate change and energy consumption become ever-more pressing concerns, CAL fully fulfills our environmental protection responsibilities and obligations by actively participating in and responding to environmental protection initiatives at home and abroad; reducing environmental impacts; and identifying risks and opportunities early on, in order to strengthen our carbon management and climate resilience
◆ Fleet Development and Management	Adjusted priorities in degree of stakeholder concern: To stay competitive, CAL implemented the fleet update plan to improve efficiency and reduce carbon emissions	CAL continuously strengthens fleet quality and introduces environmentally-friendly models, to build an efficient worldwide air transport network and provide more comfortable and safer travel experiences for passengers
◆ Market Competitiveness	None	Faced with an ever-changing aviation industry and the emergence of new airlines, CAL optimizes our route network, develops potential markets and customers, and makes good use of group resources to stay competitive

Material Issues	Change	Importance to CAL
◆ Occupational Safety and Health Management	None	CAL aims to provide a safe and healthy workplace, promote a variety of health promotion activities, and reduce both occupational accident rates and construction risks to improve employee cohesion
◆ Environmental Management System Development	None	CAL establishes a sound environmental management system (EMS) to improve environmental governance policy and risk management quality, and enhance ecological benefits
◆ Customer Relationship and Satisfaction	None	Customer trust and satisfaction are the most important driving force for CAL's continued growth. Providing professional service is our commitment to customers
◆ Energy Management	None	We continue to move toward low-carbon operations by focusing on energy conservation and energy efficiency management
◆ Sustainable Supply Chain Management	None	CAL strengthens sustainable value for the overall supply chain by managing our upstream and downstream suppliers
◆ Human Rights	None	We ensure the completeness of our human rights policies, in order to comply with international trends in human rights and to protect human rights
◆ Sustainable Innovation and Development	None	We continue to innovate in products and services, and provide value creation capabilities to meet customer demand for technological services
◆ Sustainable Employment and Talent Attraction	None	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
◆ Resource Management	None	CAL optimizes the working environment and energy management, keeps track of on-site environmental operations, and implements environmental protection and energy conservation policies
◆ Green Service Operations	None	With the increased awareness of green consumption, CAL reduces waste and derived processing costs by promoting green consumption and optimizing service processes
◆ Social Feedback and Engagement	None	CAL gives back to society, to create social value as part of our commitment to corporate sustainability
◆ Freight Service Management	None	We optimize freight services through price differentiation and special cargo delivery, in order to provide quality freight services for customers

Material Issues Corresponded to GRI Standards

Material Issues (Sorted by Level of Concern)	Corresponding to GRI Topic-specific Standards	Boundary						Corresponding Chapter / Section
		Internal (Note)			External			
		China Airlines	Mandarin Airlines	Tigerair Taiwan	Government	Customers	Partner	
◆ Flight Safety Management	GRI 404 Training and Education	●	●	●	○	○		2-1 Trust
◆ Governance and Integrity Management ◆ Passenger Service Management ◆ Privacy and Information Security ◆ Financial Performance ◆ Market Competitiveness ◆ Customer Relationship and Satisfaction ◆ Sustainable Innovation and Development ◆ Freight Service Management	GRI 201 Economic Performance	●	●	●		○		1-1 About China Airlines
	GRI 205 Anti-corruption GRI 206 Anti-competitive Behavior	●			●	○	▲	GRI Content Index 2-1-2 Passenger Service
	GRI 415 Public Policy	●			●			GRI Content Index
	GRI 418 Customer Privacy	●			●	●		2-1-2 Passenger Service
◆ Risk and Crisis Management ◆ Fleet Development and Management	GRI 102 General Disclosures: 1. Organizational Profile 2. Strategy	●			○			0-1 About The Report 0-2 Letter from Management 3-2 Risk Management
◆ Brand Management	-	●			○	○	○	1-2 Sustainability Strategies and Goals 2-5 Society
◆ Sustainable Supply Chain Management	GRI 204 Procurement Practices GRI 308 Supplier Environmental Assessment GRI 414 Supplier Social Assessment	●					▲	2-3 Cooperation

Material Topic (Sorted by Level of Concern)	Corresponding to GRI Topic-specific Standards	Boundary						Corresponding Chapter Section
		Internal <small>(Note)</small>			External			
		China Airlines	Mandarin Airlines	Tigerair Taiwan	Government	Customers	Partner	
◆ Labor Relations and Engagement ◆ Occupational Safety and Health Management ◆ Human Rights ◆ Sustainable Employment and Talent Attraction ◆ Social Feedback and Engagement	GRI 202 Market Presence	●	●	●		●		2-2 Human Resources
	GRI 401 Employment GRI 402 Labor / Management Relations	●	●	●	○	○		
	GRI 403 Occupational Health and Safety	●	●	●	○			
	GRI 404 Training and Education	●	●	●		○		
	GRI 405 Diversity and Equal Opportunity	●	●	●				
	GRI 406 Non-discrimination GRI 408 Child Labor GRI 409 Forced or Compulsory Labor	●	●	●	●			2-2 Human Resources GRI Content Index
	GRI 407 Freedom of Association and Collective Bargaining	●	●		○			2-3 Cooperation
	GRI 412 Human Rights Assessment	●						2-2 Human Resources
	-							2-5 Society
◆ Climate Change Mitigation and Adaptation ◆ Energy Management ◆ Environmental Management System Development ◆ Resource Management ◆ Green Service Operations	GRI 302 Energy	●				○		2-4 Environment
	GRI 303 Water	●			●	○		
	GRI 305 Emissions	●	●	●		○	▲	
	GRI 306 Effluents and Waste	●			●	○		GRI Content Index
	GRI 307 Environmental Compliance	●			●		▲	

● : Direct influence ○ : Indirect influence ▲ : Business influence

Note: The boundary of the Report mainly focuses on China Airlines. Only some related performance data of Mandarin Airlines and Tigerair Taiwan are disclosed.

Stakeholder Engagement

GRI 102-40, 102-42, 102-43, 102-44

CAL identified eight major stakeholders including Employees, customers, investors, government, partners (suppliers and contractors), community, media and associations (including aviation organizations). 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.

Stakeholder & Importance to CAL	Top 3 Issues (Sorted by Level of Concern)	Communication Channel	Communication Frequency	Key Points of Communication	Communication Results	Corresponding Chapter
<div>Employees</div> <p>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</p>	<ul style="list-style-type: none">◆ Flight Safety Management◆ Labor Relations and Engagement◆ Governance and Integrity Management	<ol style="list-style-type: none">1. Labor-management meetings2. Labor unions3. Employee suggestion boxes4. Employee feedback website5. China Airlines newsletter6. China Airlines Retirees Portal	<ol style="list-style-type: none">1. Monthly2. On demand3. On demand4. On demand5. On demand6. On demand	<ol style="list-style-type: none">1. Employment and retention of employees2. Employee development, rights and interests, healthy and safe workplace	<p>The employee satisfaction survey is carried out once every two years. In 2019, the employee satisfaction rate was 6.4 (out of 10)</p>	2-2 Human Resources
<div>Customers</div> <p>Customers are our main source of revenue. CAL listens to customers and protects their rights and interests in order to meet customers' expectations</p>	<ul style="list-style-type: none">◆ Flight Safety Management◆ Passenger Service Management◆ Privacy and Information Security	<ol style="list-style-type: none">1. Customer satisfaction survey2. Global business meetings3. Taiwan business meetings4. Discussions with travel agencies5. CAL's website, CSR website, Facebook, e-mail, and text messages6. Customer service hotline7. Corporate customer visits	<ol style="list-style-type: none">1. On demand2. Once every year3. Twice every year4. Once every quarter5. On demand6. On demand7. As needed	<ol style="list-style-type: none">1. Customer Relationship Management2. Protecting customers' rights and interests: privacy, food safety, and in-flight drinking water quality	<ol style="list-style-type: none">1. Passenger satisfaction rate: 87.7%2. Freight satisfaction rate: 88.6%3. Satisfaction rate of maintenance factories: 8.73 (out of 10)	2-1 Trust
<div>Investors</div> <p>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</p>	<ul style="list-style-type: none">◆ Flight Safety Management◆ Financial Performance◆ Risk and Crisis Management	<ol style="list-style-type: none">1. Shareholders' meetings2. Shareholder's hotline / mailbox3. Road shows4. Interviews	<ol style="list-style-type: none">1. Yearly2. On demand3. Once every three years (once every year starting from 2018)4. As needed	<ol style="list-style-type: none">1. Operating results2. Flight safety and passenger transport3. Risk management model	<p>CAL continued to disclose operating results in accordance with the law and investor requirements</p>	2-1 Trust 3-1 Corporate Governance

Stakeholder & Importance to CAL	Top 3 Issues (Sorted by Level of Concern)	Communication Channel	Communication Frequency	Key Points of Communication	Communication Results	Corresponding Chapter
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 has influence on CAL's operations	◆ Flight Safety Management Risk and Crisis Management ◆ Climate Change Mitigation and Adaptation	1. Missives 2. Visits 3. Participation in projects 4. Participation in public hearings, seminars, conferences, and negotiation forums 5. Participation in initiatives 6. Audits	1. As needed 2. As needed 3. As needed 4. As needed 5. As needed 6. As needed	1. Communication and implementation of relevant laws and regulations 2. Sharing of important industry information	1. CAL was ranked in the top 5% of TWSE / TPEX listed companies in the fifth Corporate Governance Ranking 2. CAL was selected for the Taiwan High Compensation 100 Index and the Taiwan Employment Creation 99 Index 3. CAL was selected for FTSE4Good TIP Taiwan ESG Index	2-1 Trust 2-4 Environment 3-1 Corporate Governance
Partners (Suppliers and Contractors) Service provided by suppliers and contractors is one of the key factors for CAL to provide services that satisfy customers	◆ Flight Safety Management ◆ Financial Performance ◆ Governance and Integrity Management	1. Telephone 2. E-mail 3. Coordination meetings 4. Business visits 5. On-site audits	1. As needed 2. As needed 3. As needed 4. As needed 5. At least once every six months	1. Sustainable Supply Chain Management	A supplier conference was held at the end of 2019	2-1 Trust 2-3 Cooperation
Community 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	◆ Governance and Integrity Management ◆ Flight Safety Management ◆ Brand Management	1. Charity events 2. Community activities 3. News releases 4. Online mailbox	1. As needed 2. As needed 3. As needed every month 4. Daily, as needed	1. Support for social development 2. Assumption of social responsibility 3. Creation of social sustainability	In 2019, a total of 157,701 people benefited	2-1 Trust 2-2 Human Resources 2-5 Society
Media Media reports and comments on CAL affect CAL's reputation and image	◆ Flight Safety Management ◆ Labor Relations and Engagement ◆ Passenger Service Management	1. News releases 2. Press conferences 3. Interviews 4. Active communication of industry information	1. As needed 2. As needed 3. As needed 4. As needed	1. Collection of issues of stakeholders' concern and promotion of transparent communication	In 2019, 196 articles of news were released	2-1 Trust 2-2 Human Resources
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	◆ Labor Relation and Engagement Occupational ◆ Safety and Health Management ◆ Governance and Integrity Management	1. Participation in project meetings 2. Participation in work seminars 3. Organizing or participating in summits, executive summits, committees, and coordination meetings 4. Participation in government-convened meetings 5. Telephone, e-mail, and exchange platforms	1. Monthly, as needed 2. As needed 3. Regularly, as needed 4. Regularly, as needed 5. As needed	1. Collection of trends at home and abroad and promotion of business operations 2. Coordination of business relationships and promotion of mutual benefits	1. CAL participated in 24 project meetings regarding environmental issues in 2019 2. In 2019, CAL participated in meetings and projects organized by international organizations and aviation alliances such as IATA, SkyTeam, AAPA, and TAA to strengthen cooperation with airlines at home and abroad	2-1 Trust 2-4 Environment

Initiatives and Membership

GRI 102-12, 102-13

As an important member of the aviation industry, as a corporate citizen, and in order to achieve common prosperity in the aviation industry, CAL actively participates in environmental and sustainability initiatives and associations, with respect to aviation industry development, corporate sustainability, environmental protection, and other professional domains.

In 2019, CAL invested about TWD 57.18 million participating in various aviation organization and association initiatives at home and abroad, with TWD 55.35 million (96.80%) in aviation industry development and TWD 1.83 million (3.20%) in corporate sustainability, environmental protection, and other domains.

Initiatives

<div>2017-2019</div> <div>Buckingham Palace Declaration</div>	<div>At the 73rd IATA Annual General Meeting in June 2017, CAL signed the Buckingham Palace Declaration against illegal wildlife trafficking. CAL has worked with 20 or more other airlines to stamp out the transport of illegal wildlife in conformity with the UN's SDGs.</div>
<div>2016-2019</div> <div>The Dow Jones Sustainability Indices (DJSI)</div>	<div>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 economy (including governance), environment, and society. In 2019, CAL was selected for the DJSI Emerging Markets for the four consecutive year and ranked third among the world's airlines. Taking its place behind Air France and ANA, CAL was the only airline in Taiwan that was selected for the index.</div>
<div>2012-2019</div> <div>Pacific Greenhouse Gases Measurement (PGGM)</div>	<div>Since 2012, CAL has worked with PGGM by installing the In-service Aircraft for a Global Observing System (IAGOS) in the 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, 2019, CAL has collected high-altitude gas data from 11,254 flights.</div>
<div>2012-2019</div> <div>Carbon Disclosure Project (CDP)</div>	<div>Aside from being Taiwan's first service provider to independently review greenhouse gas emissions generated from its operations, CAL also stands as Taiwan's first carrier to 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 carbon risk management strategies, 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. In 2020, CAL was rated as Management level (B) in Climate Change questionnaire (2019 was A-) and awarded Supplier Engagement Leadership level (A-) by CDP.</div>
<div>2008-2019</div> <div>Earth Hour</div>	<div>CAL has supported this event since 2008. It provides support through concrete actions such as turning off the lights in the CAL Park, the Taiwan Branch Office, and Songshan Park. Apart from this, we have also utilized media outlets in urging the general public to be aware of the impacts of global warming and climate change.</div>

Memberships

IATA



International Air Transport Association

Environment Committee (ENCOM), Cargo Committee, CSR Work Group, Carbon Offsetting and Reduction Scheme for International Aviation Work Group (CORSIA), and Air Freight Carbon Footprint Work Group; 2 members and 1 observer of the Industry Committee

Role and Participation

CAL Kept in close touch with IATA Headquarters and IATA North Asia and participated in meetings, industry committees and task forces; CAL also served as a member of IATA Sustainability and Environment Advisory Council (SEAC) to participate in the discussions on environmental protection and sustainability in the global civil aviation industry and to support survey and research of related environmental issues.

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.
- CAL participated in the making of technical specifications of CORSIA and policies pertaining to sustainable aviation fuels and promoted industry training.
- CAL kept itself updated with progress of CORSIA and sustainable aviation fuels and provided information for national legislation.

AAPA

AAPA

Association of Asia Pacific Airlines

Founding Member

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

CAL participates in the global aviation industry's discussions regarding environmental protection, improvements in fuel efficiency, development of biofuels, consumer rights, and competent authorities' latest regulations, and also provides relevant information for all CAL departments' reference and compliance.

SkyTeam



SkyTeam

Director and Executive Member

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 route network, not only in Greater China but also in major cities across the world. Through new technologies developed by the members of SkyTeam, CAL is able to improve customer service and create seamless transfer service.

TAA



Taipei Airlines Association

Chairman and Secretary General

Role and Participation

TAA is a platform for members to communicate on important issues with the government and other industry associations. TAA also accepts commission services from government agencies and organizations. The Association also facilitates cross-strait exchange events, to promote communication and experience sharing within the aviation industry. CAL currently holds the 10th-term chairman and secretary general seats in the TAA.

Contributions and Benefit

TAA stands as an important organization for Taiwanese airlines. CAL currently holds chairmanship in the TAA, to address industry issues such as labor relations and consumer rights, as well as to communicate with the government and speak on issues of common interest to Taiwanese airlines.

FSFT



Flight Safety Foundation - Taiwan

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

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 to promote and establish 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

Association of Atmosphere Protection in Taiwan

Managing Director

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 in Taiwan.

Strategic Alliance for Cleaning Development and Carbon Rights Management

Founding Member

Role and Participation

Established by the Executive Yuan's Environmental Protection Administration, the Strategic Alliance for Cleaning Development and Carbon Rights Management is an information-sharing platform that assists the industry in achieving low-carbon transformation and carbon reduction.

Contributions and Benefit

CAL actively shares our experience and opinions with industry, government, and academia regarding international carbon management trends in the aviation industry, in order to promote low-carbon transformation and industrial cooperation.

CCS

Center for Corporate Sustainability

Advisory Director

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 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.



CHAPTER

2

Value
Creation

2-1 Trust

2-2 Human Resources

2-3 Cooperation

2-4 Environment

2-5 Society

2-1 Trust



Highlights



Organized three flight safety / international security seminars

Organized three flight safety / international security seminars in cooperation with China Aviation Development Foundation and the Flight Safety Foundation.



Co-organized 72nd International Air Safety Summit

Co-organized the 72nd International Air Safety Summit, one of the world's largest flight safety conferences, held by the China Aviation Development Foundation and the Flight Safety Foundation (FSF) in Taipei; published three papers on flight safety risk mitigation.



Selected as Presidential Aircraft

With outstanding cabin operations and ground services, and in recognition of our professional transportation services, CAL was selected as the presidential aircraft multiple times.



ISMS introduced to certify core information systems and ensure information security

Received ISO27001:2013 Information Security Management System (ISMS) certification in November 2019 for legal and regulatory compliance, and for improving total quality management of corporate information security.



Smart Airport Initiative

Continuously promoting self-service check-in (SSCI) at airports in countries around the world, including South Korea (ICN) and Japan (OKA) in 2019, to help passengers avoid queuing up for check-in and improve check-in efficiency.



Completing the Integration of Visual Identity

We have integrated the visual identity of China Airlines across advertising, airport signage, traffic items, in-flight supplies, and membership supplies to elevate CAL's brand image and convey our business philosophy and brand proposition to customers precisely. Our new airport signage had gradually been set up in late 2019, bringing a brand-new corporate image of China Airlines.

Management Approach

GRI 103-1, 103-2, 103-3

Importance of Material Issues

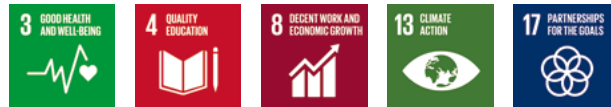
Zero accident is the foundation for creating sustainable value for customers. Therefore, providing reliable and safe service is not only the core value of CAL, but also our way to sustainability. As a professional transportation service provider, the sustainable operations of CAL depend on the quality 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.

Commitment and Long-term Goals

• Commitment

Since the founding of CAL 60 years ago, flight safety has been a tremendously serious commitment we make to our customers and the general public. By upholding the highest standards of compliance and zero flight safety accidents, we have endeavored to ensure the safety of all passengers and cargoes on every journey. With customers being our first priority, we always pay attention to international trends and customers' benefits and offer reliable and quality service. With the concept of "60th anniversary wholeheartedly as a fresh start", we pursue our mission of "creating more wonderful moments through flying."

• Long-term Goals



- | | |
|-------------|--|
| 2020 | <ol style="list-style-type: none"> 1. Implementing personal data management systems in accordance with GDPR and personal data protection laws (Note 1) 2. Increasing the freight customer satisfaction rate to 88% 3. Introducing robotic process automation (RPA) to optimize internal operating procedures and customer service mechanisms; installing Chat Bots (Note 2) 4. Continuously participating in aviation organizations and increasing influence 5. Strengthening the promotion of just culture |
| 2025 | <ol style="list-style-type: none"> 1. Received ISO27701 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 freight customer satisfaction rate to 89% 3. 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 4. Publishing the results of flight operations studies to improve technical capacity of aviation industry 5. Strengthening safety culture |
| 2030 | <ol style="list-style-type: none"> 1. Maintaining validity of ISO27701 Privacy Information Management certificate, reaching 90 points or more on DJSI Personal Data Protection evaluation session 2. Increasing the freight customer satisfaction rate to 90% 3. Promoting intelligent tourism: Integrate tourism-related industries (such as transportation, hospitality, insurance, catering, and tourist attractions) to provide a one-stop smart travel eco-system 4. Developing innovation plans with other airlines to drive innovation momentum 5. Continuously enhancing the safety management system (SMS) |

Note 1: Modified according to the company policy.

Note 2: The original two goals have been consolidated, and the short-term action plans have been modified in response to the impact of the epidemic.

Unit in Charge

- Corporate Sustainability Committee — Trust Task Force and Corporate Safety Committee

Management Mechanisms

- The Corporate Sustainability Committee convenes a meeting at least twice every year
- The Corporate Safety Committee convenes a meeting every quarter on a regular basis
- The quality review meeting is convened every half year on a regular basis
- The Trust Task Force submits the KPI report to the Corporate Sustainability Committee every quarter
- The personal information protection management review meeting is convened every year on a regular basis

Objectives and Plans GRI 102-44

Key Point	SP I (Note 1) / KPI	2019			2020 Objectives
		Objectives	Performance	Achievement	
Flight Safety	Fatal and Hull Loss Accidents	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	87.2	87.7	100%	87.8 (Note 2)
	Overall Freight Service Satisfaction	88.0	88.6	100%	88.0
	Overall Maintenance Satisfaction (Note 3)	8.40	8.73	100%	8.40

Note 1: SPI refers to safety performance indicators.

Note 2: The overall passenger satisfaction targets for the following year are set based on the performance from January to November of the current year plus 0.1.

Note 3: According to the resolution of the aviation management and review meeting in the first half of 2019, [the statistics of customer satisfaction](#) with repair and maintenance factories will exclude budget airline customers starting from 2019.

Grievance Mechanism

- **Passenger: Passenger Branch Office** — Website
- **Cargo: Cargo Sales, Marketing & Service Division** — E-mail: tpefqci@china-airlines.com
- **Aircraft Maintenance: Engineering and Maintenance Organization** — E-mail: emo.customer@china-airlines.com



Passenger Branch Office



Stakeholder Contact

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 effective 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.

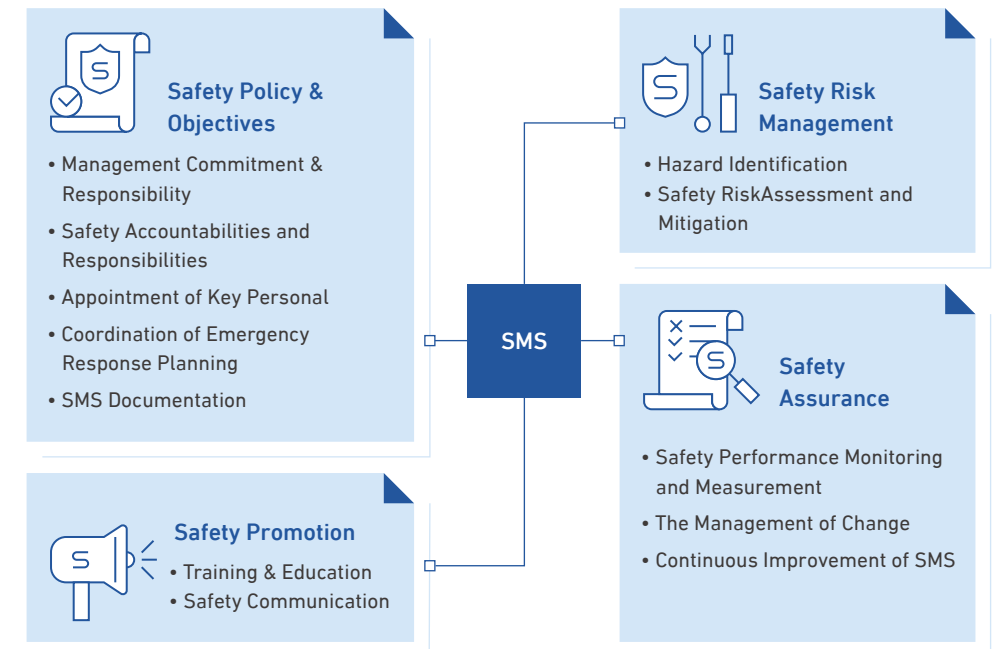
Safety Management System (SMS)

CAL has implemented the Safety Management System (SMS) for more than a decade by now, and the benefits have started rolling in. The core of SMS is safety risk management. CAL analyzes and manages operational risks systematically through continuous risk identification and management. We also set SPIs and goals to overall track, control, or mitigate risks. To boost morale, we continuously implement management by walking around (MBWA) in addition to SMS and also encourage front-line employees to identify and report any potential risks or risk factors in the workplace to improve the level of safety with proactive risk management.



CAL Safety Policy

Safety Management System (SMS)



Safety Risk Management

1. Safety Performance Indicators

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. The annual safety performance indicators are monitored in executive meetings and reviewed and discussed in safety task force meetings on a regular basis, to meet internal safety management requirements to not only comply with but also perform beyond domestic and international safety standards.

Safety Management Meeting

Board of Directors Risk Committee

- Corporate Safety Office reports CAL's overall risk

- Corporate Safety Office reports the implementation of quarterly safety management
- Discuss critical safety issues

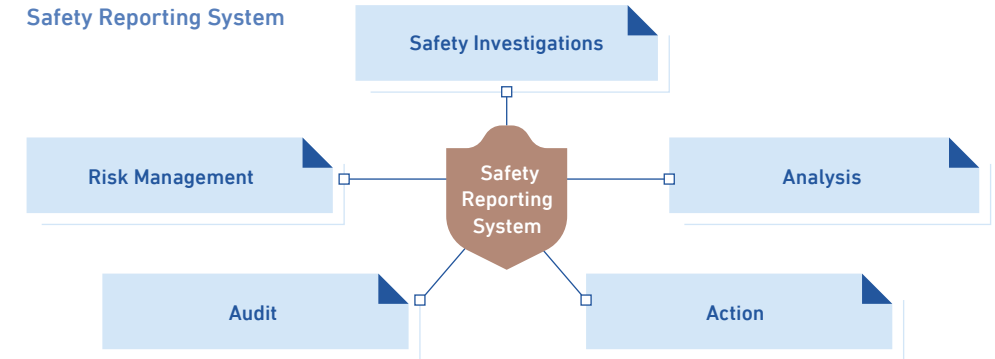
- Report the implementation of monthly safety management
- Report critical safety issues



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 risk reporting, CAL prevents unsafe incidents from occurring and increases its overall 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 2019, the safety reporting system showed a remarkable result with a total of 1,041 safety issues reported and 311 employees rewarded.

Safety Reporting System



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.

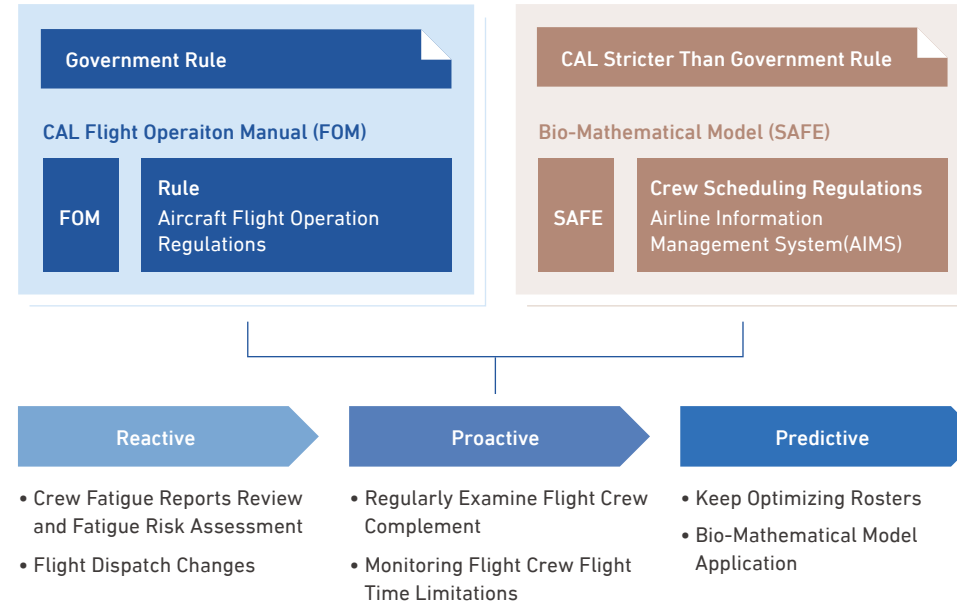
Safety Risk Management



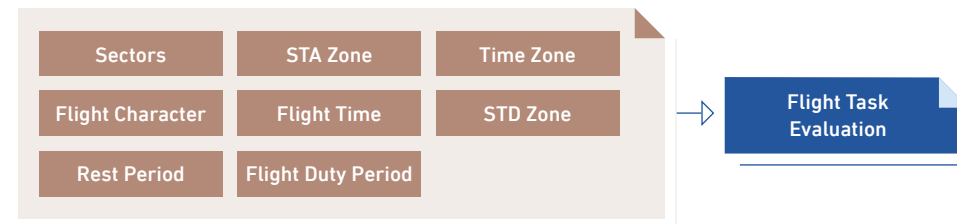
3. Fatigue Management

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) to identify fatigue factors and evaluate and analyze the degree of fatigue with established indicators. Through predictive risk identification and proactive actions, CAL plans to optimize crew scheduling and fatigue management. We also encourage crew members to identify and report fatigue factors on their own initiative to control risks of fatigue at work.

CAL Flight Crew Fatigue Risk Management



Flight Task Evaluation



4. Alcohol Test Mechanism

According to 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 increase their alertness of flight safety.

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. Following the event theme in 2018, namely, Safety Identification, Participation, Management, and Implementation, our safety events in 2019 were mainly

aimed at enabling 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 took the initiative in organizing three international seminars on flight safety and also co-organized the 72nd International Air Safety Summit in 2019.

1. 2019 Safety Event — Flight Safety Lecture



2. Safety Promotion — International Seminars and the 72nd International Air Safety Summit



Organized the International Aviation Cyber Security Seminar on May15, 2019



Organized the International Safety Management System Seminar on June26, 2019



Organized the International Aviation Security Passenger Assessment Seminar on Sep25, 2019



Co-organized the 72nd International Air Safety Summit held by the China Aviation Development Foundation and the Flight Safety Foundation (FSF) in Taipei during Nov04 to Nov06, 2019

Flight Crew Management

Professional Training and Evaluation GRI 404-2

CAL identifies the hazard factors and implements risk management mechanisms through three concepts "Predictive", "Proactive" and "Passive", adopts a complete internal and external environmental change training, such as new stations, new routes, new aircraft, new systems, new procedures, systemic proficiency checks, Flight Operation Quality Assurance (FOQA), and regular evaluation of pilot instructors, to cultivate pilots of the highest quality and ensure flight safety.

Note : FOQA aims to reduce accidents and crashes and improve flight safety through flight data. In other words, it mines routine flying logs and abnormality reports, analyzes the operating characteristics of active fleet, and then assesses potential risks for rectification.

1. Strict Training and Objective Test

In order to implement our commitment of flight safety, CAL strictly requests our cadet pilots to complete at least 10 months of training programme at well-known flight training schools in the United States or Australia. To ensure the flight training is solid, they have not only to pass the evaluate performance at the training school but also require to meet the test of CAL aircraft type evaluation.

CAL has introduced evidence-based training (EBT) to replace traditional recurrent training and tests. The EBT is guided by risk and crisis management, utilizing big data collection and analysis to enhance the ability of handling abnormal situation by individual behaviour, fleet performance, operation sites, and historical record of events etc. CAL has achieved 100% EBT for a total of 2,383 flight crew in 2019.

2. Professional Training Facilities

As the first airline to introduce civil flight simulators in Taiwan, CAL has been equipped with various types of simulators for flight training for more than 38 years. In addition to simulating various adverse weather conditions, simulators can incorporate a variety of contingencies for constant simulation training; they can also display tolerance limits of aircraft designs and carry out training in any possible extreme and dangerous situations without incurring any risk in the exercise. The training process can also be recorded as a basis for review and improvement for flight skill and expertise.

CAL's flight simulators and ground / water escape training facilities have been certified by international aviation administrations. The flight simulators are available for domestic and international training. CAL will continuously invest in and upgrade training equipment to ensure flight safety.

3. Comprehensive Training System

The Integrated Pilot Training System (IPTS) was since 2014 to comprehensively E-training records and integrate training course information. In 2019, 156 CAL flight crew have participated in a variety of short- and long-term training courses, 153 of whom completed training. In addition, in response to the introduction of an Airline Information Management System (AIMS) in 2019, CAL has undertaken IPTS integration to ensure the effective use of training resources.

Health and Emotional Management

CAL sets strict standards not only for pilot training, but also for pilots' health and emotional management. To prevent and reduce the physical and mental stress of pilots in long-haul flight duties, CAL adopts proactive planning, crew feedback and prediction in crew roster management and sets requirements higher than statutory ones so that all flight crew members are fully ready for each flight duty.

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 flight 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

To improve communication with crew members and cohesion between them, CAL organizes all types of meetings on a regular basis to streamline the channels of communication and quickly respond to, solve, 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.

Proactive Planning

- Monthly review and discuss next month schedules with fleet office
- Better rosters for flight crew's dispatch and rest time
- If performed a night flight, the maximum duty hour is reduced 2 hours
- Monitor crew pairing by their performance in each fleet
- Schedule a day off after a specific flight duty

Crew Feedback

- Investigate crew report regarding fatigue issue and mitigate by adjusting flight duty, crew number or layover as appropriate
- Immediately adjust the schedule of flight crew if reported fatigue or ask sick leave

Prediction

- For new route crew number crew pattern will be decided by fleet office after evaluation



Inflight Monitoring and Control

Our System Operation Control Division operates 24 hours per day to monitor the status of our flights and ensure their safety in real time, by utilizing various communication tools and internal mobile platform. CAL monitors airport operations worldwide and provides information for all flights in real time. Wherever our flights may be, all factors that may affect them are closely monitored, including weather conditions and incidents of disasters, and are immediately relayed to the flights, along with contingency plans. On-time Performance of Domestic Passenger Airlines on Cross-strait and International Routes published by the Civil Aeronautics Administration (CAA) in 2019 tells us that CAL averaged 87.02%, 5.02% higher than the 15-minute on-time performance KPI (82%), raised the 15-minute on-time departure performance KPI in 2020 to 83%, and achieved a 99% passenger aircraft dispatch reliability rate.

To continuously provide passengers with better and more reliable flights, the System Operation Control Division has upgraded the existing tracking and monitoring software to meet the requirements for operation control.

Crew members in flight are provided with real-time updates through ICAO 4D / 15 tracking on hazards like volcanic ash, typhoons, and turbulence and guided to steer clear of hazardous zones as needed. Meteorologists are also employed for weather forecasts for each station, facilitating flight operations and ensuring flight safety. In terms of airport monitoring, ground monitoring software / hardware is upgraded to connect with air traffic radar and CCTV, so as to monitor the status of flights in real time is benefited to improve flight on-time performance.

Maintenance Quality

Ensuring the quality of maintenance is our fundamental commitment to flight safety. CAL proactively manages aircraft conditions through the Reliability Control Program. Various abnormal and technical parameters and data generated from the normal daily operation of aircraft are collected and analyzed to develop the most appropriate maintenance strategies and plans to maintain the reliability of aircraft systems, improving maintenance quality, and enhancing flight safety.

Professional Maintenance & Repair Capabilities

Our Engineering and Maintenance Organization (EMO) has been certified as a repair station by 10 countries and regions, including the EU, the U.S., and China. CAL has become the largest modernized aircraft repair center in Taiwan, with modern hangars that accommodate five large wide-body aircrafts to perform heavy checks simultaneously, and with the engine test cell of a thrust run-up to 120,000 lbs, thereby supporting high-level aircraft maintenance. To expand maintenance service to airlines in Southeast Asia and East Asia, CAL was approved as a repair station by the Philippines in April 2019. CAL hopes to obtain a similar certificate from Japan in 2020.

China Airlines Technical Training Center

In response to rapidly growing demand for maintenance service at home and abroad, CAL was certified to establish the China Airlines 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 EMO and other airlines. Since CTC's foundation, a total of 152 training courses have been offered, and 1,706 trainees have completed training.

Quality Management System

CAL has acquired ISO 9001 certification and continuously maintain the effectiveness of the system since 1996. In May 2017, the EMO became the first repair station in Taiwan to be authorized by IAQG for AS9110. In December 2019, CAL renewed its three-year re-evaluation contract with the accreditation institution. Consistent with its pursuit of improvement of quality, CAL will periodically conduct Plan-Do-Check-Act (PDCA) through the quality management system for continuous improvement and meet 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 GRI 102-44

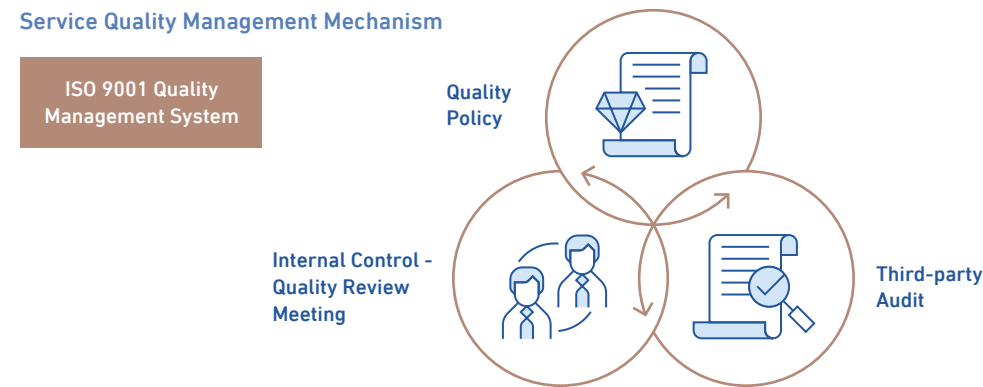
Maximizing Customer Satisfaction

On October 2, 2019, CAL launched its new Fare Family products, enabling passengers to opt for Fare Family products as per their choice and save money. For example, passengers with no checked-in baggage can choose a Fare Family product with a low free baggage allowance; travelers may purchase Premium Economy Class or Business Class products to enjoy complimentary Wi-Fi on board; passengers may also purchase seats they prefer (i.e. first row, front row, window or aisle seats). For proper seat arrangement, a no-show fee will be imposed on passengers who do not cancel their reservations, do not show up for their flights or do not board their flights after completion of the check-in process. The seat selection fees from October 2, 2019 to December 31, 2019, totaled US\$2,698,714.

Customer Relationship Management

Providing customer-oriented and quality service is the key to earn customer trust. CAL has established the quality policy and has designated a unit in charge of service quality control. Every year, the quality review meeting is held to set annual objectives and review service performance. Moreover, CAL has introduced the ISO 9001 Quality Management System to ensure the quality of service beyond passengers' expectations.

Service Quality Management Mechanism



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. To better understand customers' needs, CAL integrates all customer feedback through the Customer Service System (CSS) (in 2019, 48% of customer feedback was provided via CAL's website and 52% provided in other ways) and has units in charge of responding to customers within a given time limit in the hope of becoming passengers' most trusted airline.

Communication Channels

1. Customer Service Hotline

2. Regular Mail

3. Comment Form

Customers can fill in the comment form and hand it over to a crew member or mail it to our Customer Relationship Department.

4. Customer Service on Facebook

CAL has created a fan page on Facebook to understand customers' needs and problems instantly and improve service quality accordingly, which expects to increase cohesion among members and fans and develop business prospects.

5. Customer Service E-mail

Instead of calling, customers can simply send e-mails to change reservations or confirm their itineraries.

6. Customer Feedback-online Feedback System

7. Online Customer Satisfaction Survey

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 non-conforming 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 Certification for In-flight Meals



ISO 22000



HACCP



Halal, JAKIM

In-flight Meal Adjustment in Response to COVID-19

In response to the spread of COVID-19 in early 2020, CAL has started providing Cold Meals on flights to / from Hong Kong and China to prevent the spread of the epidemic. As COVID-19 continues to spread, CAL has further set and redesigned the form of in-flight meal service based on the epidemic severity (Warning (Level 1); Alert (Level 2); Watching (Level 3) announced by the Centers for Disease Control, Ministry of Health and Welfare. We will continue to modify in-flight meals timely and immediately in response to epidemic developments in order to prevent and fight against COVID-19 and reduce the risk of infection.

In-flight Potable 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
- CAL sets high safety standards for our potable water suppliers and performs inspections annually
- 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 SDG 12: Responsible Consumption and Production and moves toward renewable energy, carbon reduction, and local procurement to achieve SDG 8: Decent Work and Economic Growth. In 2020, our objective is to pursue local procurement and reduce the carbon footprint of purchases during transportation. With a commitment to sustainable development, we suggest our catering service providers to recruit local suppliers in order to meet our catering standards. For flights departing from Taipei, we further incorporate many quality agricultural products and local brands into our in-flight meals, such as desserts (Economy Class) and mineral water and drinks (Business Class) to serve passengers delicious specialties prepared by local chefs from different countries. Local procurement helps achieve responsible consumption and production, and reduce carbon footprint while fulfilling our social responsibility as a corporate citizen.

Key Services

In 2019, 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:

1. Enhanced Cabin Crew Professionalism

2019 marks the 60th anniversary of CAL. Our cabin crew members ushered in the 60th

anniversary wholeheartedly as a fresh start. In 2019, the cabin service satisfaction level reached a record high. To strengthen cabin crew members' professionalism and cohesion, we organized a Team Building Camp, where cabin crew members were trained to treat customers with compassion and provide quality service through experiential learning.

2. Outstanding Customer Satisfaction

We hold the spirit of customers being our first priority, and consistently provide with best quality service in 2019, which can be reflected through our customer satisfaction scores.

3. 60th Anniversary Activity — Airport

2019 marks the 60th anniversary of CAL. We used the special 60th anniversary ICON incorporated with the "Journey Curve" and cloud map to decorate the check-in counters at Taiwan Taoyuan International Airport. We also solicited classic photos and shot a promotional ad starring the senior traffic supervisor and his son who also works in CAL. By showing the senior supervisor at work and his interaction with his son, the ad aimed to convey CAL's people-oriented, consistent, and sustainable business philosophy.



4. Upgraded Professional, Quality Service — VIP Lounge

Besides the most popular of Taiwanese local specialties, beef noodles, our VIP lounges also offered bubble tea, guava pound cake, and rice dumpling etc., and other international cuisines such as Thai and Japanese cuisine for our customers. By working with great caterings and providing distinctive food choices we offer travelers to experience unique dining atmospheres of each VIP lounge.



5. Upgraded Professional, Quality E-service — VIP Lounge

To ensure that environment is protected and to promote digital technology, CAL worked with Spring House Entertainment Co., Ltd. to provide 180 electronic publications (including 8 daily newspapers and monthly business, wealth management, leisure, and entertainment magazines) for travelers to download from Hami, the most popular e-bookstore, in the VIP lounge at the Taiwan Taoyuan International Airport. Passengers could enjoy gourmet food in our VIP lounge while reading the publications with their own electronic devices.











6. Flight Safety Workshop at Taiwan Taoyuan International Airport

In 2019, CAL worked with Taiwan Taoyuan International Airport to organize a six-session Flight Safety Workshop for teachers and students from elementary schools and preschools in Taoyuan City. We explained the boarding instructions in simple language and arranged games and field trips to help participants understand the role of airlines at the airport and basic knowledge of boarding and flight safety.



2-1-3 Freight Service

Four Freight Services

 	 	 	 
<p>Introduction</p> <p>You will get the premium express freight service and handle with money back guarantee. China Airlines handles Equation shipment with top priority from acceptance to delivery, and guarantees boarding on the first available flight.</p>	<p>Introduction</p> <p>A complete, top quality solution will be offered. Designed to meet your requirements, it is a perfect scheme under the tripartite contract among the Shipper, Freight Forwarder and China Airlines Cargo.</p>	<p>Introduction</p> <p>This is a specialized solution for special cargo with experience, attention and expertise who can transport to the final destination quickly and safely.</p>	<p>Introduction</p> <p>This general cargo solution is an airport to airport service with economic and reliable ways to manage your goods.</p>
<p>Advantages</p> <ul style="list-style-type: none"> • Airport-to-airport express service • Top priority for load planning • The earliest pick-up time • The latest possible booking • Extensive worldwide network • Money back guarantee 	<p>Advantages</p> <ul style="list-style-type: none"> • Customized service with loading priority and fixed rate • Regular performance report • Advanced techniques ensuring cargo safety • Various cargo types and long-distance freight capacity • A broad global service network 	<p>Advantages</p> <p>We have variations for precious artwork, heavy & oversize shipments, dangerous goods, perishable goods, live animals, pharmaceutical products, valuable goods, and all types of vehicles. Each variation is tailored to fit the specialized handling and loading procedures, as well as guarantee reliable service from our staff.</p>	<p>Advantages</p> <ul style="list-style-type: none"> • 24/7 online track and trace • Standard drop-off and delivery times at each station



Quality Freight Service

According to the latest IATA statistics, CAL's FTK ranked sixth worldwide and first in Taiwan in 2018. CAL is committed to green transportation. In addition to continuously upgrading our passenger fleet, we will introduce the Boeing 777 Freighter in 2020 to greatly improve fuel efficiency. With extensive passenger and cargo fleet and network, CAL has been the industry's first choice to deliver diversified products, such as engines, perishables, temperature control cabinets, precision equipment, and e-commerce cargo. In the future, CAL will optimize cargo service and provide better service quality for its customers.

1. Special Freight Service

CAL freighters 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. 747F aircraft with a larger capacity and the character about open in the nose cone is used to carry special-sized goods. CAL has also established transportation regulations that are even more stringent than IATA regulations, safely delivering goods under the supervision of the responsible personnel. In addition to general cargo and parcels, CAL often helps transport critical national cultural relics and relief supplies. With its diverse experience in transportation and excellent quality of service, CAL has promoted cultural exchanges between Taiwan and other countries.

2. Upgraded Cold Chain Service

In response to increased demand for air transport of temperature-controlled goods (such as pharmaceuticals, vaccines, and high-grade chemicals), CAL significantly improved its cold chain service in 2019. This included transportation of temperature control containers, SOP for active / passive temperature-controlled cargo, and upgraded refrigeration / freezing equipment. In addition, CAL also actively promoted the certification of IATA CEIV-Pharma to enhance the quality of service through international certification. In April 2019, Taipei Station passed the audit and obtained the CEIV-Pharma certification, making CAL Taiwan's first airline to earn this certification. In the future, CAL will continuously offer customized, refined cold chain service to provide diversified and quality temperature-controlled cargo service for customers around the world.

3. Freight Safety Management

CAL has strengthened risk management measures, such as Safety Report System, cargo service management platform, ground damage database, and abnormal weather reporting mechanism. CAL has also established a risk prevention mechanism by using Safety Report System for safety risk management (SRM); in addition, CAL has implemented management by walking around (MBWA) to strengthen warehouse and apron management. We ensure service quality based on feedback from our ground handling agents (GHA) in quarterly service quality questionnaires.

4. E-Air Waybill

CAL continued to promote the e-air waybill and exchanges information with forwarders through electronic data interchange (EDI), which could reduce the operating costs of airlines and forwarders, avoiding delays caused by input errors and missing documents. According

to the latest e-AWB penetration rate released by IATA in 2019, CAL achieved its annual target ahead of schedule and ranked among the world's top 10 airlines. In 2019, CAL continued to carry out paperless operations and e-air waybills for cargo service to / from Hong Kong, Singapore, Frankfurt, and the Americas. Starting from 2020, CAL will continuously promote paperless operations for more stations in line with IATA's announcement to environmental sustainability

5. Apron Mobility

Through wireless transmission, all cargo information and loading statuses are instantly transmitted to mobile devices, and the back-end management platform is used to control the status of goods until the goods are properly loaded according to the aircraft load balance plan. The apron mobile system has been launched since 2017. Starting from August 2018, the apron mobile system has been applied to passenger and cargo loading. Before the launch, GHAs were trained and the programs and procedures were modified based on test results to avoid loading errors and omissions. By continuously improving and implementing the system functions and using handheld mobile device as a channel of communication with GHAs, CAL has reduced the idle time of field supervisors and improved cargo service personnel's overall productivity.

6. Professional Training

CAL organizes professional cargo service training courses, including dangerous goods regulations training / retraining, live animal and temperature-controlled goods regulations training, and heavy (10 tons+) & over-sized (6 meters+) cargo and engine delivery training on a regular basis to improve service quality and ensure that goods are carefully managed and professionally handled throughout the process of transportation. To transport special goods, CAL has also trained professional handlers and formulated operational regulations to provide safe and professional transportation services.

7. Embargo on Illegal Animals and Plants

Making an all-out effort to achieve environmental sustainability, 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: "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

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 on January 19, 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 2019, 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 carry out annual self-inspection and classify business partners for management. In 2019, one defect was detected in the internal audit, improvement made and approved.

After earning the AEO certification on January 19, 2012, CAL has carried out self-inspections based on safety evaluation and certification standards every year, and applied to the Customs for field certification and audit every three years.

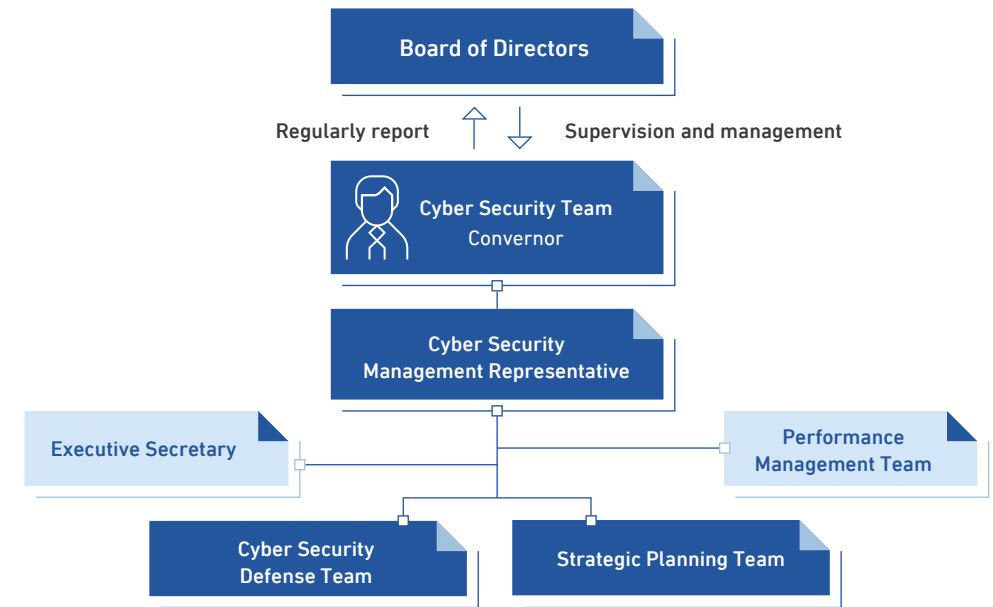
Since October 2019, the Cargo Sales, Marketing & Service Division has formed a management committee comprising the Cargo Sales, Marketing & Service Division, Corporate Safety Office, Human Resources Division, Information Management Division, Administration Division, Cargo Sales & Service, Taiwan, Engineering Division, and Inflight Supply Chain & Marketing Division to carry out annual self-inspections. Self-inspections cover updating of self-evaluation and risk assessment forms, conducting internal / external (business partner) audit, training, and employee awareness promotion, and holding of annual management review meeting; business partners were also classified for management. In 2019, a defect was found in the internal audit, rectified, and approved.

2-1-4 Data Security and Privacy Management

GRI 206-1,418-1

Cyber Security Framework

All of our information operations comply with international cyber security standards and domestic cyber security laws and regulations, and are incorporated into daily business operations. To continuously enhance the cyber security governance system and organization, we have established the CAL Cyber Security Team with the Vice President of Information Management Division as its convener, who is responsible to oversee the cyber security governance plan and its implementation. The CAL Cyber Security Team aims to keep employees well versed in cyber security protection and raise their awareness of cyber security, and regularly report the status of cyber security management to the Board of Directors every year. Chairman Su-chien Hsieh is well qualified and has wide experience in management and cyber security. He has earlier served as the chairman of Sabre (Taiwan) Ltd., and is quite conversant with cyber security governance and monitors information operations in a timely manner and offers suggestions for improvement from an independent and objective perspective.



Cyber Security Management

In response to ever-changing nature of cyber-attacks like distributed denial of service (DDoS), advanced persistent threat (APT), and social engineering attacks, CAL has deployed relevant defense mechanisms and engaged external experts to conduct penetration tests and cyber security checks (including network architecture, malicious activities, malicious activities on the part of users, malicious activities on servers, and security settings) every year; in addition, CAL proactively reports cyber security issues and carries out contingency drills to review the effect of defense and resilience to such incidents. In system development and maintenance, CAL uses various types of detection technologies to identify and patch vulnerabilities to ensure service security.

Cyber Security Operation & Maintenance

1. Regular Evaluations and Exercises

The goal of risk management is to ensure that all operational risks can be identified and controlled, so that operations are not interrupted and the rights and interests of stakeholders are protected. In accordance with the Cyber Security Management Act regarding cyber security responsibility levels, CAL conducts risk assessment of information and information and communication systems every year, and evaluates the cyber security responsibility levels of the core information and communication systems in aspects of confidentiality, integrity, availability, and compliance. We also develop a business continuity plan for the core information and communication systems and conduct a business continuity drill every year to control relevant operational risks. Risk response mechanisms are also reviewed and adjusted to minimize potential losses.

2. Cyber Security Education and Training

Each year, for Cyber security and Information Technology personnel, at least 4 persons shall receive the cyber security professional program training or the cyber security competence training for not less than 12 hours. For general user and officer, each person shall receive the general cyber security education training for not less than 3 hours. That is, CAL requires every employee to take basic cyber security training to master cyber security risks and self-discipline. CAL communicates cyber security policies and goals to all employees every year through education and training, internal meetings, and announcements. We have also incorporated ethical corporate management into employee performance evaluations and human resources policies and established clear and effective rewards and disciplinary actions. Compliance with the Employee Code of Conduct is also a criterion used in annual performance evaluation. If employees do not comply with or violate the Employee Code of Conduct, they, depending upon the severity of the case, will have to undergo disciplinary action as per internal regulations. The Information Management Division conducts self-inspections and compliance self-assessments every half year to effectively control cyber security. Audits are carried out by the audit unit independently to ensure the overall mechanism operations.

3. Notification of Cyber Security Incidents

The cyber security incident notification and response mechanism is initiated based on the level of cyber security incidents, and emergency preparedness; notification and response procedures are in place to control their impact and post-incident recovery. In this regard, CAL develops the security incident notification & contingency drill plan at the beginning of each year and completes internal cyber security exercise by the end of each year. Through cyber security exercises, we can evaluate the relevance of incident notification and response procedures and familiarize units in charge and support units with their roles and functions during rescue and equip them respond to cyber security threats quickly and effectively to minimize their impact on our customers and company as a whole.



Notification Flowchart

Cyber Security Certification and Audit

All of our core information and communication systems have received the ISO / IEC 27001:2013 Information Security Management System (ISMS) certification in 2019. Our credit card receipt system also earned the PCIDSS certification in December 2018. Verification is conducted every two years. To ensure that transaction data are secure and transmitted correctly, CAL continuously strengthens the confidentiality, integrity, and availability of data in the transmission and handling process and reinforces security control mechanisms in accordance with the Cyber Security Management Act.

CAL's Cyber Security Team conducts internal audit at least once a year to ensure that all employees comply with the Cyber Security Management Act and CAL's standard operating procedures, and effectively implement and maintain the management system. System reliability is constantly enhanced by refining security designs, including network regions, access control, vulnerability management, and other security protection strategies.

In 2019, the Information Management Division reviewed the monitoring of data and warnings for cyber security threats detected by defense systems and found no cyber security threats by cyber-attacks or viruses.

Personal Data and Privacy Protection

GRI 206-1, 418-1

CAL is committed to protecting personal data and customer privacy. Personal data are collected, processed, or used in accordance with the Personal Data Protection Act, EU's General Data Protection Regulation (GDPR), and other relevant personal data protection laws. To enhance our internal audit and personal data management, we have appointed a Data Protection Officer. In 2019, we further expanded the units in charge of personal data management to reinforce internal control over personal data. CAL published the latest Privacy Protection Policy and Statement on the official website at the end of November 2019, outlining how CAL collects, processes, or uses personal data in a reasonably secure manner within the specific purpose authorized by each customer, there is

no secondary use other than the purposes authorized by customers and ensures that the customer can exercise their right under the Personal Data Protection Act. For theft, alteration, leakage or loss of data, CAL has also prescribed a contingency plan and sound personal data protection mechanisms to ensure the accuracy and security of personal data. CAL has revised the standard operating procedures based on current business processes and organized training to fully strengthen employees' awareness of data protection and code of conduct.

As of 2019, all divisions / departments completed personal data inventory, internal audit and risk assessment according to standard operating procedures and carried out contingency drills on personal data thefts to reinforce crisis management ability.



Privacy /
Safety Statement



2019 Personal Data Protection Milestones

1. Published the latest Privacy Protection Policy and Statement on November 30, 2019
2. Revised the standard operating procedures for personal data protection and extended it to global branches
3. Completed personal data inventory, internal audit, and risk assessment across divisions / departments
4. Organized personal data protection training for all employees
5. Carried out contingency drills on personal data incidents
6. Held annual personal data management review meeting



Annual Personal Data Incidents

1. Internal: 0
2. External: 1 (leak of customer data)

Note: The contingency team has been formed by relevant departments / divisions to handle personal data accident in accordance with Personal Data Accident Contingency Management Procedure and report them to the competent authority for future reference.

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. CAL will participate in the IOSA revaluation for the ninth time in 2020. With focus on safety and zero tolerance of flight safety incidents, CAL will continuously maintain the validity of IOSA and meet international flight safety requirements to offer passengers quality and reliable service.

2. Enhancing resilience to abnormal flight operations

CAL will continuously enhance aircraft monitoring systems, aircraft control personnel's professional knowledge, and emergency response to improve on-time performance and provide passengers with quality and reliable service.

Passenger Service

1. Responding to passengers' feedback promptly

CAL will improve and take preventive measures for unsatisfactory service and customer complaints and respond to passengers' feedback promptly.

2. Enhancing mobile devices and official website services

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

3. Improving interactive learning and training results

We will continuously implement the VR / AR training program and e-training materials in line with video interactive learning trends, allowing cabin crew members to learn in-flight operations and applications through simulation and exercise. We also plan to design an AI-based virtual assistant to conduct consistent evaluation and improve training. With the spirit of Team Building Camp, CAL will base cabin crew training goals on Care, Communication, Pass on experience relevant training with domestic and foreign credible KPIs and case studies.

4. Developing customized functions for cabin crew scheduling to improve management efficiency

We aim to develop customized functions for cabin crew scheduling and give reward points to outstanding cabin crew members to increase their attendance and satisfaction, further enhancing our cabin crew management.

5. Elevating electronic cabin crew management system to control and upgrade pax experience

CAL promoting cabin management systems to Cabin managers with iPad to enlarge data collection to increase total customers' satisfaction.

6. Carrying out outstations' quality management system and personal data protection audits

CAL will carry out outstation ISO 9001 quality management system and personal data protection audit in line with the progress of personal data inventory.

Freight Service

1. Adjusting capacity flexibly in response to market needs

CAL will continue to develop the network adjustment plan and optimize crew scheduling based on market needs to improve labor-management relations.

2. Introducing the Boeing 777 Freighter

Featuring superior performance and fuel efficiency, the Boeing 777 Freighter (B777F) will be introduced on major routes to effectively reduce operating costs, increase competitiveness, and achieve environmental sustainability in noise management and carbon emissions.

3. Continuously promoting premium air freight cargo & customized service

With extensive cargo handling experience and B777F 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.

Data Security and Privacy Management

1. Obtaining cyber security certifications

We plan to pass the PCI DSS and ISO27001 Information Security Management System reevaluation and the ISO27701 Privacy Information Management certification in order to maintain the validity of our credit card receipt system and privacy protection, reduce cyber security risks, and protect passengers' rights and interests.

2. Implementing personal data management system

CAL will continue to implement the personal data management system, strengthen crisis management ability to personal data breaches and reduce risk of personal data accidents, and maintain customer trust. As the California Consumer Privacy Act (CCPA) will take effect in 2020, CAL will review our internal systems and develop corresponding measures to enhance internal compliance.

2-2 Human Resources



Highlights



105 people with disabilities employed

CAL was the only company in the industry to receive the Golden Wingspan Award. CAL employed 105 people with disabilities.



TWD 16.2 billion
Invested in salary and benefits.



99.48% participation

Rate of employees participating in labor unions.



TWD 254 million
Expenditures on employee training.

Management Approach GRI 103-1, 103-2, 103-3

➡ Importance of Material Issues

We view our 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, transparent negotiations and are more willing to communicate on collective agreement issues.

➡ 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 with neutrality.

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



- 2020

1. Organizing eight expert seminars that provide an opportunity for internal cross-disciplinary networking

2. Establishing CAL's aviation management talent pool

3. Percentage of female managers reaching 24.5%
- 2025

1. Completing the establishment of all internal online training materials for all specialties

2. Establishing the optimal learning path for CAL's aviation management talent pool

3. Percentage of female executives reaching 25%
- 2030

1. Applying to Taiwan's aviation talent development

2. Promoting Taiwan's aviation talent development

3. Percentage of female managers reaching 27%

➡➡ Objectives and Plans

Issue	KPI	2019			2020 Objectives
		Objectives	Performance	Achievement	
Occupational Safety and Health	Reduce the Frequency-Severity Indicator (FSI) by 5%	FSI 0.42	FSI 0.44	95.24%	FSI 0.42
	Pass the certification of occupational safety-related management systems	Passing ISO45001 and CNS45001 certification	Passed	100%	Pass the certification of ISO45001 and CNS45001 review
Labor-management Relations	Convene labor-management meetings	4 times	6 times	100%	4 times
Labor Rights	Rate of participation in labor unions	98.20%	99.48%	100%	98.20%
	Convening seminars on sexual harassment prevention	1 on-site	1 on-site	100%	1 online

Note 1: Frequency-Severity Indicator (FSI) = $\sqrt{((\text{Disabling Injury Frequency Rate, FR}) \times (\text{Disabling Injury Severity Rate, SR}) \div 1,000)}$
Note 2: 2016-2018 averages in the air transport industry published by the Ministry of Labor: FR = 4.14; SR=102; and FSI = 0.65

2-2-1 Human Rights Management Framework GRI 406-1, 412-1

To enforce the idea of human rights, CAL has established its human rights policies and related measures based on the UN Guiding Principles on Business and Human Rights, international trends, and local laws / regulations. CAL's human rights policies apply to CAL Group members and suppliers. 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.

➡➡ Unit in Charge

Corporate Sustainability Committee — Human Resources Task Force

➡➡ Management Mechanisms

- The meeting of Corporate Sustainability Committee, at least twice every year
- The Human Resources Task Force reports to Corporate Sustainability Committee, every quarter
- A labor-management meeting, every quarter on a regular basis
- The meeting of Occupational Safety and Health Committee, every quarter on a regular basis
- A personal information protection management review meeting, every year on a regular basis

➡➡ Grievance Mechanism

- **Employee Relationship Department: Human Resources Division** —
E-mail: wecare@china-airlines.com

Stakeholder
Contact



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 accomplice 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 October 2019, one sexual harassment prevention seminar discussion was held, and 157 employees participated.



Corporate Social Responsibility and Sustainable Development Best Practice Principles — Child Labor Prohibited



Hiring people younger less than 16 years old is strictly prohibited to fully compliant 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 organize training on a regular basis. In 2019, 40 employees of Mandarin Airlines attended a seminar on sexual harassment prevention. In January 2019, Tigerair Taiwan organized online Sexual Harassment Prevention Retraining for all employees.

Procedures for Identifying Material Human Rights Issues



Identify the Framework Based on CAL Human Rights Policy



Human Resources Task Force Identifies and Reviews Human Rights Issues of CAL Value Chain



Corporate Sustainability Committee Verifies Identified Issues



Unit in Charge Develops Improvement Measures



Human Resources Task Force Implements Following Improvement

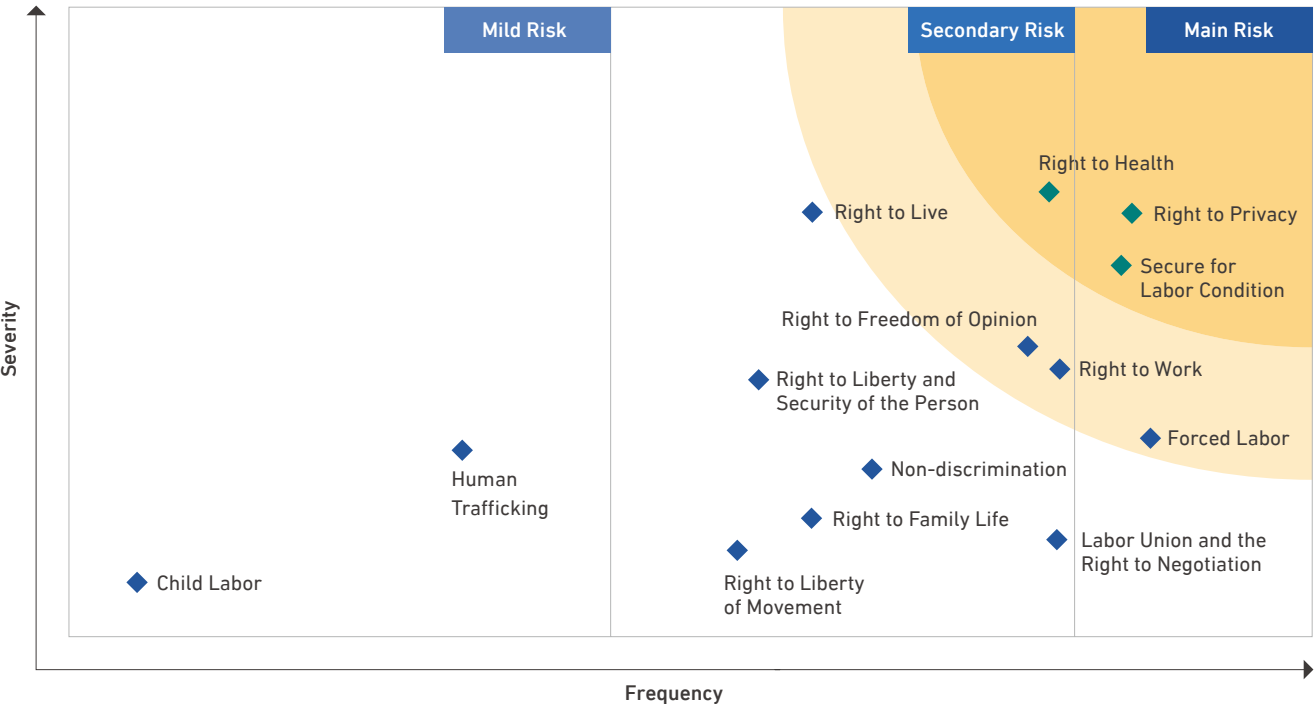


Disclose Identification Results and Improvement Actions

Human Rights Risk 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 value chain. In 2019, it analyzed the material human rights risk issues of the year based on 317 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. In 2019, three material risk issues were identified, including the right to privacy, protection of labor conditions, and the right to health.

Material Human Rights Issues Identified



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 2019, except that the protection of labor conditions 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 general, children, disabled, and minority customers in the downstream. Relevant information is described below. For details, please refer to the appendix [Management of Material Human Rights Issues in 2019](#).

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, protection of labor conditions 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 [2-3-2 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. The labor conditions of employees are all in compliance with or superior to the laws and regulations, and various committees with labor participation are run to improve employees' labor conditions. With regard to the management of employees' right to health, CAL has set up the Occupational Safety and Health Committee and

introduced the ISO 45001: 2018 and TOSHMS occupational health and safety management systems to identify and control occupational accident risks in the workplace based on the level of the risks, to ensure employees' safety and health at work. For more details on the management measures of employees' labor conditions and right to health, please refer to Chapters [2-2-2 Recruitment and Retention](#), [2-2-4 Employee Rights](#), and [2-2-5 Healthy and Safe Workplace](#).

In addition to the material human rights risks identified in 2019, CAL upholds an open attitude toward employees' joining in the union. As each CAL employee is an ex-officio member of the corporate union, they can participate in various union affairs or be directly selected as leaders in the union. CAL regularly holds negotiation meetings with the corporate union; employees can also join occupational unions outside the Company according to their own wishes, and CAL maintains an equally open attitude toward the 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 re-file the complaint to protect their own basic rights. In 2019, there were a total of nine complaints from CAL employees, of which there were refiled. The main type of the complaints was discipline and punishment. All complaints have been responded to and closed. According to the statistics as of the end of December 2019, two workplace complaints were submitted in Tigerair Taiwan, namely verbal abuse and psychological violence complaints, which were reviewed and handled in accordance with the procedures.

Employee Grievance Cases from 2017 to 2019

Item	2017	2018	2019
Performance Review	2	5	1
Concessional Flight Tickets	19	10	2
Leave of Absence	2	2	0
Disciplinary Actions	3	5	1
Occupational Disasters	0	2	5
Total	26	24	9

Employee Grievance



- **CAL Employee Grievances**
E-mail: wecare@china-airlines.com
- **CAL Grievances against Sexual Harassment**
TEL: (03) 399-8922
E-mail: SHC@china-airlines.com



- **Mandarin Airlines Employee Grievances / Grievances against Sexual Harassment**
TEL: (02) 2514-2050
E-mail: SHC@email.mandarin-airlines.com



- **Tigerair Taiwan Employee Grievances**
E-mail: talktome@tigerairtw.com
- **Tigerair Taiwan 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 duty rooms, communicating definitions and types of sexual harassment, as well as grievance channels, to front-line 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 with legal aid. Mandarin Airlines has published a statement about the ban on sexual assault and harassment and posted information on sexual harassment prevention on the EIP website. An annual report on grievances regarding sexual harassment is made by the end of every year for follow-up. 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 2019, one sexual harassment was reported by CAL employees; and all incidents were handled according to the law and CAL's internal regulations. No incident of sexual harassment was reported at Mandarin Airlines. As for Tigerair Taiwan, one suspected incident of sexual harassment was reported by employees, and all incidents were handled according to the law and Tigerair Taiwan's internal regulations.

Grievances against Sexual Harassment from 2017 to 2019

Item	2017	2018	2019
Number of Grievances	4	3	2
Number of Filing	3	2	1
Category	Physical	Improper behavior	Improper behavior
Outcome	Administrative disciplinary action	Administrative disciplinary action	Administrative disciplinary action

Downstream (Customers)

For customer privacy protection, CAL has hired an external professional consultant team to serve as the consultant for CAL's personal information protection mechanism, introduced the personal information management system, and set up the Personal Information Management Committee for maintenance and management of personal data files. Each division / department of CAL has also completed personal information risk assessments in 2019 and formulated the Privacy Protection Policy and Statement regarding the collection, use, acquisition, or change of customers' personal data, revision of privacy protection / security statement and commitment to maintaining confidentiality of information, which are all publicly disclosed on the Company's official website. Regarding the customers' right to health, CAL has long been aiming at zero flight accident. As early as since 2007, it has implemented the "safety management system" to ensure and improve the safety level of its products and services through risk identification as well as analysis and management. CAL also has a "Flight First-Aid Advisory System," which allows customers to obtain professional medical advice if they are feeling unwell during check-in, boarding, or flight. For more management measures to ensure customers' right to health, please refer to Chapter [2-1-1 Flight Safety in the Trust section](#) of this report.



Material Human Rights Issues in 2019

After conciliation failed twice, the Taoyuan Union of Pilot (TUP) put forward five demands, including improving pilot fatigue, and officially went on strike February 8, 2019. To minimize the impact, CAL initiated a contingency plan within a few hours of failing to reach an agreement with the union. During the strike, CAL showed respect for the union's activities while protecting the rights and interests of passengers and reducing social impact. After negotiations, both parties reached an agreement and signed a collective agreement, concluding the strike. CAL has made full disclosures regarding the strike in the [2018 China Airlines Corporate Sustainability Report \(2-2 Human Resources, page 64\)](#) and on CAL's website.

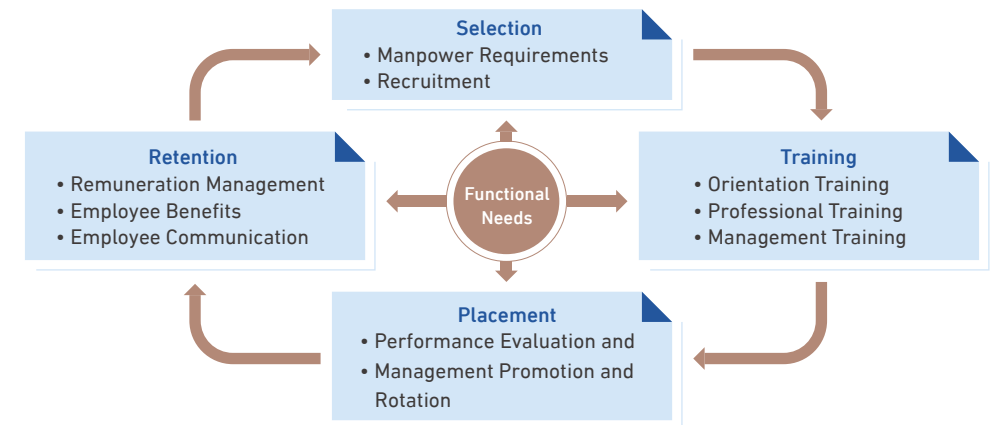
After the strike, CAL agreed to resume collective agreement meetings to enhance interaction and communication with the union. The parties reached consensus at the meeting and were willing to quickly sign a complete collective agreement.

2-2-2 Recruitment and Retention GRI 102-8, 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 preservice training based on their duties and take up their posts after passing pre-service training (continuous on-the-job training is required after taking up their posts). Their performances will be evaluated on a regular basis. According to the regulations, outstanding performers will be rewarded or reported for promotion, and appropriate rotations will be arranged. At the end of each year, employees will be rewarded based on Company's business performance; and the Company has also established favorable employee benefits and multiple channels of communication. CAL regularly conducts employee satisfaction surveys, then reviews feedback and makes improvement accordingly in order to increase employee retention willingness.

Human Resources Management System



Workforce Structure of CAL Group

By the end of 2019, CAL had 12,110 employees worldwide, including 12,006 full-time employees [6,132 males (51.07%) and 5,942 females (48.93%)] and 104 contract employees [37 males (35.58%) and 67 females (64.42%)]. Based on job categories, CAL had 3,435 employees in business operations, 4,555 cabin crew members, 2,377 maintenance personnel, and 1,743 employees in other categories. Mandarin Airlines had 1,023 employees [495 males (48.39%) and 528 females (51.61%)], including 430 employees in business operations, 258 cabin crew members, 152 maintenance personnel, and 183 employees in other categories. Tigerair Taiwan had 711 employees [309 males (43.46%) and 402 females (56.54%)]. Based on job category, Tigerair Taiwan had 325 employees in business operations, 323 cabin crew members, 32 maintenance personnel, and 31 employees in other categories. The numbers of employees recruited by the three airlines complied with the law.

Workforce Staructure of CAL Group in 2019



Age	ALL	Male	Female
Under 30	2,575	955	1,620
31-50	6,794	3,314	3,480
Above 51	2,741	1,900	841

Ranking	ALL	Male	Female
Senior management (Note 2)	119	91	28
Mid-level management	363	265	98
Junior management	167	123	44
Non-executive employees	11,461	5,690	5,771

The Job Category	ALL	Male	Female
Business	3,435	1,452	1,983
Air service	4,555	1,605	2,950
Maintenance	2,377	2,283	94
Others (Note 1)	1,743	829	914

Region	ALL	Male	Female
Taiwan	10,254	5,448	4,806
China	287	143	144
Asia	1,105	365	740
USA	287	135	152
Europe	123	56	67
Oceania	54	22	32

Education	ALL	Male	Female
Master / PhD	1,397	804	593
Bachelor	9,939	4,819	5,120
Senior high	672	485	187
Others	102	61	41

Number of Employees	ALL	Male	Female
Full-time employees	12,006	6,132	5,874
Contracted employees	104	37	67
Total	12,110	6,169	5,941

The total number includes 81 indigenous employees (males 40 and females 41) and 105 disabled employees (males 78 and females 27)



Age	ALL	Male	Female
Under 30	336	100	236
31-50	526	268	258
Above 51	161	127	34

Region	ALL	Male	Female
Taiwan	938	456	482
China	85	39	46

The Job Category	ALL	Male	Female
Business	430	151	279
Air service	258	120	138
Maintenance	152	140	12
Others (Note 1)	183	84	99

Ranking	ALL	Male	Female
Senior management (Note 2)	30	24	6
Mid-level management	42	31	11
Junior management	58	50	8
Non-executive employees	893	390	503

Education	ALL	Male	Female
Master / PhD	96	65	31
Bachelor	868	389	479
Senior high	57	39	18
Others	2	2	-

Number of Employees	ALL	Male	Female
Full-time employees	1,023	495	528
Contracted employees	-	-	-
Total	1,023	495	528

The total number includes 8 indigenous employees (males 0 and females 8) and 4 disabled employees (males 3 and females 1)



Age	ALL	Male	Female
Under 30	376	111	265
31-50	274	144	130
Above 51	61	54	7

Region	ALL	Male	Female
Taiwan	708	308	400
Asia	3	1	2

The Job Category	ALL	Male	Female
Business	325	110	215
Air service	323	155	168
Maintenance	32	30	2
Others (Note 1)	31	14	17

Ranking	ALL	Male	Female
Senior management (Note 2)	12	9	3
Mid-level management	29	17	12
Junior management	50	23	27
Non-executive employees	620	260	360

Education	ALL	Male	Female
Master / PhD	90	44	46
Bachelor	596	247	349
Senior high	21	17	4
Others	4	1	3

Number of Employees	ALL	Male	Female
Full-time employees	711	309	402
Contracted employees	-	-	-
Total	711	309	402

The total number includes 0 indigenous employees and 4 disabled employees (males 2 and females 2)

Note 1: The job category – others includes executives higher than the rank of vice president, auditors, accountants, information technology personnel, and other employees that are not within the aforesaid categories.
Note 2: "Senior management" refers to Level 1 managers and deputy managers or above; "mid-level management" refers to Level 2 managers and deputy managers; "junior management" refers to Level 3 managers and deputy managers.

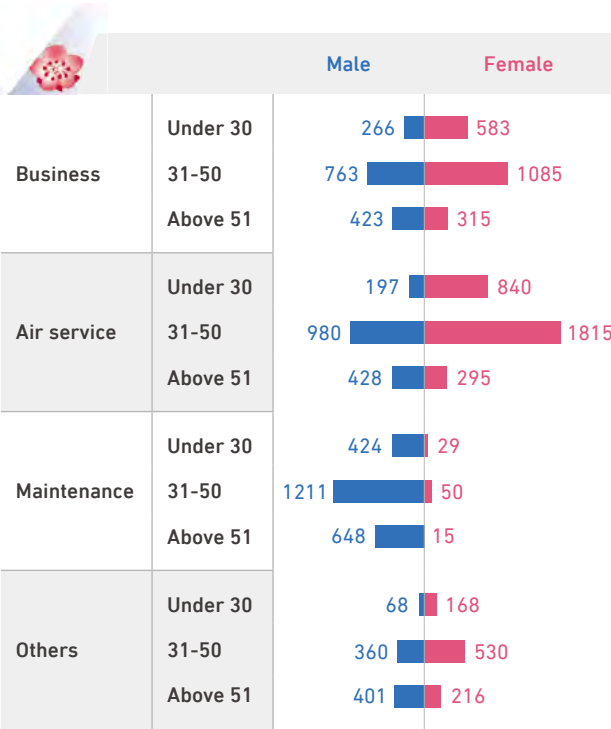
Gender Equality and Diversity

CAL provides equal rights and opportunities for every employee regardless of gender. In 2019, female employees accounted for 49.06% of the total CAL workforce, and 26.19% of all managerial positions were held by females. At Mandarin Airlines, female employees accounted for 51.61% of the total workforce, and 19.23% of the managerial positions were held by females. At Tigerair Taiwan, female employees accounted for 56.54% of the total workforce, with female managers representing 46.15% of all managerial positions. Due to the nature of the aviation industry, CAL has a higher demand for professionals in certain fields of expertise, leading to a male / female gap that is common in society.

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. We also provide our male employees benefits that are better than required by the Act of Gender Equality in Employment. A male employee 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 12 daycare centers and kindergartens in 2019 to provide special discounts for CAL employees.

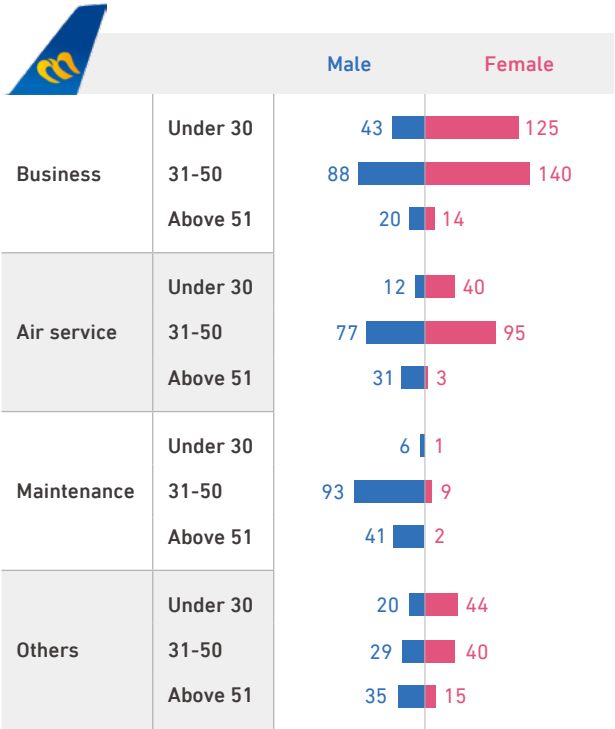
CAL values diversity in the workforce. In 2019, CAL employed 81 indigenous employees and 105 employees with disabilities. In addition to our commitment to expanding employment among indigenous people, we have employed staff with disabilities at a higher proportion than prescribed by law since September 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 2019




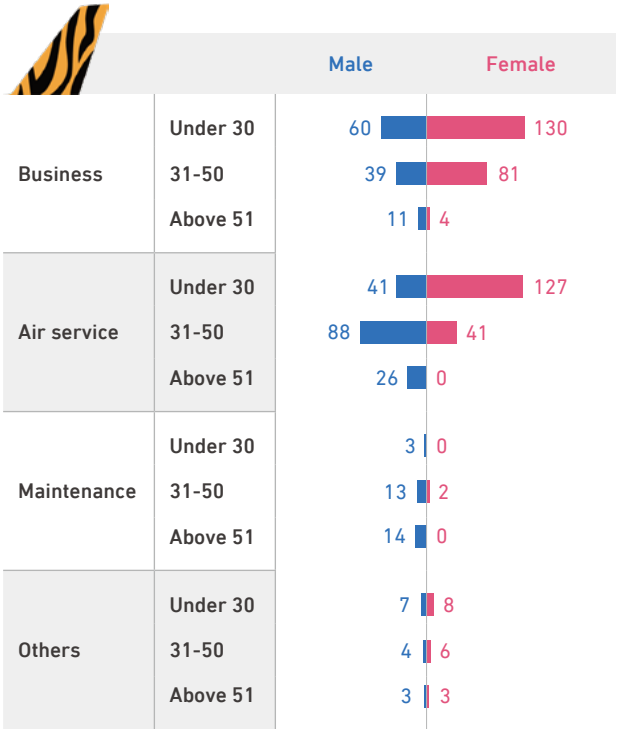
Local Employment

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 84.67% of all CAL employees are based in Taiwan. The composition of CAL's international employees includes foreign pilots from 20 countries, and flight attendants from Vietnam, Japan, and Thailand. We also employ local employees at our 160 destinations cities 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 2019

Company	Region	Employees	Management
	Taiwan	98.81%	100.00%
	China	95.83%	26.56%
	Asia	93.11%	44.66%
	Americas	66.26%	27.27%
	Europe	44.33%	23.08%
	Oceania	60.00%	22.22%






Company	Region	Employees	Management
	Taiwan	100.00%	100.00%
	China	80.00%	21.18%
	Taiwan	99.58%	100.00%
	China	100.00%	100.00%

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 2019, CAL recruited 465 employees, including 365 full-time employees and 100 contract employees, accounting for 3.84% of the total workforce. Mandarin Airlines recruited 120 full-time employees, accounting for 11.73% of the total workforce. Tigerair Taiwan also employed 100 full-time employees and 63 contracted employees, accounting for 22.93% of the total workforce.

New Employees of CAL Group in 2019

Company							
Full-time employees		365		120		100	
Contracted employees		100		0		63	
Total		465	3.84%	120	11.73%	163	22.93%
Age	Under 30	297	63.87%	86	71.67%	110	67.48%
	31-50	147	31.61%	24	20.00%	39	23.93%
	Above 51	21	4.52%	10	8.33%	14	8.59%
Gender	Male	169	36.34%	65	54.17%	74	45.40%
	Female	296	63.66%	55	45.83%	89	54.60%
Region	Taiwan	184	39.57%	113	94.17%	163	100.00%
	China	15	3.23%	7	5.83%	0	0.00%
	Asia	207	44.52%	0	0.00%	0	0.00%
	USA	43	9.25%	0	0.00%	0	0.00%
	Europe	12	2.58%	0	0.00%	0	0.00%
	Oceania	4	0.86%	0	0.00%	0	0.00%

Employee Turnover

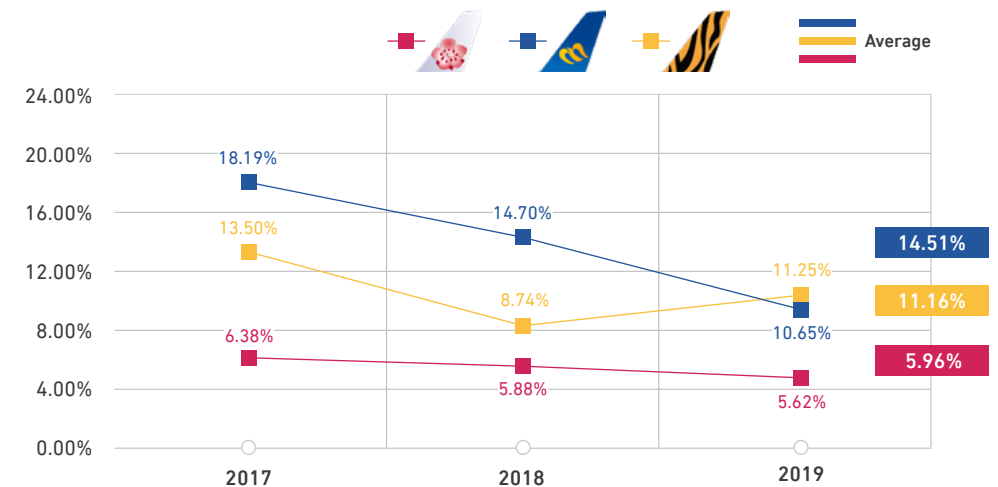
Over the past three years, the average employee turnover of CAL has been 5.96%. Each of our employees is safeguarded by an employment contract, and each contract clearly sets forth provisions regarding rewards, disciplinary actions, and employment termination. In addition, rules concerning termination 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 supervisors to see whether adjustments are needed in our salary and benefit practices. We also utilize internal systems and incentive programs to reduce turnover rates.

At CAL, the employee turnover in 2019 decreased by 0.26% compared to that in 2018, and the involuntary separation rate decreased by 11.93% compared to that in 2018 mainly due to the expiration of contracts with 59 employees. No significant difference in turnover was reported in other job categories. CAL will continuously optimize internal management to maintain low turnover.

At Mandarin Airlines, most employee turnover in 2019 arose among front-line ground service staff, including industry-academia program students. That year's employee turnover decreased by 4.05% compared with 2018. Due to seasonal demand, part-time employees were in great demand. Some of their contracts expired in 2019 without renewal, while some resigned due to personal career plans. In the future, Mandarin Airlines will provide a variety of communication channels for existing employees and improve employee benefits to retain staff.

Tigerair Taiwan's turnover increased by 2.51% in 2019 over 2018, primarily due to personal career plans. Facing stiff competition in the aviation industry, Tigerair Taiwan will continue to improve employee benefits and provide a better work environment and opportunities to retain outstanding employees.

Employee Turnover Rate of CAL Group from 2017 to 2019



Employee Turnover Statistics of CAL Group in 2019



Category		2017		2018		2019	
		Amount	Percentage (%)	Amount	Percentage (%)	Amount	Percentage (%)
Age	Under 30	342	42.38%	298	40.82%	210	30.88%
	31-50	233	28.87%	204	27.95%	220	32.35%
	Above 51	232	28.75%	228	31.23%	250	36.76%
Gender	Male	380	47.09%	345	47.26%	356	52.35%
	Female	427	52.91%	385	52.74%	324	47.65%
Region	Taiwan	482	59.73%	442	60.55%	495	72.79%
	China	69	8.55%	44	6.03%	16	2.35%
	Asia	155	19.21%	163	22.33%	119	17.50%
	USA	63	7.81%	40	5.48%	35	5.15%
	Europe	17	2.11%	27	3.70%	11	1.62%
	Oceania	21	2.60%	14	1.92%	4	0.59%
Voluntary		453	56.13%	469	64.25%	518	76.18%
Involuntary		354	43.87%	261	35.75%	162	23.82%
Total		807	6.38%	730	5.88%	680	5.62%



Category		2017		2018		2019	
		Amount	Percentage (%)	Amount	Percentage (%)	Amount	Percentage (%)
Age	Under 30	106	61.99%	97	65.54%	70	64.22%
	31-50	44	25.73%	29	19.59%	27	24.77%
	Above 51	21	12.28%	22	14.86%	12	11.01%
Gender	Male	83	48.54%	91	61.49%	60	55.05%
	Female	88	51.46%	57	38.51%	49	44.95%
Region	Taiwan	150	87.72%	133	89.86%	101	92.66%
	China	21	12.28%	15	10.14%	8	7.34%
Total		171	18.19%	148	14.70%	109	10.65%



Category		2017		2018		2019	
		Amount	Percentage (%)	Amount	Percentage (%)	Amount	Percentage (%)
Age	Under 30	49	56.32%	24	42.86%	43	53.75%
	31-50	31	35.63%	30	53.57%	28	35.00%
	Above 51	7	8.05%	2	3.57%	9	11.25%
Gender	Male	42	48.28%	25	44.64%	37	46.25%
	Female	45	51.72%	31	55.36%	43	53.75%
Region	Taiwan	86	98.85%	56	100.00%	80	100.00%
	Asia	1	1.15%	0	0.00%	0	0.00%
Total		87	13.50%	56	8.74%	80	11.25%

Note: Voluntary separation includes resignations, early retirements, and requests to resignation. Involuntary separation includes mandatory retirements and layoffs.

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. With respect 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 communication and interaction between supervisors and employees, interviews are also included in the performance evaluation. A two-way assessment scheme has been formulated for evaluating the performance of all flight attendants. 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 outstanding employees, 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.

2-2-3 Employee Development GRI 404-1, GRI 404-2

Sound Training System and Framework

CAL has established a sound training system and framework to develop 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 business strategy and management related training for all managerial levels and employees with potential on a regular basis to improve their horizons and expertise.

Based on the demand of education and training, the Training Advisory Committee has been established to plan annual education and training activities for all employees. The primary strategic goal of CAL's training and development program is to enhance employees' job skills. Adopting the training framework of China Airlines Lecture Hall, CAL ensures that all employees are equipped with skills to perform their duties and job functions.

CAL as established 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, in order to build their management capacity and experience. For a long time, both at home and abroad, CAL has sought out and successfully trained many potential talents to serve as unit chiefs. CAL will continue to provide them with opportunities to develop their careers, in hopes of achieving corporate sustainability.




In 2019, CAL invested about TWD 254 million in employee training and development. The total number of training hours exceeded 300,000, and the completion rate of training reached 98.97%.

Training Framework

Skill Type	Orientation Training	On-the-job Training	Advanced Training
 Strategic Skills Abilities required 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 / freight)	<ul style="list-style-type: none"> Model / class training Annual retraining for each professional position 	<ul style="list-style-type: none"> Pilot 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	Executives 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 tuition).

Training Statistics of CAL Group from 2017 to 2019

Company	Category		2017			2018			2019					
			Training Hours	Amount	Average Hours	Training Hours	Amount	Average Hours	Training Hours	Amount	Average Hours	Total Expenses	Number of Elaseses Opened	Training Completion Rate
	The Job Category	Business	132,372	3,546	37.33	76,626	3,681	20.82	104,414	4,515	23.13	254,104,284	2,965	98.97%
		Air service	159,904	4,844	33.01	165,560	4,725	35.04	147,744	4,424	33.40			
		Maintenance	20,966	2,458	8.53	41,070	2,632	15.60	38,170	2,513	15.19			
		Others	8,402	1,797	4.68	46,956	2,095	22.41	10,269	677	15.17			
	Gender	Male	106,574	6,476	16.46	138,531	6,622	20.92	128,956	6,122	21.06			
		Female	215,070	6,169	34.86	191,681	6,511	29.44	171,642	6,037	28.43			
	The Job Category	Business	9,916	397	24.98	14,208	314	45.25	5,267	362	14.55	4,425,718	4,896	96.25%
		Air service	19,673	229	85.91	21,328	268	79.58	17,716	277	63.96			
		Maintenance	17,196	139	123.71	20,803	157	132.50	19,597	158	124.03			
		Others	5,814	175	33.22	3,936	84	46.86	5,537	121	45.76			
	Gender	Male	34,884	454	76.84	39,899	418	95.45	37,761	471	80.17			
		Female	17,716	486	36.45	20,375	405	50.31	10,356	447	23.17			
	The Job Category	Business	16,868	261	64.63	5,368	284	18.90	8,355	325	25.71	25,987,074	5,781	99.00%
		Air service	15,535	330	47.08	11,661	305	38.23	20,253	323	62.70			
		Maintenance	326	28	11.63	549	24	22.88	495	32	15.47			
		Others	1,313	25	52.52	33	28	1.18	533	31	17.18			
	Gender	Male	10,205	275	37.11	8,859	277	31.98	16,499	309	53.40			
		Female	23,837	369	64.60	8,752	364	24.04	13,136	402	32.68			

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, President, 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.



Sound Internal Recruitment and Rotation System

CAL is committed to upholding the principle of assigning each staff member to a proper position. We offer regular job rotations and internal training courses to improve our employees' job skills and overall productivity. Each department determines whether to rotate employees, based on their labor needs; in addition, we have established an internal recruitment system, so that employees can participate in the selection processes in accordance with their wishes and ambitions. This allows CAL to utilize its human resources in a flexible manner and ensures that employees are assigned to the most proper positions, resulting in a win-win situation for both parties.

To utilize management with flexibility and to ensure that they are assigned to the most proper 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.

Employee Development Programs in 2019

Employee Development Program	Business Benefits	Quantitative Impact of Business Benefits	Proportion of Employee Participation in the Program
Training for Passenger Transport Marketing Personnel (Ticketing, New Product Sales, Marketing Skills and Observation, Knowledge of and Marketing Skills in Cargo Transport)	1. Improve the professional skills and knowledge of passenger and cargo transport marketing personnel 2. Improve the overall quality of service 3. Increase customers, supply, and revenue	Due to external impacts such as the China-US trade war, total revenue from passenger and cargo transport decreased by TWD 4.09 billion in 2019 as compared to 2018, but revenue from passenger transport continued to grow, by TWD 1.93 billion	• Proportion to total employees: 8.3%
Annual safety retraining of front-line operating units, including repair and maintenance, ground service, air service, and pilot personnel should receive professional retraining every year according to their work rights and responsibilities to ensure that personnel implement the operating procedures as required	1. Elevate safety awareness and enhance the security awareness 2. Be familiar with operating procedures 3. Be familiar with emergency response procedures	• Number of flights in 2019: 86,477 • GDI direct lost in 2019 due to human factors: US\$297,154 (Note)	• Proportion to total employees: 70.3% • Maintenance: 2,377 • Ground services:1,590 • Cabin Crews: 3,270 • Pilots: 1,285
Regular Service Training for Cabin Crew Members and Ground Services Employees to Strengthen Service Concepts and Skills	1. Recall the passion of service 2. Enhance service skills 3. Strengthen the professional ability to handle and solve problems 4. Reduce customer complaints and elevate the quality of service	Enhance the quality of service and reduce compensation issues derived from customer complaints to increase the revisit rate • The customer satisfaction rate of ground services in 2019: 89.6 • The customer satisfaction rate of cabin crew members: 89.7	• Proportion to total employees: 40.1% • Cabin crews: 3,270 • Ground services: 1,590
Refreshment Training for Pilots based on Fleet Plans and Regulations to Ensure Flight Safety	1. Enhance flight safety 2. Comply with regulations and be familiar with the operating procedures	2019 High-level risk of unsafe events due to negligence of pilots: 0	• Proportion to total employees: 10.60% • Pilots: 1,285

Note: To reduce GDI (ground damage incidents), CAL organizes training for front-line employees on a regular basis.

Human Capital ROI

Through education and training, employees can grow along with CAL's strategic and business goals. Meanwhile, corporate assets will also accumulated in value and provide CAL with a solid foundation for long-term viability. 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. The reason of the 2019 ROI decline is due to the total operating income decreased. By the influence of US-China trade, the growth of global trade has slowed down, showing a negative growth, which caused the 2019 cargo revenue decreased.

2017	2018	2019
1.35	1.09	1.00

Note: Human Capital ROI = Income - [Operating expenses - (Salary + Benefits)] / (Salary + Benefits).

Industry-Academia Collaboration

CAL has promoted its campus talent development program since 2013 by taking advantage of its abundant practical experience and sound aviation training facilities and courses. In response to the government's policy on industry-academia collaboration and talent development, CAL has cooperated with colleges and universities nationwide to offer internship programs that last for six months to one year in variety 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. In 2019, for the ninth consecutive year since 2011, CAL was awarded as a Top 20 Youngsters' Favorite Brand by Cheers magazine. Through industry-academia collaboration, CAL will continue to provide students with opportunities to gain aviation expertise and make their career plans, and thus help CAL recruit potential talents.

In 2019, a total of 99 students participated in the industry-academia collaboration programs and summer internship programs.



Summer Internship Completion in 2019

Industry-Academia Collaboration in 2019 (99 Students)

Education Technology and Visual Design	Fu Jen Catholic University; Asia University
Ground Service (1-year term)	Dayeh University; Chung Yuan Christian University; China University of Science and Technology; Wenzao Ursuline University of Languages; Tainan University of Technology; Chang Jung Christian University; National Kaohsiung University of Science and Technology; National Taiwan Ocean University; National Yunlin University of Science and Technology; National Taipei University of Nursing and Health Science; Feng Chia University; Kainan University; I-Shou University; Vanung University; Overseas Chinese University; Shih Chien University (Kaohsiung Campus); Fu Jen Catholic University; Ming Chuan University; Takming University of Science and Technology; Hsing Wu University; Providence University; Lunghwa University of Science and Technology
Ground Service (short-term)	Chung Hua University; Yuan Ze University; Aletheia University; Kainan University; Vanung University; National Taiwan University; Chung Yuan Christian University; National Taipei University of Business; Soochow University; Shih Chien University; Fu Jen Catholic University
Cabin Service (1-year term)	China University of Science and Technology; National Kaohsiung University of Hospitality and Tourism; National Yunlin University of Science and Technology; Vanung University; Overseas Chinese University; Ming Chuan University
Information Technology	Ming Chuan University; Hsing Wu University
Summer Internship	Chung Yuan Christian University; National Chiao Tung University; National Cheng Kung University; National Formosa University; National Kaohsiung University of Science and Technology; National Taipei University of Technology; Tamkang University

2-2-4 Employee Rights

GRI 102-41, 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 2019, CAL adjusted salaries by 2% on average. Employees who are required to work overtime due to the nature of their employment receive reasonable overtime pay, in accordance with regulations. No employee is forced to work against his or her will.

Male / Female Salary Ratio of CAL Group in 2019

Company						
Category	Base Salary	Bonus	Base Salary	Bonus	Base Salary	Bonus
Business Operations	1.17	1.24	1.02	1.03	1.19	1.42
Flight and Cabin Crews	1.21	1.24	1.17	1.91	3.17	2.58
Maintenance Personnel	1.18	1.12	1.08	1.68	-	-
Others	1.17	1.15	1.06	1.29	1.12	1.08

Note 1: 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 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 2: Base salary: basic pay; bonus: pay outside base pay.

Note 3: The maintenance personnel of Tigerair Taiwan are all male.

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 10,318 in 2019, a decrease of 504 from the previous year. The total salary of full-time employees not in a managerial position was TWD 17,072,527,000, an increase of TWD 436,021,000 year-over-year, the average salary of full-time employees not in a managerial position was TWD 1,655,000 in 2019, an increase of TWD 118,000, and the median salary of full-time employees not in a managerial position was TWD 1,221,000 in 2019, an increase of TWD 19,000.


Item	Numerical Value	Difference from the Previous Year
Number of full-time employees not in a managerial position	10,318	Decrease of 504 from the previous year
The total salary of full-time employees not in a managerial position	TWD 17,072,527,000	Increase of TWD 436,021,000 year-over year
The average salary of full-time employees not in a managerial position	TWD 1,655,000	Increase of TWD 118,000 year-over year
The median salary of full-time employees not in a managerial position	TWD 1,221,000	Increase of TWD 19,000 year-over year

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 2019

(Unit: TWD million)

Company	Item	2017	2018	2019
	Salary	15,760	16,580	15,998
	Benefits	216	203	213
	Pension Reserve Fund	5,710	6,184	6,347
	Salary	699	780	864
	Benefits	6.3	6.8	6.9
	Pension Reserve Fund	243	384	352
	Salary	646	724	870
	Benefits	-	3.65	4.85
	Pension Reserve Fund	1.42	1.90	2.53

Note 1: Benefits offered by CAL / Mandarin Airlines included travel allowances, allowances for the elderly, scholarships, 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.

Friendly Workplace

CAL cares deeply about the physical and mental health of our employees. Each year, we organize a number of activities that foster a friendly workplace and provide care for our employees. In 2019, we organized 8 employee care activities and more than 320 employees participated, relieving stress through exercise. CAL also invited speakers to lecture on healthcare and organized CAL Sky Day and an Ice Making Party, encouraging employees to pursue a healthy and sustainable lifestyle.



Move Your Body — Aerobics Class






Stress Relief — Essential Oil Candle Making

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. To encourage qualified employees to apply for unpaid parental leave, CAL guarantees that applicants will not receive a performance evaluation below an "A" grade for the year. Male employees are also entitled to unpaid parental leave, including the option to apply for 5-day paternity leave with full pay before and after 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. After analyzing instances of unpaid leave taken by employees in recent years, we found that the majority of the employees who did not return to their duties or who returned to work but worked for less than a year did so because of the need to care for family members or due to changes in their career plans.

Unpaid Parental Leave of CAL Group in 2019

Company									
	Female	Male	Total	Female	Male	Total	Female	Male	Total
Unpaid ParentalLeave Statistics									
Numbers of employees eligible for parental leave in 2019 (A)	543	385	928	39	38	77	21	18	39
Actual Numbers of employees applying for parental leave in 2019 (B)	371	13	384	17	0	17	8	0	8
Rate for employees applying for parental leave in 2019 (B*100 / A)	68.32%	3.38%	41.38%	43.59%	0.00%	22.08%	38.10%	0.00%	20.51%
Numbers of employees expecting to return in 2018 after parental leave in 2019 (C)	223	13	236	17	0	17	5	0	5
Numbers of employees applying to return in 2019 (D)	203	7	210	17	0	17	3	0	3
Return rate in 2019 (D*100 / C)	91.03%	53.85%	88.98%	100.00%	0.00%	100.00%	60.00%	0.00%	60.00%
Total number of employees returning after parental leave in 2018 (E)	180	6	186	17	0	17	6	0	6
Number of employees completing one full year of service after returning from parental leave in 2018 (F)	168	5	173	10	1	11	5	0	5
Rate on return after parental leave in 2019 (F*100 / E)	93.33%	83.33%	93.01%	58.82%	0.00%	64.71%	83.33%	0.00%	83.33%

Note: (A): Date of birth from January 1, 2016 to December 31, 2019.



Benefits for CAL Employees



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.



Retiree Portal (Retiree Association)

CAL has assisted its retirees and employees in establishing a global retiree association and the CAL Retiree Portal. Every year, the Retiree Association organizes two to three quarterly activities and one annual gathering 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 12 daycare centers across Taiwan to assist employees with childcare arrangements.



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.



Concessional Flight Tickets

Employees and their spouses, parents, and children enjoy free and concessional flight tickets to more than 50 destinations around the world. Code-shared concessional flight tickets from other airlines are also offered.



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 in the general track after 10 years of service and employees in the specialist track after 10 years of service and reaching the age of 54.



Unpaid Leave



Care for Dependents

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.



Advanced education

Applicable to all employees, regardless of school or department.

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.



Versatile Communication Channels



1. Quarterly Labor-management Meetings

Meetings are held on a regular basis, allowing CAL to communicate with CAEU representatives. Meetings between front-line divisions / departments and corresponding CAEU branches are held separately.



2. Supervisor Mailbox

CAL encourages employees to express opinions and give suggestions through the Level 1 supervisor 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. Employee Care Mailbox

The Human Resources Division has set up an employee complaint e-mail (wecare@china-airlines.com) to protect employees' rights and interests.



5. Team+

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

Labor Unions GRI 102-41

At present, CAL cooperates with several labor unions and remains committed to maintaining open communication and negotiations with labor unions. We show the same respect to all unions and provide considerable resources in accordance with the law. In particular, the China Airlines Employees Union (CAEU) is a member of the Chinese Federation of Labor. 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

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

Branch 1: Divisions in Taipei Head Office, Taichung Branch

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)

In 2019, a total of 10,201 CAL employees participated in CAEU, accounting for 99.48% of the total workforce. A total of 851 Mandarin Airlines employees participated in the Mandarin Union, accounting for 90.72% of the total workforce. In 2002, CAL entered into a collective agreement with CAEU, the first such collective agreement in Taiwan's aviation industry. In January 2017, Mandarin Airlines also entered into a collective agreement with MDAEU, with the coverage rates of CAL and Mandarin Airlines being identical to the aforementioned participation rates. The agreement states clauses regarding union activities, labor-management meetings and dispute resolution, employment and termination, working hours, leave and vacations, salary, allowances and bonuses, personnel transfers, rewards, and disciplinary actions, employee benefits, training, and occupational safety and health. The purpose of the agreement is to protect and enhance the rights and interests of employees. CAL is now renewing the collective agreement with CAEU in 2018 to maintain stable labor-management relations.



CAL / Mandarin Airlines cooperates and communicates with CAEU / MDAEU through various channels as a partner and based on mutual dependence. In addition to regular meetings held between the Head Office and CAEU / MDAEU, divisions and corresponding branches of CAEU / MDAEU hold labor-management meetings to discuss the labor-management proposals. 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's website. CAL / Mandarin Airlines is dedicated to maintaining harmonious labor-management relations through open, efficient channels of communication.

Union Participation Rate of CAL and Mandarin Airlines

Company	Item	2017	2018	2019
	Number of participants	10,704	10,500	10,201
	Participation rate	99.60%	99.20%	99.48%
	Number of participants	752	856	851
	Participation rate	88.16%	92.84%	90.72%

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); hourly-basis employees and contracted employees are not included.

Note 3: Tigerair Taiwan does not have a labor union currently.

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.

The employee satisfaction survey this year was held from April 10 through April 26, 2019. Conducted by an external consulting firm, the online anonymous questionnaire survey covered six major dimensions, including Organizational Health, Corporate Culture, Leadership, Job & Career, Working Environment, and Compensation and Benefits, with 3,732 valid questionnaires (effective response rate was 36.00%, of which 2,332 males accounted for 62.49% and 1,400 females accounted for 37.51%). Among the survey results, the overall recognition of Organizational Health obtained the highest score, followed by Working Environment, Leadership, Compensation and Benefits, Job & Career, and Corporate Culture.

The analysis results were not significantly different from the previous survey. In particular, in the gender-based analysis, there was no obvious difference (6.5 for males and 6.2 for females). The overall satisfaction rate was slightly lower than the previous survey. It was speculated that it might be affected by the pilot strike in 2019 right before the survey was conducted (for details, please refer to [pages 82-84 in Chapter 2-2 Human Resources of CAL 2018 CSR report](#)).

This survey analysis report was also provided to the relevant supervisors as a reference for subsequent improvement plans. The main improvements are shown in the following table.

Relevant Improvements	Corresponding Dimension
Organized the "Air Service Team Building Camp" to stimulate group honors and the common good; used online teaching and instant feedback to strengthen contact and mutual trust, and actively promoted internal personnel to develop digital training materials to enhance employees' own value and to cultivate talents for the organization.	<ul style="list-style-type: none">Organizational HealthCorporate CultureJob & Career
Strengthened message transmission (including strengthening the communication function of mobile devices) to let the team members know the Company better and to bridge the distance between the team members and the colleagues at the Company / office.	<ul style="list-style-type: none">Organizational HealthCorporate CultureLeadership
Established schedule modules, incorporated the modules into the schedule system, and optimized the schedule.	<ul style="list-style-type: none">Working EnvironmentCompensation and Benefits
A total of 75 people participated in two career experience camps.	<ul style="list-style-type: none">Job & CareerWorking Environment
A total of 374 people participated in supervisor vitality camps, employee interviewing skills sessions, and motivation lectures, helping supervisors across different units build a consensus and improving the leadership.	<ul style="list-style-type: none">Corporate CultureLeadershipJob & Career
Offered creative thinking lectures to enhance employees' innovation (42 participants)	<ul style="list-style-type: none">Corporate CultureJob & Career
Organized four expert sharing sessions with 722 participants, to deepen the understanding of other units to facilitate future cooperation.	<ul style="list-style-type: none">Organizational HealthJob & CareerWorking Environment
Add two-way communication after technical symposium, affair interchange meeting of chief pilots, and actively exchanged ideas and communicated with employees, as well as identified problems and assisted in solving the problems for them in the front line.	<ul style="list-style-type: none">Corporate CultureLeadershipWorking Environment
The management above the supervisory level has been required to inspect and observe front-line operations. If employees are found to be unreasonably treated by passengers, the leaders must come forward to protect them.	<ul style="list-style-type: none">Organizational HealthCorporate CultureLeadershipWorking Environment



Labor Disputes

Background of Labor Disputes in 2019

The strike held by the Pilots Union Taoyuan in early 2019 came to an end within several days, when CAL and the Pilots Union Taoyuan agreed to sign a collective agreement after multiple negotiations. CAL has fully disclosed details about the strike in the [China Airlines 2018 Corporate Sustainability Report \(2-2 Human Resources, page 84\)](#) and on the CAL website.

CAL's Action / Clarification

After the strike, CAL agreed to resume the collective agreement meetings in October 2019, in order to enhance interaction and communication with the union. Both sides reached consensus at the first meeting, and were willing to quickly sign a comprehensive collective agreement based on the agreement reached during the strike.

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

In accordance with the Labor Standards Act, CAL has established an Occupational Safety and Health Committee. The Committee is tasked with the objectives 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 Level 1 managers, 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 2019, a total of 14 safety and health proposals were reviewed and discussed, 12 of which have been closed and 2 is still ongoing. Meeting minutes were published on the EIP website; a total of 98 occupational safety reports were compiled, 98 of which were improved and closed with an achievement rate of 100.00%.

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 mangement 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 Committee of CAL Group in 2019 (Unit: %)

Company	Composition of Occupational Health and Safety Committee	2017	2018	2019
CAL	Proportion of Labor Representatives in Taipei Branch	36.36	36.36	36.36
	Proportion of Labor Representatives in Taoyuan	38.45	38.46	36.53
	Proportion of Labor Representatives in Kaohsiung Branch	38.00	37.50	37.50
	Proportion of Labor Representatives in EMO	34.78	34.78	34.78
Mandarin Airlines	Proportion of Labor Representatives	33.33	33.33	33.33
Tigerair Taiwan	Proportion of Labor Representatives	38.46	38.46	38.46

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. On April 20, 2019, CAL obtained ISO45001:2018 and TOSHMS certifications for our safety and health management system, which adopts the PDCA model. The intent is to control risks associated with occupational hazards and occupational diseases; improve implementation of occupational safety and health management; and carry out the occupational safety policy, thus providing employees with a safe, healthy, comfortable work environment.

Implementing Risk Control over Occupational Health and Safety Management

In 2019, the disabling injury frequency rate (FR) was 2.97; the disabling injury severity rate (SR) was 66; the absence rate was 1.57%; and the frequency-severity indicator (FSI) was 0.44. According to analysis, most occupational hazard incidents were caused by unsafe employee conduct. CAL's FR and SR were lower than the air transport industry average (FR: 4.14, SR: 102) from 2016 to 2018. In 2019, no student occupational hazard incidents in industry-academia collaboration programs or summer internship programs were reported at CAL workplaces; There were three cases occurred to contracted agents in 2019, including two occupational incidents in the ground operations at the Taoyuan International Airport. After the Company investigated the improvement measures of the contracted agents' some of the occupational incidents, it was found that two of them were crashes.

The contracted agents have been required to handle the incidents in accordance with the Company's safety-related operating regulations; a communication mechanism with each other have been established; personnel involved were asked to wear personal protective equipment as

required; the incidents were announced to raise employees' awareness. There was one occupational incident occurring to Dynasty Aerotech Int., which was a physical violence case. After investigation, the perpetrator has been fired, and the contractor was asked to strengthen the management by wandering around to not only inspect the quality of the work but understand their employees' physical and psychological conditions and provide appropriate counseling to prevent similar incidents from happening again.

Implementing Risk Controls to Reduce Occupational Hazards

Year	Unit	Taoyuan	Engineering & Maintenance Organization	Taipei	Kaohsiung	Taichung	CAL
2017	Number of annual disabling injuries	63	8	0	17	0	88
	Absence days of annual disabling injuries	752	252	0	176	0	1180
	FR	4.36	1.52	0	14.74	0	4.07
	SR	52	115	0	152	0	54
	FSI	0.47	0.42	0	1.49	0	0.46
2018	Number of annual disabling injuries	36	9	0	3	0	48
	Absence days of annual disabling injuries	497	179	0	12	0	688
	FR	2.52	1.67	0	2.44	0	2.23
	SR	34	33	0	9	0	32
	FSI	0.29	0.23	0	0.14	0	0.26
2019	Number of annual disabling injuries	43	12	0	7	0	62
	Absence days of annual disabling injuries	1078	282	0	37	0	1397
	FR	3.12	2.32	0	5.85	0	2.97
	SR	78	53	0	30	0	66
	FSI	0.49	0.35	0	0.41	0	0.44

Note 1: Calculated at 8 hours per day per person.

Note 2: Disabling injury frequency rate(FR) = (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.
The calculation is rounded to two decimal places.

Note 3: Disabling injury severity rate(SR) = (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.
The calculation is rounded to the nearest integer.

Note 4: Frequency-Severity Indicator (FSI) = $\sqrt{((FR \times SR) / 1000)}$
The calculation is rounded to two decimal places.


Note 5: 2016-2018 averages in the air transport industry published by the Ministry of Labor: FR = 4.14, SR = 102, and FSI = 0.65.


Note 6: Continue to review the FSI to understand the operational performance of each unit's occupational disaster prevention and improve it.

Note 7: TPE has established an occupational safety unit since 2013.


Note 8: This statistic does not include commuter traffic accidents.

Occupational Hazards Statistics of CAL Group in 2019

	Male	Female	Total	Taoyuan	Engineering & Maintenance Organization	Taipei	Taichung	Kaohsiung
Disabling Injury Frequency Rate	1.60	4.56	2.97	3.12	2.32	0.00	0.00	5.85
Disabling Injury Severity Rate	50	85	66	78	53	0	0	30
Occupational Disease Rate	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Absence Rate	0.66%	2.60%	1.57%	1.83%	0.68%	2.16%	0.00%	1.96%
Number of Incidents Resulting in Work-Related Fatalities	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

	Male	Female	Total
Disabling Injury Frequency Rate	0.00	1.04	0.54
Disabling Injury Severity Rate	0	5	3
Occupational Disease Rate	0.00	0.00	0.00
Absence Rate	0.66%	0.96%	0.81%
Number of Incidents Resulting in Work-Related Fatalities	0.00	0.00	0.00

Note 1: Disabling injury frequency rate(FR) = (Number of annual disabling injuries ÷ Annual working hours) × 1,000,000
Note 2: Disabling injury severity rate(SR) = (Absence days of annual disabling injuries ÷ Annual working hours) × 1,000,000

	Male	Female	Total
Disabling Injury Frequency Rate	4.87	5.00	4.94
Disabling Injury Severity Rate	11	8	10
Occupational Disease Rate	0.00	0.00	0.00
Absence Rate	0.02%	0.01%	0.01%
Number of Incidents Resulting in Work-Related Fatalities	0.00	0.00	0.00

Note 3: Absence rate = (Absence days ÷ Annual working days) × 100%
Note 4: Mandarin Airlines / Tigerair Taiwan only have one business location in Taiwan.

Future Plans

1. Recruitment

In 2020, CAL will continue to recruit flight crew members, promote industry-academia collaboration programs, and employ more people with disabilities, in order to achieve 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 2020 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 2020, the target is set at 24.5%.

3. Employee Training

2019 marks CAL's 60th anniversary. In addition to strengthening company products and services, CAL will continue to provide professional training that covers all fields of expertise in 2020. Out of a desire to transmit our corporate culture and values, CAL will base our overall employee training goals on Care, Communication, and Pass on experiences, and implement training through Effective Management, Case Studies, and Follow-Up. In 2020, CAL plans to organize a total of 13 training courses, including: General management skills training, with employee care and communication, management seminars, and group cohesiveness; professional training for instructors and human resources personnel; and general training for all employees, including general aviation management, upward communication, and career experience camps.

4. Implementing Occupational Health and Safety Management System (ISO 45001) and Incorporating Occupational Safety and Health in Corporate Culture

By establishing graded safety and health management practices, CAL expects to apply the concepts of occupational safety and health to work and enhance employees' skills to maintain these concepts.

(1) Strengthening safety and health education and consolidating occupational safety and health concepts

CAL will promote safety and health education among all divisions. Each employee is required to take at least three hours of training courses every three years; trainings may be organized for promoted and transferred supervisors if needed. Members of the Occupational Safety and Health Committee are required to take at least three hours of safety and health training courses every three years; CAL will also share knowledge of safety and health and organize training courses required for new employees, transferred employees, safety and health managers, special operators, and supervisors to perform work and prevent occupational hazards.

(2) Establishing graded safety and health management; enhancing safety and health officers' knowledge

CAL will continue to implement occupational safety and health management. The hazard identification system will be set up to increase employees' participation. In addition, CAL regularly organizes on-the-job trainings for safety and health officers at all levels, including workplace risk identification, risk classification, management plan creation, and procedures for identifying occupational disasters, in order to guide divisions / departments to perform risk assessment and improvement.

(3) Enhancing the safety and health management system, and audits to reduce occurrence of occupational hazards

(4) Strengthening the spirit and principles of ISO45001:2018 International Occupational Safety and Health Management System

CAL will incorporate ISO45001:2018 into CAL's existing management framework. By identifying and assessing risks, all front-line divisions / departments are required to propose management plans for high-risk items to the Occupational Safety & Health Department for review. CAL aims to set up appropriate safety and management infrastructure and training systems to implement risk management in an effective way.

2-3

Cooperation



Highlights



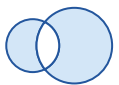
4th Time annual supplier conference

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



1st Time airline to conduct sustainability audits

Taiwan's first airline to perform sustainability audits.



2nd Time received highest scores in supply chain management criteria of DJSI

Granted the highest score in supply chain management criteria of DJSI for two consecutive years.

Management Approach GRI 103-1, 103-2, 103-3

➡ Sustainable Supply Chain Management Policy

CAL's vision of "becoming the preferred airline in Taiwan" has firmly established it in Taiwan and around the world. We are committed to the pursuit of sustainable development. We understand that truly sustainable development and value can only be achieved through collaboration with our business partners. Thus, we have formulated the 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 is applicable 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.

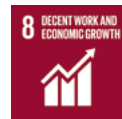
We are committed to:

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.
3. Adhering to ethical business standards by eliminating leakages, vested interests, and corruption.

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.

• Long-term Goals



- | | |
|-------------|---|
| 2020 | <ol style="list-style-type: none"> 1. Maintain SAQ score at 85 points 2. Optimize risk management for sustainable supply chain, implement SAQ, and audit 30% of critical tier-1 suppliers by 2020 |
| 2025 | <ol style="list-style-type: none"> 1. Maintain SAQ score at 87 points 2. Expand the scope of supply chain management, implement SAQ audits, and audit 100% of critical tier-1 suppliers by 2025 |
| 2030 | <ol style="list-style-type: none"> 1. Maintain SAQ score at 89 points 2. Provide supply chain training, improve assistance mechanisms, and continuously implement a SAQ |

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 a year
- Supply Chain Task Force reports to Corporate Sustainability Committee, every quarter

Objectives and Plans

KPI	2019			2020 Objectives
	Objectives	Performance	Achievement	
Convene Annual Supplier Conference	One session	Held in Taipei on December 24, 2019	100%	One session
Conduct SAQ	Response rate at least 70%	Response rate 65%	92.8%	Response rate at least 70%
Critical Supplier SAQ Score	85 points	89 points	100%	85 points
Implement Procurement Staff Training	Two sessions	Two sessions to be held in October and November respectively	100%	Two sessions

Grievance Mechanisms

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

Supplier Grievance Mechanisms

- **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

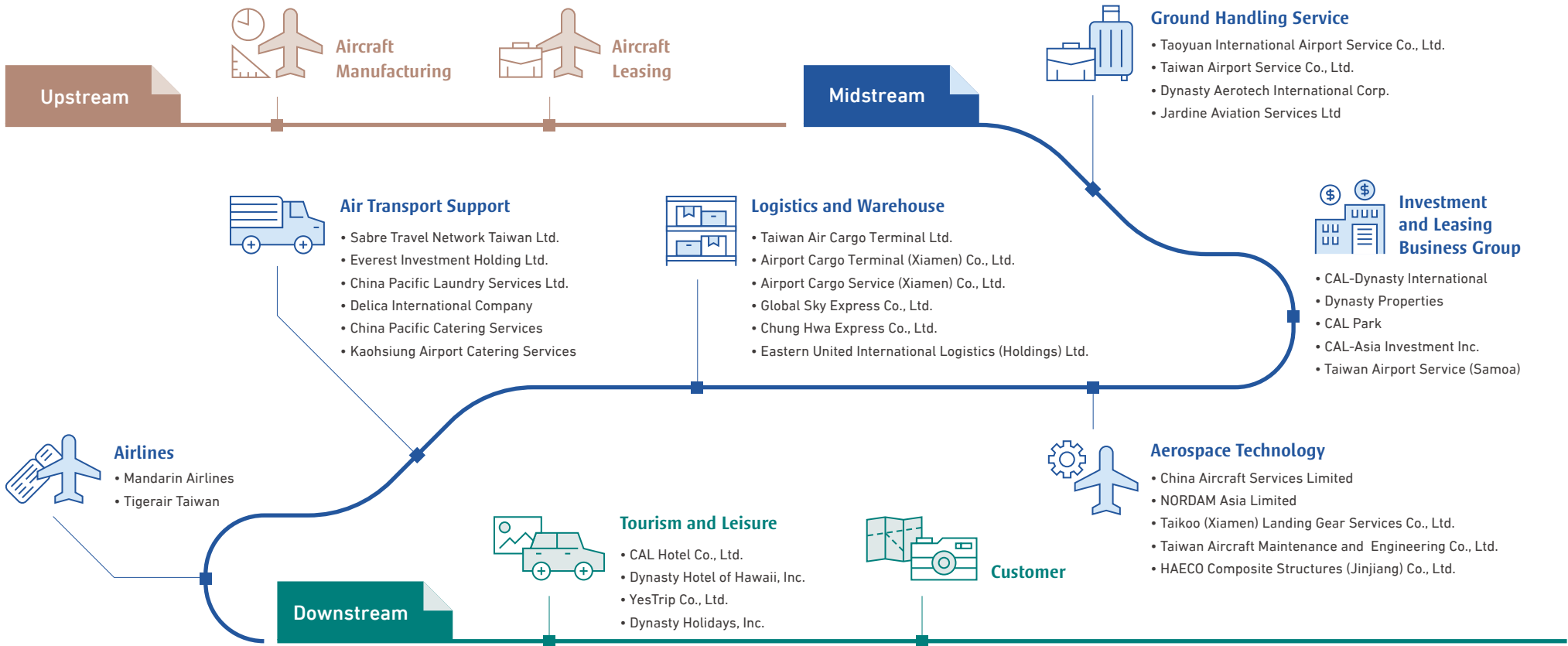


Stakeholder Contact

2-3-1 CAL Value Chain

GRI 102-9

Compared with other industries, the aviation industry is unique in respect of safety concerns. As of 2019, the CAL Group had established 32 joint ventures extending across business sectors including air transport, ground handling service, tourism, aerospace technology, air transport support, and logistics and warehousing. By integrating strengths from each component, the Group expects to optimize its overall quality of service, competitiveness, and value chain.



2-3-2 Sustainable Supply Chain Management

GRI 204-1, 308-2, 407-1, 414-2

CAL has implemented sustainable supply chain management since 2014 and later established the Supply Chain Task Force to be in charge of sustainable supply chain management covering aviation supplies, jet fuel, in-flight catering, and service procurement as well as general affairs. In addition to setting the long-term sustainable development goals in accordance with the UN's Sustainable Development Goals (SDGs), CAL has formulated the "Sustainable Supply Chain Management [Policy Statement](#)" and "Supplier [Code of Conduct](#)" in accordance with international standards, including the Global Reporting Initiative (GRI), ISO 26000, United Nations Global Compact (UNGC), and International Labour Organization (ILO). The sustainable supply chain management measures include risk review mechanisms, audits, and supplier conferences that facilitate negotiations with suppliers. These measures are reported to the Corporate Sustainability Committee for review every quarter.



Supplier Code of Conduct

Material Procurement Types

Category	Aviation Materials (Aircraft Parts) 	Aviation Fuel (Fuel Required for Flight) 	In-Flight Catering (In-Flight Meals Offered to Offered to Passengers) 	Ground Handling Service (Airport Manpower) 	General Products (Goods Required for Overall Operations) 
Description	Aviation materials are keys to 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.
Critical supplier's definition	Irreplaceable suppliers and yearly accumulated procurement amount is over certain percentage.	Irreplaceable suppliers or 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)	Irreplaceable suppliers, exclusive ground handling agent which is not affiliated with airlines, and yearly flights handling by the suppliers are accounted for over certain total flights of CAL.	Irreplaceable suppliers or yearly accumulated procurement amount is over certain number.

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

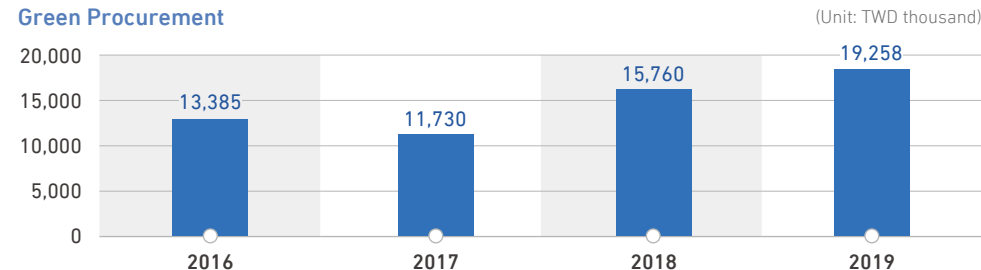
2019 Achievements

1. Performance of Supply Chain Sustainability

Green Procurement

In recent years, CAL has provided lightweight portable earphones, eco-friendly head cushion and pillow cases, and lightweight trolleys and tableware on board to reduce fuel consumption and carbon emissions. To reduce the use of raw material for plasticizers, we have also supplied environment-friendly paper towels and magazines printed on FSC-certified paper. In addition, CAL also prioritizes the use of local ingredients to reduce the carbon footprint of food ingredients during transport. The green procurement in 2019 was higher by 22.2% over that of 2018. CAL will continue to promote green procurement in the future.

Green Procurement



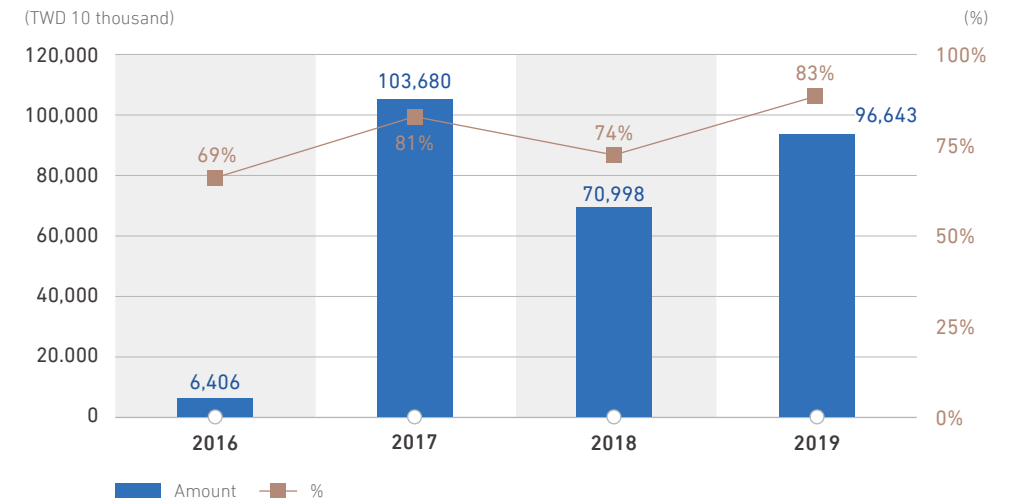
Note 1: Green procurement includes Category I, Category II and Category III eco-products specified in the "Regulations for Priority Procurement of Eco-Products (January 15, 2001)."

Note 2: For consistency, the amount of green purchases in 2018 was revised from 27,598 to 15,760.

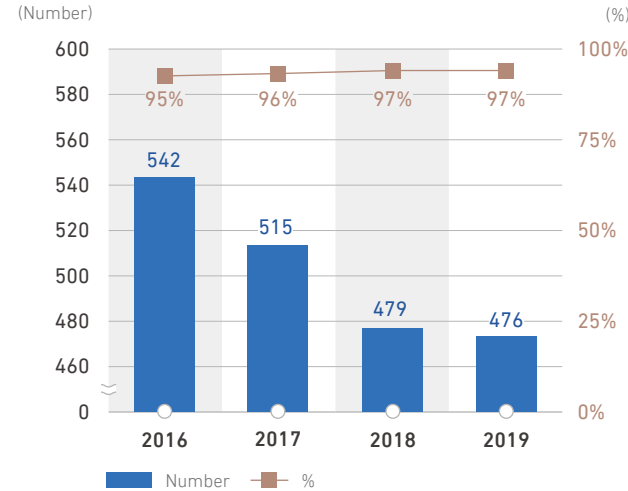
Local Procurement

CAL is committed to fulfilling its corporate social responsibility by fostering the development of related industries in Taiwan. Except for certain aviation equipment, parts, and operations that are subject to international standards, CAL has managed to source from local suppliers (Taiwan, Penghu, Kinmen, and Matsu) to promote local economy. As a result of the concentrated procurement strategy, the amount of local procurement in 2019 increased by 40% over 2018. In the future, CAL will continue to contribute to local economic development by promoting local procurement.

Amount of Local Procurement



Number of Local Suppliers



Note 1: Statistics include the Administration Division and the maintenance park; the fleet conducts procurement independently, while the In-flight Supply Chain & Marketing Division and the Ground Services Division are not included.

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

2. Risk Assessment of Supply Chain Sustainability

To strictly control supply chain sustainability risks, since 2015, CAL has conducted a survey for supply chain sustainability risk and formulated its SAQ 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. To improve the accuracy of the results of the SAQ, CAL established the mechanism of supply chain management, including defining the definition of critical suppliers' definition, conducting sustainability risk survey, set up the audit plan, and improvement assistance. CAL has referred the survey result of SAQ and feedback on assessed suppliers to adjust SAQ in order to control the risk of supply chain sustainability and enhance sustainable competitiveness. To strengthen the supply chain management, CAL reorganized the internal management cycle in 2019. Instead of reviewing the improvements at the beginning of the year, CAL identified supplier risks at

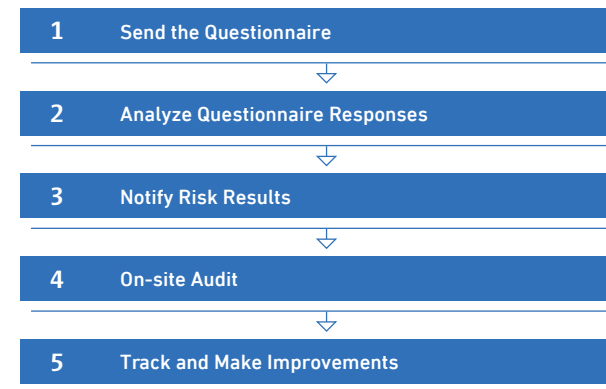
the beginning of the year, conducted due diligence in the middle of the year, and reviewed the improvements at the end of the year. Supplier training was also organized to fully control suppliers with high risks, and on-site audits were conducted further to reduce supply chain sustainability risks.

In 2019, CAL conducted the SAQ with 72 suppliers, accounting for 87.56% of the total procurement amount of all tier-1 suppliers, and received 65.27% of responses. An analysis shows that the average score of the suppliers was 88.88, and there was no supplier with high risk. The average scores in governance, society, and general dimensions were above 85, respectively, showing that most of the suppliers incorporated the concept of sustainability into their management mechanisms. The average score in the environmental dimension was under 85 in 2019. CAL will invest more resources in improving the environmental performance of its suppliers.

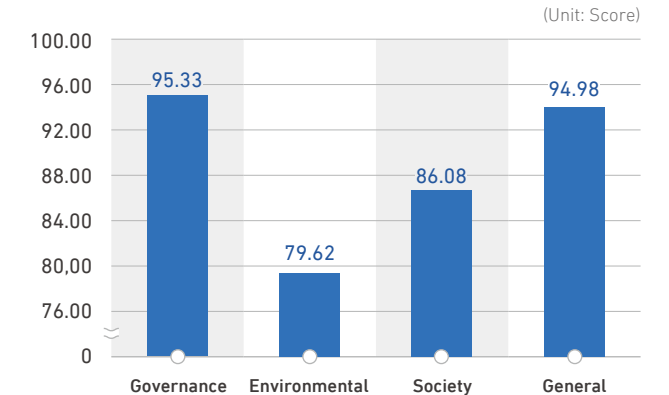
In 2019 for the implementation of china airlines sustainable supply chain management system for the third year, in addition to exerting its own influence to build the sustainable development of the supply chain, China Airlines has continued to optimize this management system, for high-risk supplier identification mechanism to review and adjust, China Airlines also continued to hold annual supplier conference, through two-way communication channels to widely access suppliers' views, By enhancing the concept of supplier sustainability, we can minimize the number of high-risk suppliers and grow with our supplier partners.

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



2019 Risk Survey of Supply Chain Sustainability



Overall Performance of Supply Chain Sustainability

- In 2019, the score of supply chain sustainability risk assessment was 88.88.
- **Governance** : Generally, critical suppliers had internal management mechanisms in place to ensure compliance with ethical practices.
- **Environment** : CAL continued to urge the suppliers to consider environmental impacts caused by their business operations and adopt mitigative measures.
- **Society** : About 90% of the suppliers had control over work conditions and human rights in place; 80% of the suppliers had the occupational safety and health management system in place, of which 8 obtained external certification for their management systems.
- **General** : CAL constantly keeps urging and training the suppliers in quality management and information security systems and regularly reviewed if the systems were in place.

Improvements to Be Made

- **Environment** : Most of the suppliers neither had basic environmental management policies or measures nor set up greenhouse gas inventory or carbon reduction mechanism or had specific management approaches for reduction in energy / resource consumption. In the future, CAL will continuously improve the suppliers' awareness of environmental protection through training, conduct audits of high-risk suppliers, and offer guidance on environmental protection.
- **Society** : Most suppliers had neither control over human rights and work conditions nor occupational safety and health management systems in place. In terms of freedom of association, some suppliers did not perform well and were asked to take corrective measures.
- **General** : Some suppliers did not have specific information security management policies and guidelines. CAL will continue to provide guidance and urge them to take corrective measures.
- **Governance** : Irrespective of risks, CAL will pursue with the suppliers to strengthen their governance in the future.

Improvement Action

CAL will continuously assess the risks to its suppliers using SAQ in order to review the performance of supply chain sustainability and identify suppliers with high risk. Based on the existing audit system, CAL will seek to understand the suppliers' real problems and provide guidance and urge them to take corrective measures; in addition, CAL will keep communicating on sustainable development and train them to enhance supply chain sustainability.

3. Assisting Suppliers Reduce Risks

Convene Annual Supplier Conference

In light of schedule of sustainable supply chain management, CAL convened the fourth supplier conference on December 24, 2019, in which a total of 34 domestic suppliers (46 partners) participated. CAL invited international experts in sustainability to share international trends in sustainable development and supply chain management; CAL also elaborated on its sustainable supply chain management practices and approaches in 2019 based on SGDs and its vision and strategies for sustainable development and on its future goals and plans for supply chain sustainability. Thus, CAL intends to identify the suppliers with the value of sustainable development. To improve the environmental performance of the suppliers, CAL explained the risks identified in the sustainable supply chain risk assessment and provided hands-on training to the suppliers in proper introduction of the concept of sustainable development in their business operations.

Sustainability Training

CAL has periodically provided sustainability training to enhance the procurement personnel's knowledge of supply chain sustainability. In 2019, the procurement personnel attended training on supply chain sustainability to better understand international standards,

trends, and operations of supply chain management as well as CAL's approach to future sustainable supply chain management. To strengthen the existing environmental practices and compliance of suppliers, CAL also trained the suppliers in identifying environmental regulations and implement energy conservation and carbon reduction to increase the suppliers' and affiliates' awareness of environmental sustainability.



Future Plans

1. Continuously implement and strengthen sustainable supply chain management mechanisms

In addition to conducting SAQ on annual basis, CAL has planned to complete the audit of 30% of the critical tier-1 suppliers by 2020 and 100% of critical tier-1 suppliers by 2025 for a more accurate picture of the risks of its critical tier-1 suppliers through on-site audit and document review.

2. Providing sustainability training for the procurement personnel

CAL will request the procurement personnel to attend two external training courses / seminars on supply chain sustainability to enhance their knowledge of supply chain sustainability.

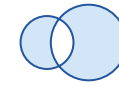
3. Convening annual supplier conferences

CAL will continue to convene the supplier conference every year to communicate to its suppliers about sustainable development in terms of environment, society, and corporate governance. In 2020, the focus of the supplier conferences will be the suppliers' corporate governance.

2-4 Environment



Highlights



4th Time selected in DJI, and got highest scores in environmental policies, management systems, and climate strategies in 2019

Four consecutive times selected in DJI emerging markets index and got highest score in environmental policies, management systems, and climate strategies of DJI in 2019.



A- CDP SER
Leadership Level

Ranked Leadership (A-) in CDP Supplier Engagement Rating 2019.



6th Time in TCSA
Climate Leadership Award

Awarded the Climate Leadership Award for six consecutive years since 2014.



One and Only Taiwanese airline that has the translation of the TCFD into traditional Chinese

The only airline in Taiwan that has been invited to sign the TCFD initiative and participate in translation into traditional Chinese version while supporting a number of industrial and governmental promotion events in 2019.



Benchmark recognition of energy conservation

Won the silver award in Energy Conservation Benchmark Awards awarded by the Ministry of Economic Affairs, the Taipei Energy Conservation Leadership Awards, the first place in the Taiwan Taoyuan International Airport Energy Conservation and Carbon Reduction Evaluation, and a Water Conservation Improvement Competition excellence award, given by the Ministry of Economic Affairs.



2nd Time recognized by Taipei Golden Eagle Micro-Movie Festival

Recognized by the Annual Taipei Golden Eagle Micro-Movie Festival for the second time with its "Fly to ECO," including four awards, namely "Best Environmental Resources," "Excellent Shooting Ideas," "Excellent Social Inclusion," and "Excellent Management".



Management Approach GRI 103-1, 103-2, 103-3

⇒ Importance of Material Issues

Extreme weather events, changes in consumer awareness, and increased global awareness of air pollution, waste, and noise derived from climate change continue to challenge the operating environment of the aviation industry. As a leading airline in Taiwan, China Airlines is committed to providing passengers with high-quality products and services while fulfilling its commitment to environmental protection.

⇒ 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. 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 aviation industry to jointly protect our planet for our future generations.

• Long-term Goals



- | | |
|-------------|---|
| 2020 | <ol style="list-style-type: none"> 1. Improving annual aviation fuel efficiency by 1.5% 2. Reducing carbon emissions (ground operations) by 38% compared with 2009 3. Implementing TCFD 4. Reducing the amount of general waste (ground operations) produced by 2% compared with 2018, achieving a recycling rate of industrial waste of 40%, and reducing paper consumption by 5% 5. Reducing water consumption (ground operations) by 1.5% compared with 2018 6. Embargoing transport of endangered species and prohibiting use of illegal species as food ingredients |
| 2025 | <ol style="list-style-type: none"> 1. Improving annual aviation fuel efficiency by 1.5% and achieving carbon-neutral growth (CORSIA CNG2020) 2. Reducing carbon emissions (ground operations) by 40.43% compared with 2009 3. Reducing the amount of general waste (ground operations) produced by 7% compared with 2018 and achieving a recycling rate of industrial waste of 45%, and reducing paper consumption by 10% 4. Reducing water consumption (ground operations) by 5% compared with 2018 5. Embargoing transport of endangered species and prohibiting use of illegal species as food ingredients |
| 2030 | <ol style="list-style-type: none"> 1. Improving annual aviation fuel efficiency by 1.5% and achieving carbon neutral growth (CORSIA CNG2020) 2. Reducing carbon emissions (ground operations) by 42.34% compared with 2009 3. Reducing the amount of general waste (ground operations) produced by 12% compared with 2018 and achieving a recycling rate of industrial waste of 50%, and reducing paper consumption by 15% 4. Reducing water consumption (ground operations) by 7% compared with 2018 5. Embargoing transport of endangered species and prohibiting use of illegal species as food ingredients |

⇒ Unit in Charge

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

⇒ Management Mechanisms

- The Board of Directors and the Risk Management Committee convene a meeting every quarter.
- The Corporate Sustainability Committee convenes a meeting at least twice every year.
- The Corporate Environmental Committee convenes a meeting every quarter on a regular basis.
- CAL conducts the third party audit and verification on ISO 14001, ISO 50001, and ISO 14064-1 audit and verification every year.
- CAL responds to DJSI and CDP on a regular basis.

⇒ Grievance Mechanism

CSR — E-Mail: csr@china-airlines.com



Stakeholder Contact

Objectives and Plans

Task	2019			2020 Objectives
	Objectives	Performance	Achievement	
Optimizing Corporate Environment and Energy Management	Updated the energy management system and obtained ISO 50001:2018 certificate	Implemented transition to ISO 50001:2018 and updated relevant SOP	100%	<ul style="list-style-type: none"> Optimizing energy and resource information management for outstations Continuing to getting involved external evaluation and policy engagement Implementing 69 action plans for environment and energy management
	<ul style="list-style-type: none"> Optimizing the mechanism for managing the environmental risk assessment for outstations Promoting cross-industry exchange and participating in evaluations 	<ul style="list-style-type: none"> Completed the environmental risk and opportunity assessment for outstations Responded to DJSI, CDP, and customers on environmental issues Completed six external evaluations 	100%	
	Implementing corporate environmental management and launching 70 environmental protection and energy conservation action plans	Completed 72 environmental protection and energy conservation action plans	102%	
Consolidating Climate Risk Management and Carbon Reduction	Improving fuel efficiency to 0.2147 ton / 1,000 RTK (0.2349)	Achieved fuel efficiency of 0.2459 ton / 1,000 RTK	85.5%	<ul style="list-style-type: none"> Improving fuel efficiency to 0.2114 ton / 1,000 RTK Reducing Scope 1 GHG emissions in ground operations by 4,745 tons of CO₂e Reducing Scope 2 GHG emissions in ground operations by 17,308 tons of CO₂e Formulating disclosure and communication procedures for TCFD Promoting CORSIA and EU ETS compliance Implementing ISO 14064-1:2018 transition Promoting carbon reduction label for domestic flights
	Target for ground operations scope 1 GHG emission 4,542 tons CO ₂ e	Actual ground operations scope 1 GHG emissions 4,981 tons CO ₂ e	90.3%	
	Target for ground operations scope 2 GHG emission 18,170 tons CO ₂ e	Actual ground operations scope 2 GHG emissions 18,169 tons CO ₂ e	100%	
	Building capacity for TCFD Promoting CORSIA and EU ETS compliance	<ul style="list-style-type: none"> Completed the climate opportunity and impact assessment Completed the EU ETS emission monitoring report and formulated the MRV mechanism under CORSIA 	100%	
Improving Capacity for Value Chain Environmental Management	<ul style="list-style-type: none"> Establishing a corporate environmental risk management mechanism Strengthening knowledge of corporate environmental management Planning and implementing supply-chain environmental management 	<ul style="list-style-type: none"> Completed the annual "value chain environmental risk" assessment Organized two corporate environmental management workshops Organized value chain environmental risk communication meetings 	100%	<ul style="list-style-type: none"> Constructing the first stage of environmental management mechanism for value chain Setting goals for value chain environmental management Organizing value chain environmental management training programs and meetings
Strengthening Awareness and Brand Image of Corporate Environmental Protection	<ul style="list-style-type: none"> Organizing three sessions of environmental and energy management training Organizing annual training program on environmental protection Planning and implementing customer communication of environmental protection Joining and implementing environmental protection initiatives 	<ul style="list-style-type: none"> Organized three sessions of environmental and energy management training Organized environmental seminars, and quizzes and surveys of environmental education for all employees Supported a energy conservation demonstration organized by the Ministry of Economic Affairs Supported three environmental experience-sharing meetings organized by external associations / foundations Published environmental news and articles in the in-flight magazine Broad casted eco-friendly videos on board Shared and post corporate environmental updates on Facebook 	100%	<ul style="list-style-type: none"> Organizing corporate environmental and energy-management training Organizing annual environmental training and satisfaction survey for all employees Continuing to encourage employee for environmental proposal Promoting diversified channels of customer communication of environmental protection Joining and implementing environmental protection initiatives

2019 Environmental Performance

Item		Unit	Emissions / Consumption / Generated	Amount Saved / Recycled	Percentage of Savings / Recycling (%)
Scope 1 GHG Emissions		Tons CO ₂ e	7,064,064	-	-
Scope 2 GHG Emissions		Tons CO ₂ e	18,169	-	-
Scope 3 GHG Emissions		Tons CO ₂ e	1,607,690	-	-
Air Pollutants (SO _x)	Passenger Aircraft	Ton	58.95	-	-
	Freight Aircraft	Ton	13.09	-	-
Air Pollutants (NO _x)	Passenger Aircraft	Ton	614.49	-	-
	Freight Aircraft	Ton	136.48	-	-
Aviation Fuel (Non-Renewable Energy)		Ton	2,230,971	-	-
Renewable Power (Solar Photovoltaic)		MWh	90	-	-
Electricity		MWh	34,088	-	-
Elevator Power Regeneration		KWh	-	1,423	-
Water Resources		Thousand tons	146.49	17.41	11.88%
Wastewater (Organic & Heavy Metals)		Ton	21,258	2,068	9.73%
Cabin Waste		Kg	4,168,857	1,116,396	26.78%
Ground Waste (Excluding Hazardous Industrial Waste)		Kg	935,984	434,648	45.52%

2-4-1 Governance of Environmental Sustainability

Improving the 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](#) according to the [China Airlines Corporate Social Responsibility and Sustainable Development Best Practice Principles](#) promulgated by the Board of Directors; in addition, CAL has integrated [UN's 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.

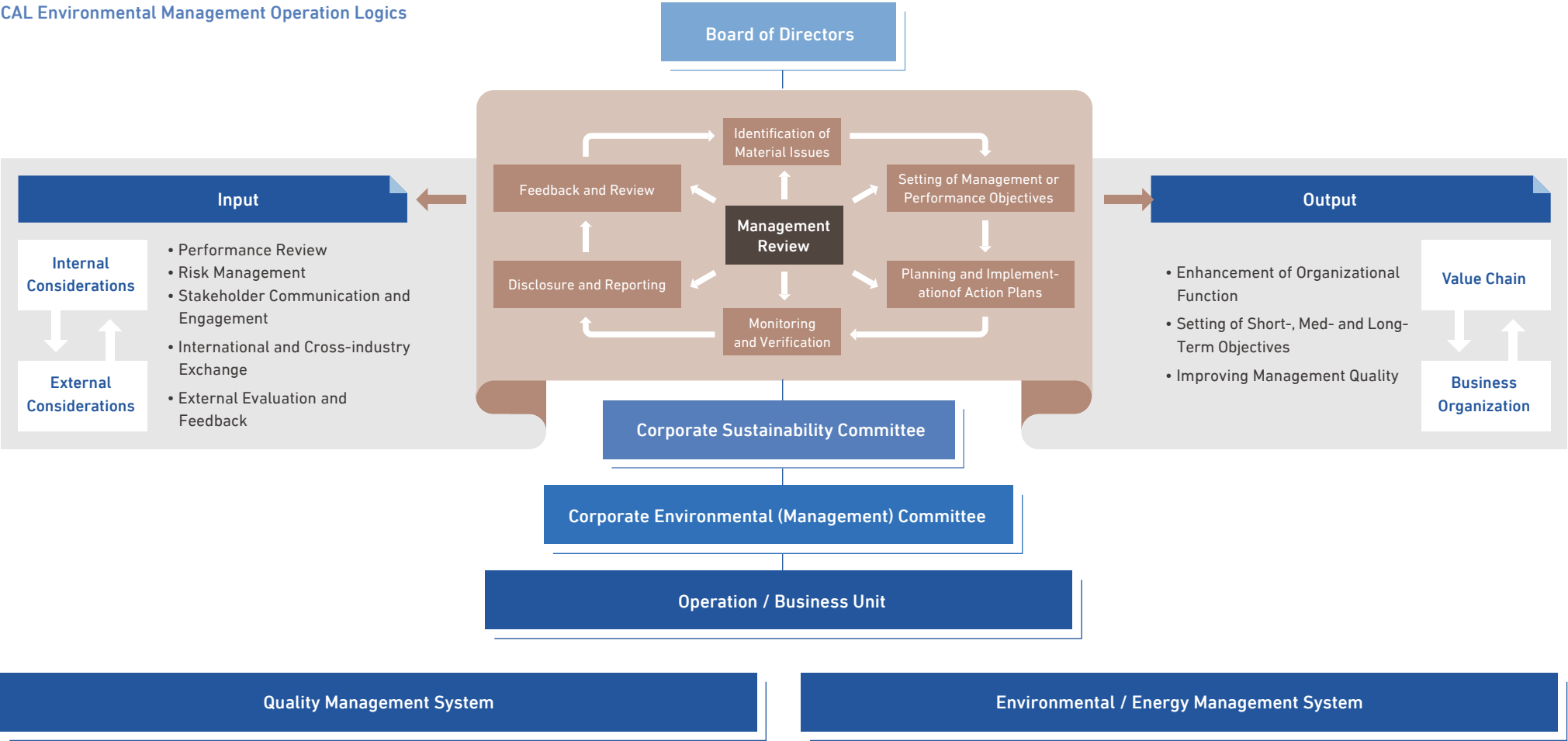


CAL was the first Taiwanese airline to establish the Corporate Environmental Committee in 2011. The President represents the top management, and the Corporate Safety Office acts as the executive secretary. Five environmental management committees were established under the Corporate Environmental Committee to take charge of environmental, energy, and climate risk and opportunity management pertaining to in-flight service, maintenance, 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 environmental, energy, and climate risks and opportunities in the management meetings held every quarter and reports key resolutions to the Board of Directors in routine meetings of the Board and its committees. For specific issues, functional task forces, including the Carbon Management Task Force, the Sustainable Aviation / Alternative Fuels Task Force, and the TCFD Task Force (Note), have also been set up for cross-departmental cooperation and flexible deployment of resources.

Overall, CAL has built a sound corporate environment and energy management model in the aspects of policy, organization and management system based on international trends and risk management practices. From a life cycle perspective, CAL takes into account the context of the organization, internal / external issues, and needs and expectations of stakeholders and manages environmental, energy, and climate risks and opportunities appropriately to ensure that the environmental sustainability policy is implemented. In the future, CAL will introduce TCFD step by step to strengthen environmental governance. For more information, please refer to [Environmental Governance - China Airlines Corporate Sustainability Site](#).

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

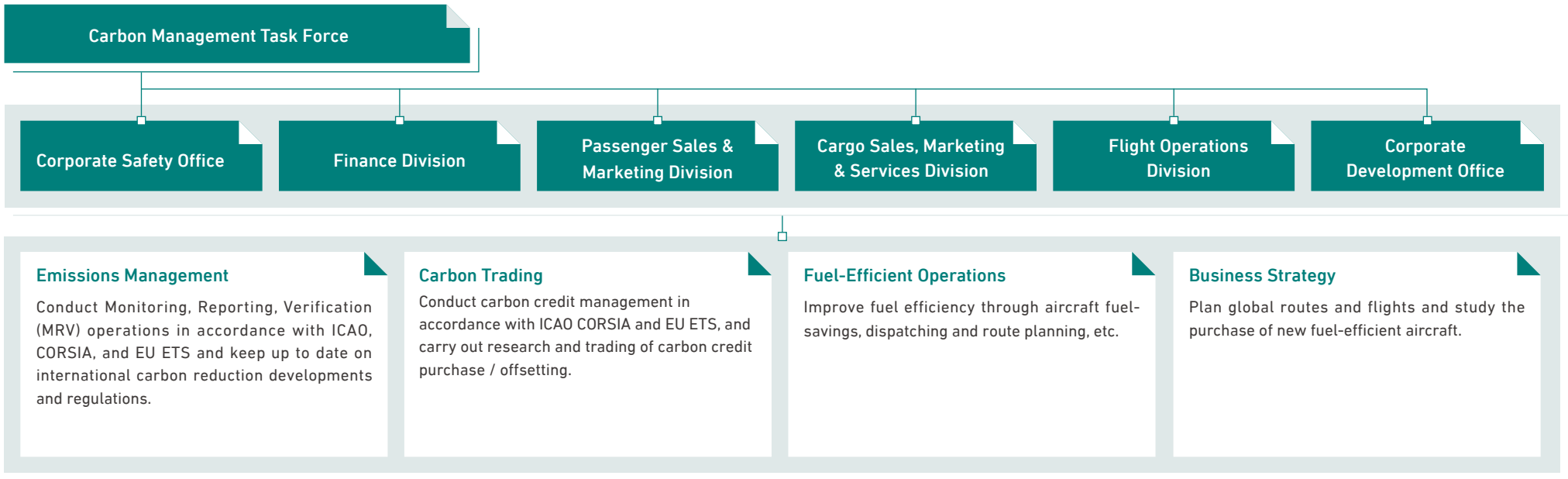
CAL Environmental Management Operation Logics



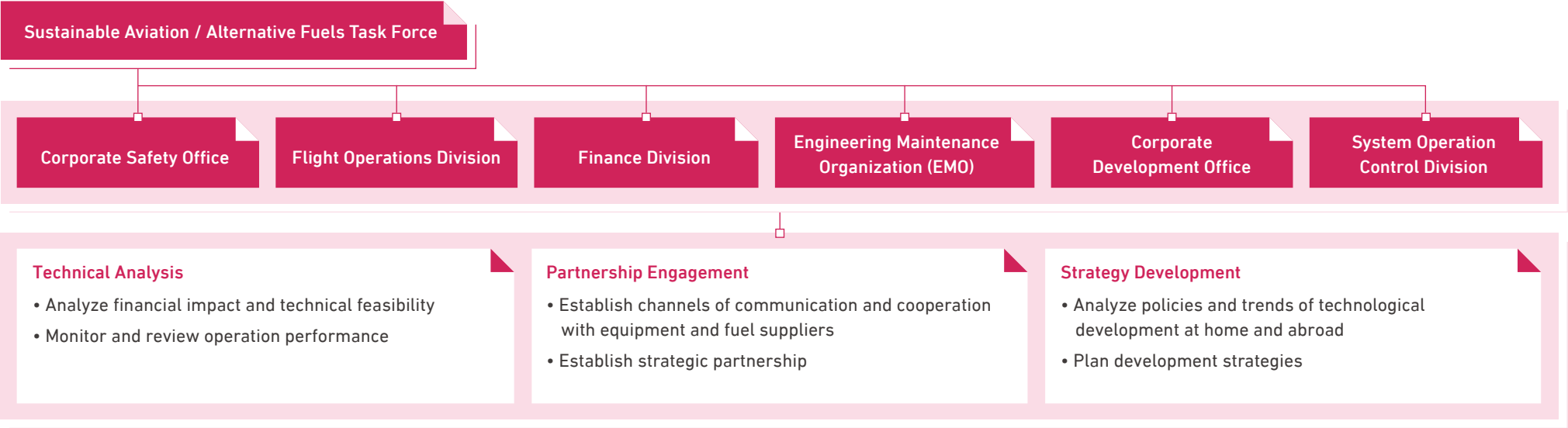
Corporate Environmental Committee Organization



Carbon Management Task Force Organization



Sustainable Aviation / Alternative Fuels Task Force Organization



Note: Established in April 2017, the Sustainable Aviation / Alternative Fuels Task Force is responsible for discussing laws and regulations, airworthiness of aircraft, technology, and procedures for supporting ground handling agencies, as well as developing corresponding strategies.

Implementing Environmental and Energy Management Systems

CAL has introduced many international standard management systems since 2009 to establish a sound corporate environmental management mechanisms covering GHG, environmental management, and energy management. In addition, to fully integrate the benchmarking conceptualization for sustainable development of international enterprises, CAL has continued to introduce the life cycle perspective since 2017 to fully understand the context of corporate, take stakeholders' concern into account and strengthen the identification and operational control of various environmental impacts and energy use.

Standards for CAL's Environmental Management Systems

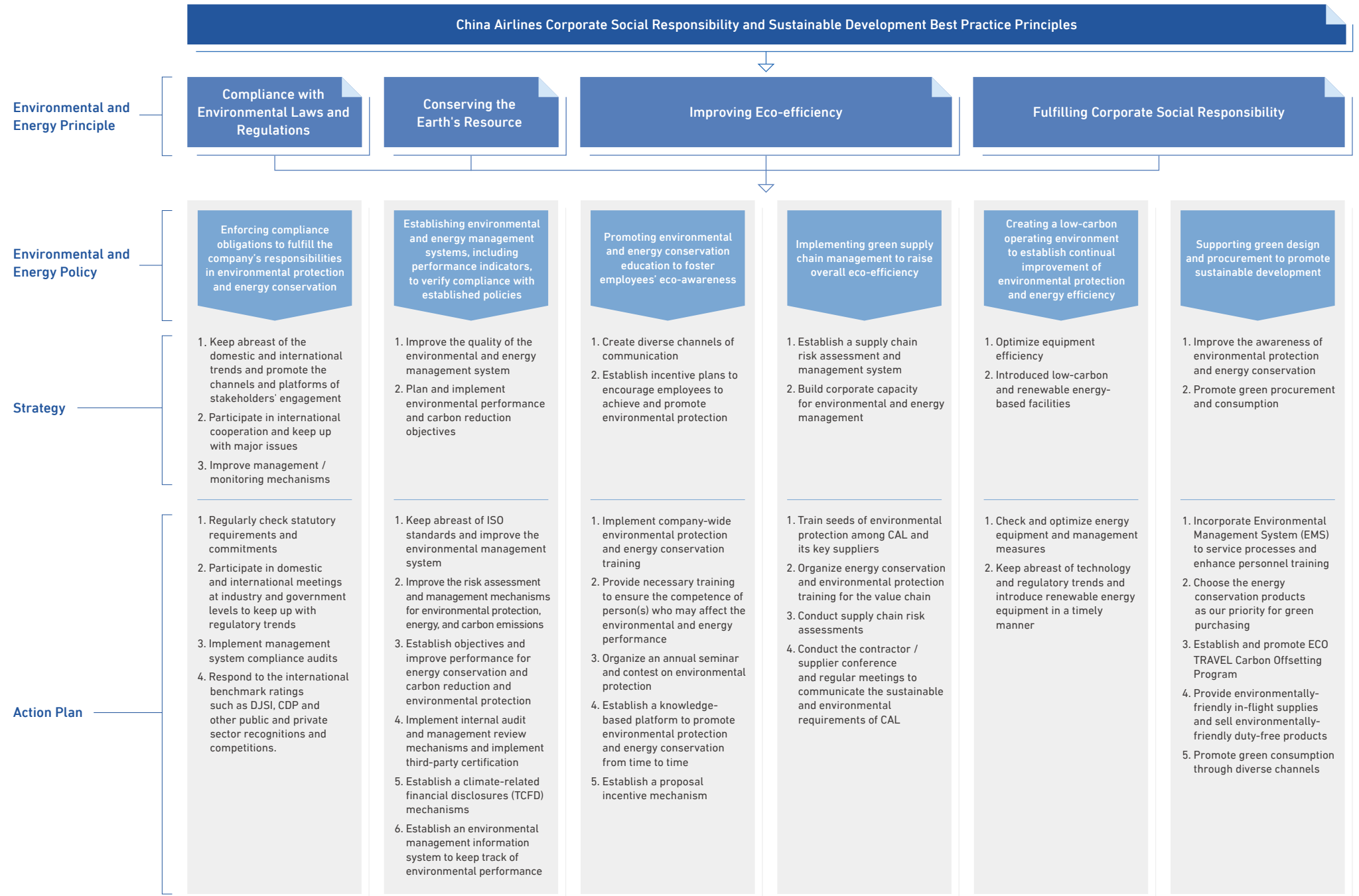
Standard	ISO 14064-1 Greenhouse Gas Inventory Requirements	ISO 14001 Environmental Management System	ISO 50001 Energy Management System
Time of Introduction	2009 (Note1)	2012 (Note2)	2013 (Note3)
Scope	<ul style="list-style-type: none">Global Aviation FuelGround Operations in Taiwan, including CAL Park, EMO, Taipei Branch , Songshan Branch, and Kaohsiung Branch	<ul style="list-style-type: none">Aircraft / Engine MaintenanceFlight Operations ManagementCargo ServicePassenger Service	<ul style="list-style-type: none">Aircraft / Engine MaintenanceFlight Operations Management

Note 1: CAL introduced ISO 14064-1: 2006 in 2009 and will complete the ISO 14064-1:2018 transition by 2020.

Note 2: CAL introduced ISO 14001:2004 in 2012 and has completed the ISO 14001:2015 transition in 2017.

Note 3: CAL introduced ISO 50001:2018 in 2013 and has completed the ISO 50001:2018 transition in 2019.

Implementing Environmental and Energy Management Principles and Policies



Identification of Environmental Risks and Opportunities

GRI 201-2

CAL has identified the following environmental and risk opportunity matrix at the present stage through the aforesaid enterprise risk management framework and platform. CAL has included these nine issues in the scope of its corporate environmental risk management for active control and response. Other issues will also receive attention through the operation of corporate environmental management system.

1. Aviation carbon emission management

2. Climate change adaptation

3. Aircraft energy efficiency improvement

4. Ground operations energy management

5. Aircraft takeoff and landing noise control

6. In-flight drinking water management

7. Toxic and chemical substance control

8. Waste water and sewage control

9. Ground water resources management

10. Ground operation carbon emission management
11. New international technology and energy development

12. Ground operation waste control

13. Ground operation air pollution control

14. Illegal wildlife transport control

15. Cabin waste control

16. Green supply chain management requirements

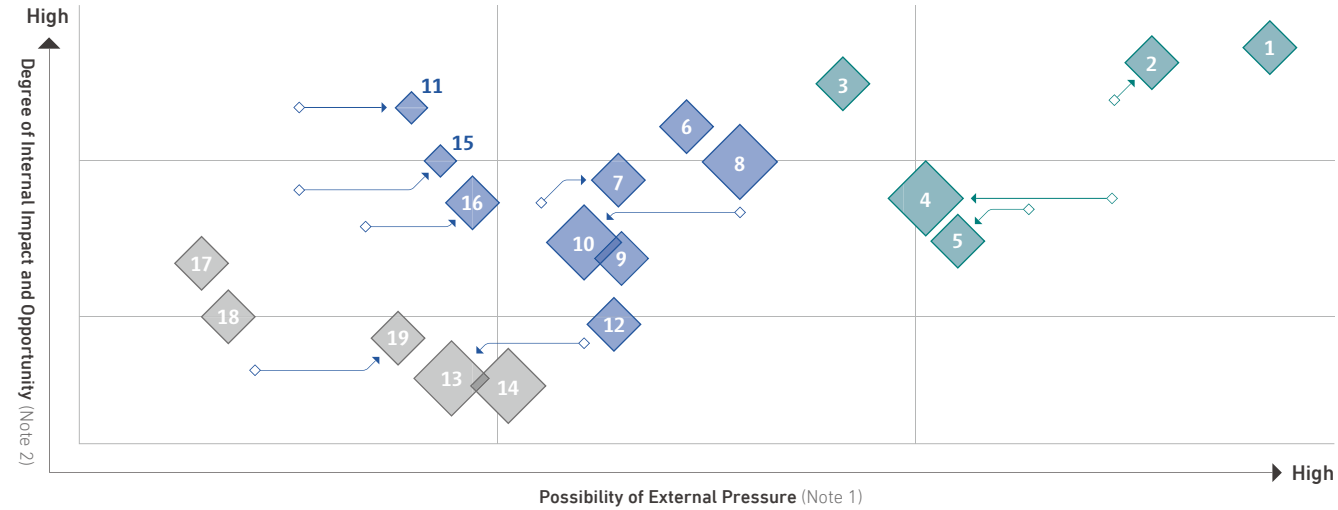
17. Circular economy and innovation model

18. Aircraft air pollution control

19. Passenger environmental protection awareness improvement

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 international conferences to keep abreast of latest 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, as detailed in 2-4-2 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. Ground operations energy management	Strict regulations on the use of renewable energy will increase costs	Improve energy efficiency in office and ground operations, which will reduce operational costs	Formulate an annual improvement plan, and its effectiveness should be evaluated by the Environmental Committee quarterly
5. Aircraft takeoff and landing noise control	Stricter regulations will increase the cost of fees	Proper response will strengthen corporate resilience and reputation	Introduce new models of aircraft to reduce noise pollution and optimize aircraft approaches
6. In-flight drinking water management	<div><div>• Strict regulations will increase compliance costs</div><div>• Climate anomaly affects the stability of the quality of water supply, increasing health risks and treatment costs</div></div>	Proper response will strengthen corporate resilience and reputation while increasing customer trust and loyalty	Strengthen water quality monitoring and facility management to ensure disinfection quality and strengthen the on-board water supply backup mechanism
7. Toxic and chemical substance control	<div><div>• Strict regulations increase compliance costs</div><div>• Leakage of toxic and chemical substances will cause harm to operating personnel and the environment</div></div>	Proper response will strengthen corporate resilience and reputation	Establish an operational control mechanism, which should be reported to the Environmental Management Committee quarterly
8. Waste water and sewage control	Strict regulations will increase compliance costs	Proper response will strengthen corporate resilience and reputation and improve brand image with zero pollution	Strengthen operational control and equipment inspection, strengthen the knowledge and ability of dedicated personnel, as well as implement management system risk identification and performance review
9. Ground water resources control	Lack of water resources affects the Company's operations, which will increase water purchase and replacement costs as well as the risk of operational disruption	Properly manage and use water resources to reduce operational costs and improve the resilience for continued operations	Improve water resources management mechanism, continuously optimize equipment, and increase the use of recycled rainwater and sewage

CAL Environmental Risk and Opportunity Matrix



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

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

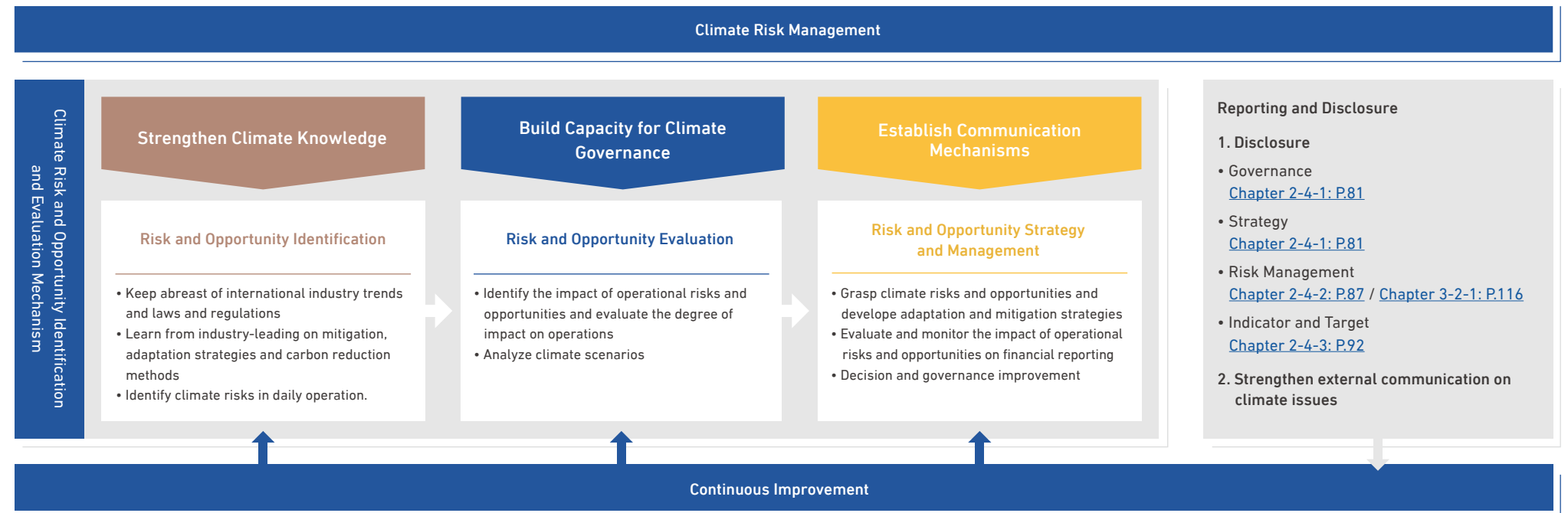
◆ The size of the rhombus represents the adaptation of CAL to the issue (larger rhombus means better action and adaptation).

→ The arrow indicates the difference in displacement from last year.

2-4-2 Climate Change Mitigation and Adaptation

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 publicly signed and introduced the Task Force on Climate-related Financial Disclosures (TCFD) (as shown in the diagram below). In 2019, CAL was invited to participate in the preparation of traditional Chinese version of TCFD and participated in the TCFD promotion forum held by the Taiwan Stock Exchange to actively engage in stakeholder engagement and international climate initiative promotion events.

Climate Risk Management Framework



Climate Risk Management Measures

Governance	Strengthen the governance of the Board of Directors	Climate issues have been incorporated into the enterprise risk management operating mechanism and reported to the Board of Directors through the CSR Committee and the Risk Committee; the Chairman also regularly reviews corporate carbon risk and management reports
	Enhance management supervision and cross-departmental operations	Meetings of the CAL CSR Committee and the Corporate Environmental Committee are convened regularly (semi-annually and quarterly) by the President to review the progress and effectiveness of implementation. Climate issues are important items to control
Strategy	Adopt TCFD framework	Establish a TCFD operation process, promote knowledge and capacity building training at all levels, and strengthen the identification of climate risks and opportunities and the response of each dedicated unit
	Strengthen scenario analysis and financial impact quantification capabilities	Analyze the benchmarking strategies in the international aviation industry and common carbon-reducing routes (such as the IATA carbon-reducing routes, 2DS, and RCP2.6) for scenario analysis to assess the impact of climate risks and opportunities on corporate finance
	Set management goals	Set short-, mid-, and long-term management goals for the Company based on the results of a sound simulation scenario analysis
	Develop climate strategies	Develop appropriate carbon-reduction management strategies for flight and ground operations and extreme climate response and adaptation strategies based on management goals
	Participate in important engagement	Participate in the operation of international and Taiwan's important climate policy engagement platforms, keep abreast of policy development trend, and get hold of the right to speak

Risk Management	Strengthen the existing enterprise risk management mechanism	Incorporate climate factors into the existing enterprise risk management mechanism to strengthen climate risk / opportunity detection, response, and control capabilities in all units
	Complete operating procedures	Incorporate climate change consideration and continuously improve and implement various management procedures
	Deepen continued operational capabilities	Combine the CAL value chain and the environmental risk management mechanism, strengthen the detection of climate risks and opportunities as well as management, and enhance the capability of continued operations in response to extreme weather
Indicator and Target	Continuously optimize greenhouse gas inventory	Continuously conduct an inventory of greenhouse gas emissions in scopes 1, 2, and 3 every year to keep abreast of information on greenhouse gas emissions of operational context
	Implement carbon emission reduction targets and KPIs	Implement short-, mid- and long-term carbon emission reduction targets and establish around 60 KPIs in environmental protection and carbon emission reduction each year; review the outcomes of implementation at the meeting of the Corporate Environmental Committee convened by the President quarterly
	Verify data and ensure transparent disclosure	Conduct third-party inspection and verification in accordance with ISO Standards to ensure the accuracy and completeness of the information and disclose it on CAL's sustainability website and CSR report as well as financial report

Climate Change Mitigation and Adaptation

Mitigation

Objective

Reducing GHG emissions

Method

Conduct GHG inventory and set annual KPIs through the corporate environmental and energy management mechanism

Achievement

Setting Short-, Med- and Long-term Objectives of Carbon Reduction

Considering international objectives, strategies and cross-industry benchmark technologies for carbon reduction, CAL has set forth objectives in flight operations and ground operations (refer to the table below) based on corporate finance and business plans as well as technical feasibility. In addition, CAL will incorporate a science-based target (SBT) into the risk management mechanisms and platforms to review objectives and management mechanisms for carbon reduction.

Carbon Reduction Objective		Description	2019 Achievements
Flight operations	2020	Improving annual aviation fuel efficiency by 1.5%	• Fuel efficiency in 2019 was 0.2459 tons / thousand RTK, s The target value of 0.2147 tons / thousand RTK was not reached. • Follow CORSIA to execute MRV operations on international routes in 2019.
	2030	• Improving annual aviation fuel efficiency by 1.5% • In line with CORSIA to promote CNG2020 operations (Note 3)	
	2050	2050 reducing carbon emissions by 50%	
Ground operations	2020	Reducing carbon emissions by 38%	Carbon emissions in 2019 amounted to 23,150 tons of CO ₂ e, showing an achievement rate of 97% compared with the 2019 objective of 22,712 tons CO ₂ e.
	2030	Reducing carbon emissions by 42.34%	
	2050	Reducing carbon emissions by 50%	

Adaptation

Objective

Reducing the negative impact of climate change on the company operation context

Method

Review climate risks and opportunities and optimize software and hardware, control measures and response procedures

Measures

Ensure and improve flight safety

- Introduce new-generation aircraft
- Update flight monitoring systems
- Establish a professional meteorological team
- Strengthen climate response procedures

Ensure and enhance the quality of service

- Strengthen cross-departmental communication to shorten response times and improve the use of resources
- Establish and improve related SOPs
- Strengthen personnel training

Improve cooperation with the supply chain

- Organize supply chain coordination and communication meetings on a regular basis
- Strengthen the supply chain operations and engagement

Note 1: The base year of aviation fuel efficiency and ground operations is 2009.

Note 2: The base year of flight operations is 2005.

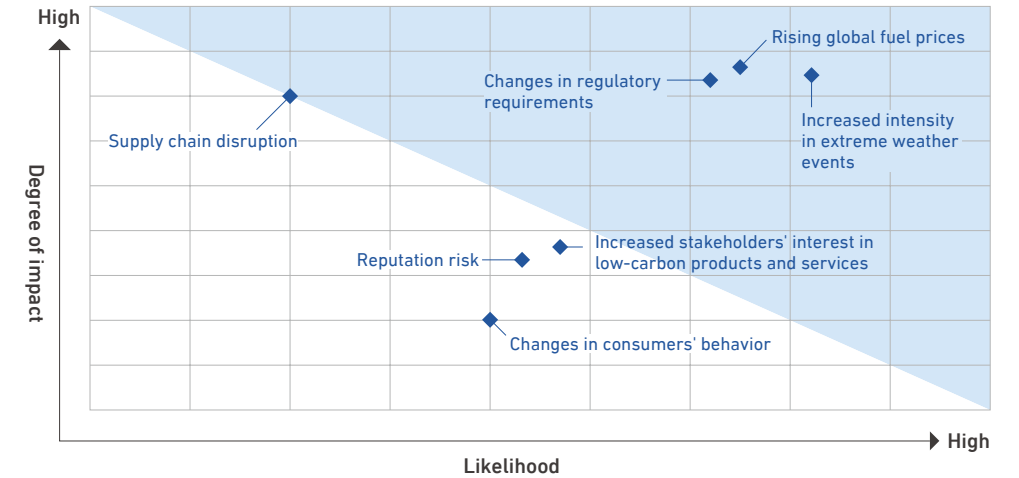
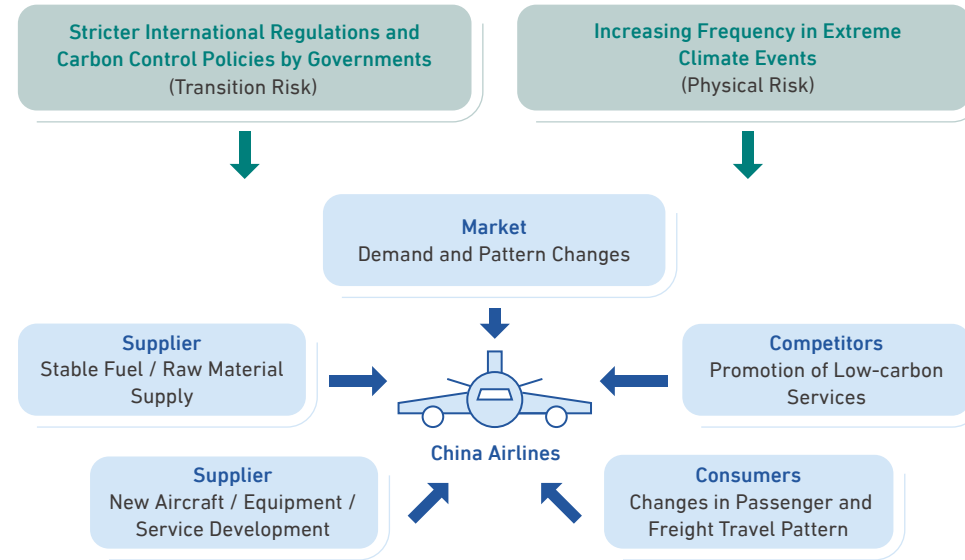
Note 3: Follow the ICAO CORSIA specifications for MRV and carbon offsetting.

Note 4: For more information on performance of carbon reduction, refer to [Objectives and Plans](#) of Management Approach in 2-4 Environment.

Note 5: Since SBT does not have a carbon reduction methodology applicable to the aviation industry, China Airlines continued to discuss with SBT the pre-study of aviation industry SBT methodology in 2019.



CAL Climate Scenario Considerations and Risk Matrix






CAL considers the possible impact scenarios of climate change on operations, explores the degree of impact and relevance of the internal and external environments on the Company (as shown in the figure below), and further analyzes its impact and possibility of occurrence, and summarizes seven climate risks (as shown in the matrix), while incorporating important risks and opportunities into corporate control and management.



Note: CAL referred to and adopted the methodology of the UK Climate Impacts Program (UKCIP) for climate-related risk assessments and referred to and adopted the principles of International Financial Reporting Standards (IFRS) for potential financial impact assessments

Climate Risk and Opportunity Analysis and Management Methods

Potential Financial Damage	Type of Risk	Climate Impact Event	Type of Opportunity	Potential Financial Benefits and Opportunity	Management Method / Action
<ul style="list-style-type: none"> Poor weather conditions delay flights and cancellations, leading to an increase in operating costs Maintenance frequency and quality control requirements increase, increasing costs Relevant equipment operating efficiency decreases, increasing operational costs Passenger and freight demand reduces, reducing revenues 	Physical Risks -Acute / Chronic Risk	 Increased intensity in extreme weather events	<ul style="list-style-type: none"> Strengthen corporate resilience Improve corporate reputation 	<ul style="list-style-type: none"> Enhance the capability of emergency responses to improve the quality of service and reputation Properly deal with customers' needs and enhance corporate resilience and reputation 	<ul style="list-style-type: none"> Continuously strengthen operating procedures and contingency plans and enhance operator training to improve coordination and operating efficiency across the organization Introduce weather professionals to increase the accuracy of weather forecasts and advance aircraft dispatching Improve coordination and partnership in the supply chain management to ensure safe freight and passenger transport
<ul style="list-style-type: none"> Oil prices have increased, leading to an increase in oil costs Increase in the consumption of aviation sustainable fuels and their proportion increases operational costs 	Transition Risk -Market Risk	 Rising global fuel prices	<ul style="list-style-type: none"> Low-carbon energy use Enhanced energy efficiency of products Enhanced quality of products and services 	<ul style="list-style-type: none"> Effectively adjust the risk of rising fossil fuel prices Increase low-carbon energy use and efficiency, reducing energy expenditure Use sustainable aviation fuels to enhance brand efficiency and revenues 	<ul style="list-style-type: none"> Diversified funding channels Continuously evaluate and introduce new technologies (new energy-saving aircraft and fuel-saving technologies) Continue to promote aviation fuel-saving measures Carry out inventory of energy consumption in aviation and ground operations and improve efficiency Promote the domestic development of sustainable aviation fuels

<ul style="list-style-type: none"> Carbon emissions have continuously increased as business grows, leading to an increase in carbon offset and compliance costs Installation / purchase of renewable energy or adjustment of operations leads to an increase in operating costs 	Transformation Risk -Policy Risk -Regulatory Risk	 <p>Changes in regulatory requirements</p>	<ul style="list-style-type: none"> Low-carbon energy use Enhanced energy efficiency 	<ul style="list-style-type: none"> Continue to reduce greenhouse gas emissions and reduce sensitivity to changes in carbon trading prices Improve earnings from the sale of carbon rights Improved energy efficiency for flight and ground operations will reduce energy costs 	<ul style="list-style-type: none"> Communicate with the public sector and international organizations Establish a carbon-emission monitoring and management system Follow trends in fluctuations in carbon market and manage carbon rights Plan and implement measures for carbon reduction
<ul style="list-style-type: none"> Unstable supply of raw materials Rising procurement costs 	Physical Risk -Acute / Chronic Risk	 <p>Supply chain disruption</p>	<ul style="list-style-type: none"> Establish new market channels 	<ul style="list-style-type: none"> Develop new markets to increase revenue Use seasonal ingredients to adjust meals and reduce costs Sign long-term contracts with relevant supply partners to maintain stable services 	<ul style="list-style-type: none"> Manage and provide guidance to supply chains to strengthen the foundation of supply chain Flexibly adjust the raw materials of meals in line with the season, adapt to climate change trends, and keep abreast of the compliance of items on board to strive for new market opportunities
<ul style="list-style-type: none"> Lower investor interest in investing Consideration for promotion of high efficiency and aircraft / sustainable fuel investment, requiring capital investment 	Transition Risk -Market risk -Technology risk	 <p>Increased stakeholders' interest in low-carbon products and services</p>	<ul style="list-style-type: none"> Enhanced quality of products and services new market channels Establish new market channels 	<ul style="list-style-type: none"> Work with stakeholders to respond to climate change and keep abreast of business opportunities through innovative solutions 	<ul style="list-style-type: none"> Undertake inter-departmental discussions to develop new routes and services Develop fuel-efficient and time-saving travel models Continue to study new technologies, facilities, and services with feasibility assessments
<ul style="list-style-type: none"> Failure to meet stakeholder expectations has affected brand reputation Failure to properly manage supply chain issues has affected operations 	Transition Risk -Reputation Risk	 <p>Reputation risk</p>	<ul style="list-style-type: none"> Enhanced quality of products and services 	<ul style="list-style-type: none"> Strengthen predictive systems and mechanisms, safeguard customers' rights and interests, and stabilize revenues Handle emergencies properly to increase public trust Promote supply chain cooperation and enhance corporate sustainable competitiveness Support and conform to government's environmental policies and enhance industrial cooperation to improve corporate competitiveness 	<ul style="list-style-type: none"> Continue to strengthen communication with stakeholders and participate in scientific research and international evaluation of environmental sustainability to improve the corporate image in environmental sustainability Strengthen employee training on environmental protection and energy conservation and organize related activities to improve employees' awareness Enhance cooperation with low-carbon product suppliers at home and abroad to improve supply chain sustainability
<ul style="list-style-type: none"> Risk of infectious diseases have increased, causing tourism and freight demand to decrease Consumers value environmental protection and carbon reduction, impacting the brand's trust and revenue The awareness of carbon reduction has increased, leading to changing demand of air transport (such as switching to cruise ships or high-speed rail) 	Transition Risk -Market Risk	 <p>Changes in consumer's behavior</p>	<ul style="list-style-type: none"> Enhanced quality of products and services New market channels 	<ul style="list-style-type: none"> Plan to promote low-carbon services to enhance consumers' support for the brand Understand low-carbon economy and transport issues and market models to create opportunities and competitiveness 	<ul style="list-style-type: none"> Cooperate with governments of all countries to properly respond to disease management and strengthen independent protection and respond to alleviate the impact. (Please refer to chapter 3-2 for the novel coronavirus pneumonia) Develop a variety of new products / services to improve performance and meet market needs. Introduce eco travel services to invite passengers to participate in carbon reduction together and promote green / low-carbon business opportunities Continue to research and develop new market channels or new groups of customers Organize diversified green and low-carbon events and strengthen communication with customers

Note: CAL will re-examine the impact of the aforementioned risks and opportunities every year and review and revise relevant management strategies (for example, the global impact of the coronavirus COVID-19 pandemic in early 2020 will increase the risk score of infectious diseases).

2-4-3 Achievements in Environmental Sustainability

GRI301-1, 303-2, 303-3, 303-4, 303-5

CAL continued to focus on the following tasks: improving environmental and energy management, strengthening carbon management, building capacity for supply chain environmental management, and promoting environmental awareness. The Corporate Environmental Committee, its five environmental management committees, and functional task forces convened meetings regularly or from time to time to improve environmental performance and ecological efficiency. For more information on environmental performance, refer to [Appendix Environmental Performance](#).

Task 1 — Improving Environmental and Energy Management

Following the revision of the ISO 14001: 2015 standard, CAL integrated the life cycle perspective, stakeholder agreement, and risks and opportunities into the environmental management systems and management reviews. In 2019, CAL further launched the transition operation for ISO 50001: 2018 to strengthen the identification and operation control of energy use, comprehensively re-examine and optimize energy performance indicators, and improve the substantive impact of energy management. In addition, to better understand and respond to the global business risks comprehensively, CAL has conducted the survey of environmental risks and opportunities at outstations in 2018 to further grasp the trend of international environmental requirements. In 2019, CAL has further focused on the existing operational status of various issues of concern and shared the best cases to assist all stations for further improvement.



Key Achievement 1: Survey of Environmental Risks and Opportunities at Outstations

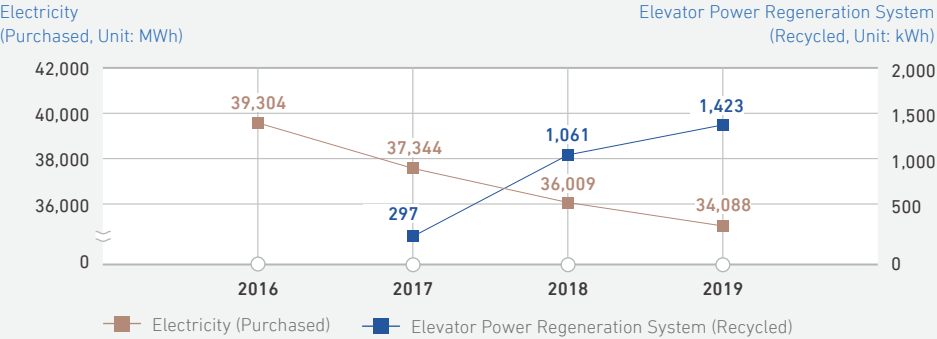
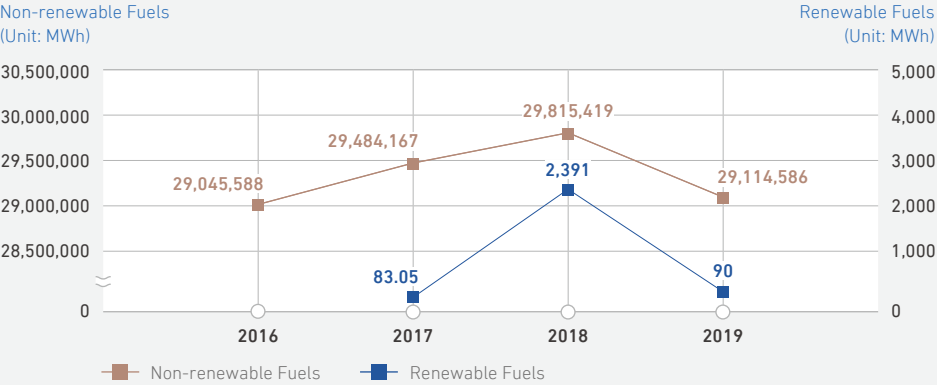
- ✓ **Objective:**
The existing operational status of each issue of concern was investigated in-depth based on the results of the 2018 survey.
- ✓ **Questions:**
 - 1st aspect: Survey of station and branch offices operational data (oil / electricity consumption)
 - 2nd aspect: Status of requirement of issues of concern, such as in-flight drinking water, noise, cabin waste, wastewater, and greenhouse gases
- ✓ **Performance:**
 - 1. Coverage rate 100% (excluding some smaller stations)
 - 2. Identified regional environmental regulation trends
 - 3. Kept abreast of environmental control measures and operational status of all stations
- ✓ **Follow-ups:**
 - 1. Develop consistent environmental management measures for airlines controllable issues.
 - 2. Promote sustainability of the overall industry chain through communication with stakeholders as some issues, such as, cabin waste and wastewater, involve airport infrastructure or ground handling agent business.

Resources Management

Use of Energy

In 2019, electricity used at each site went downward with the total consumption of 34,088 kWh, a decrease of 5.33% compared to 2018. CAL invested in 57 energy-saving measures in 2019, reducing 124,365 tons of CO₂e emissions. After the headquarters has been certified as a Diamond-level Green Building, CAL continued to promote equipment updates, optimized operating procedures, and improved the overall energy efficiency of the building; in 2019, CAL further completed the installation of 99kW grid-connected solar photovoltaic facilities on the rooftop of the flight simulator training building supporting Taiwan's renewable energy with practical approach, generating a total of about 90,000 kWh of electricity in 2019 and reducing about 48 tons of CO₂e emissions. CAL was awarded the Silver Award of the Energy Conservation benchmark by the Bureau of Energy of the Ministry of Economic Affairs, Taipei Energy Conservation Leadership Awards, and the first place in the Taoyuan Airport Power Conservation and Carbon Reduction Reward Competition.

Energy Consumption



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 areas where electricity is purchased are calculated include parks (CAL Park, Taipei Branch, and Songshan Branch), EMO (Hangar 2, Hangar 3, and repair / maintenance center), and Kaohsiung Branch; electricity in 2016 contains 54,920 kWh from the construction of Novotel Taipei Taoyuan International Airport II in CAL Park.

Note 4: Since November 2017, 2 sets of the elevator power regeneration system have been installed at the Crew Training Building with high utility of elevators. Electricity is recycled and reused through the anti-motoring effect and the internal grid.

Noise Management

As noiseless engines are currently under development, CAL takes the following measures to reduce the impact of noise on local communities and front-line employees during takeoff and landing without compromising flight safety:

1. All CAL aircraft (777-300ER, 747-400, 737-800, A350-900, A330-300, and A340-300) have conformed to international noise standards for low-noise aircraft (noise level for Chapters 3 and 4 of ICAO Annex 16); in particular, noise of A350-900 is 16 dB lower than the current standards and 20% less than that of the same model of competitors.

2. Implement flight operations following the Noise Abatement Procedures posted by each airport.
3. Encourage the flight crew to employ the continuous descent approach (CDA) to lower noise level and reduce fuel consumption.
4. Pay noise charges according to regulations of each country's airports on noise prevention; and
5. Collect international information through international exchange platforms, such as IATA to continue to carry out noise reduction.

Use of Water Resources GRI 303-1

In 2019, CAL consumed 146,490,000 liters of water, a decrease of approximately 1.17% compared to 2018. The CAL headquarters is located at a specified area of the airport. The airport management unit applies for and receives tap water from the water supply unit while paying sewage treatment fees on behalf of businesses operating at the airport. The Engineering & Maintenance Organization, Songshan Park, and the Taipei Branch apply for water supply from Taiwan Water Corporation directly. To overcome the risk of water shortage, CAL has set up water meters at important waterway nodes, tracked and analyzed the flow of water and water consumption hotspots, as well as promoted water reduction and recycling measures, including the purchase of water-efficiency labelled products, promotion of water conservation, as well as setup of rainwater recycling and cooled water recycling systems.

Consumption of Water Resources

Item	Unit	2016	2017	2018	2019
Water Consumption	Thousand tons	136.35	141.26	148.22	146.49
Amount Recycled	Thousand tons	1.59	1.89	31.94	17.41
Recycling Rate (Amount Recycled / Consumed)	%	1.17%	1.34%	21.55%	11.88%

Note 1: Water is sourced from Taiwan Water Corporation. The scope of water consumption covers the following areas: CAL Park, EMO, Songshan Branch, and Taipei Branch.

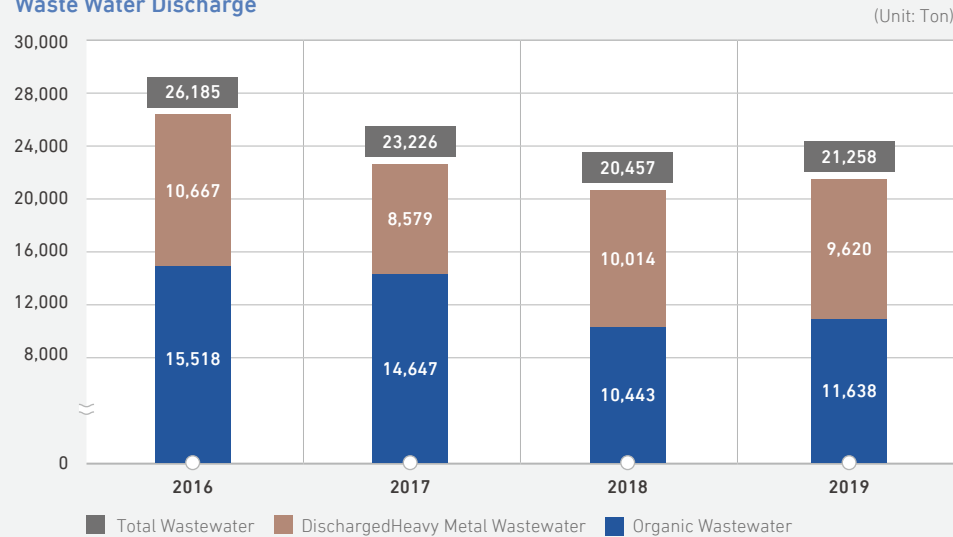
Note 2: In 2018, water meters were installed at CAL Park. EMO and CAL Park were included in the calculation of the amount of recycled water. In and before 2017, only EMO was included in the calculation of the amount of recycled water.

Wastewater Management and Recycling GRI 306-1

The domestic sewage of CAL is collected and sent to the airport sewage treatment plant for treatment, and wastewater is bound to be produced in the aircraft maintenance process, which causes heavy damage to our environment and needs to be properly treated before discharge. Based on the concept of full recycling and treatment, CAL has established two wastewater treatment plants in the maintenance park to handle

electroplating wastewater (containing heavy metals such as chromium and cadmium) produced in the engine maintenance process and organic wastewater produced in the aircraft maintenance process through tertiary treatment prior to discharge into the Nankan river basin (class C water body). In the first line of control, well-qualified employees are trained to carry out the management and regularly monitor the quality of the discharged water as per the regulations of the Environmental Protection Agency (EPA). A second and third-level supervision and inspection mechanism has been incorporated into corporate environmental risks for close monitoring.

Waste Water Discharge



Pollution Prevention

Air Pollution 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. CAL reduces the impact on ground air quality during aircraft takeoff / landing mainly through introducing low-pollution new aircraft, encouraging the shutdown of one to two auxiliary power units (APUs) during taxiing, and improving the efficiency of ground power units. At present, CAL's all A350-900 aircraft are fully in place, and replace the A340-300 and some 747-400 aircraft to provide passenger and cargo transportation services with a brand-new and young fleet. Mandarin Airlines also plans to introduce nine ATR72-600 aircraft; as of 2019, seven new ATR aircraft have been introduced, and the remaining two are planned for introduction in 2020. Tigerair Taiwan has 11 A320neo aircraft and plans to introduce 15 A320neo aircraft in 2021. By introducing these next-generation new fleets, CAL improved fuel efficiency and reduced NOx emissions at takeoff and landings.

SOx and NOx Emissions of CAL Group

Passenger Aircraft

Item		Unit	CAL			
			2016	2017	2018	2019
SOx	Emissions	Ton	58.50	57.67	58.28	58.95
	Emission efficiency	g / RTK	0.0133	0.0125	0.0122	0.0122
NOx	Emissions	Ton	609.79	601.20	607.47	614.49
	Emissionefficiency	g / RPK	0.0160	0.0152	0.0150	0.0149

Item		Unit	Mandarin Airlines			Tigerair Taiwan		
			2017	2018	2019	2017	2018	2019
SOx	Emissions	Ton	22.12	26.62	30.61	13.19	15.52	16.19
	Emission efficiency	g / RTK	0.1453	0.1833	0.2079	0.0413	0.0416	0.0399
NOx	Emissions	Ton	230.61	277.53	319.11	103.78	161.77	168.72
	Emission efficiency	g / RTK	1.5144	1.9107	2.1677	0.4303	0.4335	0.4163

Freight Aircraft

Item		Unit	CAL			
			2016	2017	2018	2019
SOx	Emissions	Ton	12.59	13.23	13.72	13.09
	Emission efficiency	g / RTK	0.0029	0.0028	0.0029	0.0031
NOx	Emissions	Ton	131.24	137.88	143.02	136.48
	Emission efficiency	g / RTK	0.0302	0.0294	0.0301	0.0321

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 freight aircraft.

Note 5: China Airlines revised the 2017 ~ 2018 emission data in accordance with the adjustment of flight information calculation scope.

Waste Management

GRI 306-2

CAL manages waste as per "5R" principles: refuse, reduce, reuse, recycle, and repair. CAL's objective is to recycle 100% of waste and increase the waste recycling rate year after year.

Waste Management Principle	Strategic Objective	Action
Refuse	Reducing the use of resources and disposing off waste through green design and procurement	Worked with suppliers to develop and purchase non single-use plastic products (e.g. wooden stirrers); increased green purchasing
Reduce		Planned business and service supplies precisely to reduce consumption; improved maintenance processes to reduce end-of-life waste, and developed electronic teaching materials and operations to save paper consumption for training and communication
Reuse	Increasing the reuse of waste and reducing it through workflow improvement	Increased the reuse of usable industrial waste (e.g. waste plastic buckets)
Recycle		Supported the Taiwan Environmental Protection Administration's plastic wrap recycling platform to enhance the reuse rate of plastic wraps
Repair		Repaired passenger / freight transport equipment (e.g. containers / nets) prior to use

Waste Information

(Unit: kg)

Item (kg)		Operation	Actions Taken	2016	2017	2018	2019
Ground Operations	Domestic Waste	Everyday Life Use	Non-recyclable / Incineration	419,689	456,997	399,266	381,626
			Recyclable / Recycling Plants			347,936	321,340
	Industrial Waste	Maintenance of Aircraft and Engines	Non-hazardous: Reuse / Recycling / Incineration / Burial	-	-	251,317	233,018
			Hazardous: Curing Burial / Chemical Treatment	13,430+ Cadmium-containing 1,920	16,758+ Cadmium-containing 1,782	16,434	18,815
In-flight Services	General / Industrial Waste / Domestic Waste	In-flight Catering and Supplies	Non-recyclable / Incineration	-	3,417,870	2,674,334	3,052,461
			Recyclable / Recycling Plants			995,369	1,116,396
Total				-	3,893,407 (Non-recyclable Amount)	4,684,656	5,123,655

Note 1: All waste is cleared by certified third-party waste-disposal companies on a regular basis, keeping a record of disposal in accordance with laws and regulations. All catering waste is incinerated in accordance with international quarantine regulations.

Note 2: The scope of data collection relating to ground operations in 2016-2017 includes EMO and CAL Park. Since 2017, total cabin waste returning to Taoyuan has been included in the statistics.

Note 3: The scope of data collection relating to ground operations in 2019 is described below:

- General industrial waste / general waste: EMO, CAL Park, Kaohsiung Branch, and VIP rooms of four stations (Taoyuan, Songshan, Kaohsiung and Tainan).
- Industrial waste: "Hazardous industrial waste" - Type A / B / C waste stipulated in the Standards for Defining Hazardous Waste established by the Environmental Protection Administration, Executive Yuan and cadmium-containing batteries; "non-hazardous industrial waste" - Type D / R waste stipulated in the Standards for Defining Non-hazardous Waste established by the Environmental Protection Administration, Executive Yuan.
- Cabin waste and ground waste: Third-party waste disposal companies clear cabin waste and ground waste by the incineration plant converting heat to generate electricity. In 2019, the total amount of cabin waste and ground waste reached 3,685,920 kg, including 2,462,540 kg of waste converted to electricity and 1,223,380 kg of waste cleaned through incineration or otherwise.

Note 4: For detailed performance information of service-related packaging materials, please refer to the appendix of this report-List of Environmental Performance.



Key Achievement 2 : Waste Task Force Operations and Performance

As waste management of air services involves a wide range of service businesses, CAL has further formed a Waste Task Force in the third quarter in 2019, inviting services, supplies, planning, and quality assurance units, as well as supplier partners in catering and cabin cleaning, to establish a regular communication platform to study and analyze management trends in waste management of air services and discuss relevant strategies. The Waste Task Force with a three-year term is responsible for three major aspects of waste management., namely, green design, waste reduction, and communication with passengers, with a view to utilizing resources properly, reducing waste and external environmental costs and mid-to-long term compliance risks for air services.

Task Force Targets

As of February 2020, the Waste Task Force has held three working meetings to identify major components of promotion, measures, and schedules:

Waste Management Principles	Major Aspects of Promotion	Promotional Measures	Schedule
Refuse	Green design	1. Promote weighing of actual waste on return flights to Taiwan 2. Set per-capita waste generation targets for VIP room waste	Progressive promotion from 2019 through 2020 (basic data obtained)
Reduce	Waste reduction	1. Increase the proportion of green / environment-friendly products 2. Cooperate with suppliers to reduce the use of plastic packaging and single-use plastics (SUP)	Continue the implementation of engagement with suppliers from 2020 through 2022
Reuse	Communication with passengers	1. Reuse products served under high safety and food safety standards 2. Share environmental information on-board (magazines and videos) 3. Passenger opinion surveys	1. Continue the implementation from 2019 through 2022 2. Continue the implementation from 2019 through 2022 (communication with passengers) 3. 2022 (communication with passengers)

Operational Performance and Future Outlook

1. Partner with supplier partners on carrying of inventories of volumes of actual waste generated and composition for flights with different characteristics (short / long range) and has set initial waste management performance targets.
2. Continuously track waste management performance and formulated appropriate action plans.
3. Continue to promote passengers' green consumption awareness to receive their support and appreciation.
4. Enlarge communication and dialogue with related stakeholders, including passengers, suppliers, and employees, to gather information on issues of substantive concern to achieve an optimal balance between green planning and air service processes.

Environmental Expenditure

CAL actively implements green procurement, invests resources every year, purchases environment-friendly equipment, promotes green maintenance and operation projects, and pays for waste cleaning and noise prevention expenses. In 2019, there were a total of 75 environment-friendly products in Category I, II, and III with an increase of NT\$3,498,000 in this regard compared to 2018.

CAL Investment in Green Facilities and Green Procurement

(Unit: TWD thousand)

Item	2016	2017	2018	2019
Capital Investments (Note 1)	13,993	22,769	23,106	22,805
Operating Expenses (Note 2)	13,385	11,730	15,760	19,258
Waste Disposal	4,164	3,315	4,536	4,062
Noise Prevention	185,864	188,485	190,357	189,351
Total Investment Amount	217,406	226,299	233,759	235,475

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

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

Task 2 — Strengthening Carbon Management




GRI 302-1, 302-2, 302-4, 302-5, 305-1, 305-2, 305-3, 305-5

CAL introduced a complete ISO 14064-1 greenhouse gas management mechanism, and established a Carbon Management Task Force under the framework of the Environmental Committee to comprehensively manage the carbon risk issues of corporate operations and manage compliance with international carbon control schemes based on the structure of carbon rights management.

In order to achieve the carbon reduction target in the first stage in the aviation industry — improving fuel efficiency by 1.5% per year by 2020 — CAL has continued to strengthen its fuel efficiency measures and formulated four major fuel-saving strategies, namely, promoting green-energy flights," "improving ground service control," "continuous regular repair and maintenance," and "weight reduction of fuselages," and other specific implementation measures. However, due to changes in the internal and external operating environments in 2019, although the total aviation fuel consumption decreased by 2.4% from 2018, the performance of revenue ton kilometer (RTK) decreased by 4.9% compared to 2018, and the overall fuel efficiency was 0.2459 tons / 1,000 RTK, which failed to meet the 2019 target (0.2147 tons / 1,000 RTK).

GHG Emissions of CAL, Mandarin Airlines, and Tigerair Taiwan

(Unit: Tons CO₂e)

Company	GHG Scope	Item	2016	2017	2018	2019
	SCOPE 1	Flight operations	7,042,520	7,149,309	7,229,903	7,059,083
		Ground operations	4,663	5,004	3,511	4,981
	SCOPE 2	Ground operations	20,831	20,677	19,949	18,169
	SCOPE 3	Ground operations	2,070,003	1,627,649	1,644,656	1,607,690
	SCOPE 1	Flight operations	263,016	259,695	255,241	237,699
	SCOPE 1	Flight operations	233,927	284,791	336,684	362,794


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: BSI (2011-2013, 2015-2016) and DNV GL (2014, 2017, 2018).

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; the emissions totaled 2,323,845 tons of CO₂e. The emissions from energy activities, leased assets, and employee commuting (1,607,690 tons of CO₂e) in 2019 has passed the external 3rd-party verification.

Aviation Fuel Efficiency

GRI 302-3, 305-4

Company	Item	2009	2016	2017	2018	2019	2019 Compared to 2018	2019 Compared to 2009
	Fuel Consumption (Ton)	1,927,803	2,225,736	2,259,923	2,284,957	2,230,971	-53,986	303,168
	CO ₂ Emissions (Ton)	6,099,820	7,042,520	7,150,674	7,229,839	7,059,083	-170,756	959,263
	Transport Volume (Thousand RTK)	7,721,089	8,727,407	9,289,789	9,544,260	9,072,762	-471,498	1,351,672
	Fuel Efficiency (Fuel / Thousand RTK)	0.2497	0.2550	0.2433	0.2394	0.2459	0.0065	-0.0038
	Carbon Emission Intensity (Ton CO ₂ / Thousand RTK)	0.7900	0.8069	0.7697	0.7575	0.7781	0.0205	-0.00120

Company	Item	2016	2017	2018	2019	2016	2017	2018	2019
 (Data)  (Data)	Fuel Consumption (Ton)	83,124	82,075	80,667	98,910	73,931	90,006	106,406	143,323
	CO ₂ Emissions (Ton)	263,016	259,694	255,241	237,699	233,927	284,790	336,700	362,794
	Transport Volume (Thousand RTK)	148,747	152,281	145,251	147,209	237,326	319,554	373,185	405,262
	Fuel Efficiency (Fuel / Thousand RTK)	0.5588	0.5390	0.5554	0.6719	0.3115	0.2817	0.2851	0.3537
	Carbon Emission Intensity (Ton CO ₂ / Thousand RTK)	1.7682	1.7054	1.7572	1.6147	0.9857	0.8912	0.9022	0.8952

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.

Task 3 — Building Capacity for Value Chain Environmental Management

In addition to strengthening its sustainable environmental management momentum, CAL even exerted its influence and actively enhanced the sustainable value of the overall industrial chain. CAL launched environmental management of the value chain in 2018, inviting the Group's partners to initiate the Environmental Seed Development Plan, and holding environmental / energy / carbon management workshops to promote an understanding of the concepts and benefits that will accrue from environmental / energy / carbon management. In 2019, CAL gradually built up the momentum of the environmental risk management for the Group's enterprises through environmental risk and opportunity investigation and communication meetings.



Key Achievement 1: Value Chain Environmental Risk Assessment Mechanism

- ✓ **Object :**
11 key value chain companies
- ✓ **Highlights :** By Surveying
 1. Mastering the environmental management mechanisms and structures of the value chain partners.
 2. Classify their operational characteristics to identify their environmental impact characteristics and potential risks and opportunities.
 3. Conduct communication meetings to consolidate the awareness of energy conservation and environmental protection in the value chain.

- ✓ **Questions :**
 - 1st aspect: Environmental Management
 - 2nd aspect: Performance Management
 - 3rd aspect: Pollution Prevention
 - 4th aspect: Green Procurement
 - 5th aspect: Environmental Opportunities



- ✓ **Implementation Results :**
Value chain partners have been managed for some key environmental / energy issues in accordance with their operational needs, but some partner companies have not yet established environmental regulations and operational risk detection response mechanisms that meet their operational characteristics, and established environmental management policies and operational objectives.

- ✓ **Follow-ups :**
To implement corporate environmental and energy policies as well as related management strategies, CAL has asked value chain partners to formulate appropriate environmental and energy policies and to implement management measures and supervise the measurement operations for key environmental impacts. Operational information (such as power / oil consumption) of surveyed and interviewed organizations will be added to echo the core values of the revision of ISO 14064: 2018 and to strengthen the investigation and understanding of indirect emissions from the value chain. In addition, points of contact from the value chain partners and their first-level supervisors will be invited to participate in the "Environmental Risk Analysis and Results Presentation Meeting," at which the results of risk survey and analysis will be summarized and industry's excellent cases will be shared.

Task 4 — Promoting Environmental Awareness

CAL organizes the environmental training campaign every year to develop employees' awareness of environmental protection. Training programs are organized online or offline in Taiwan to cultivate the attitude and actions of protecting the planet. To implement external communication, CAL communicates the corporate concept and performance of environmental protection with stakeholders through social media and in-flight magazines in hopes of creating and spreading the awareness of green consumption.

Shape A Culture of Environmental Protection

Item	Environmental Training for All Employees	Professional Environmental Training
Operation	Improve employees' identification and awareness of environmental sustainability and help develop good conduct and business habits.	<ul style="list-style-type: none"> Organize training on environmental and energy management for the related personnel of the Company and affiliates Appoint trainees to participate in external training and seminars as needed
2019 Achievements	<ul style="list-style-type: none"> Environmental education CAL also communicated with new employees regarding the corporate policies and approaches to environmental protection and energy conservation in the course, CAL and I. The achievement rate reached 100%. Knowledge-based education <ol style="list-style-type: none"> Environmental knowledge: CAL published 13 articles and reports on environmental sustainability through internal communication platforms, such as employees' email, China Airlines newsletter, and the startup screen, in 2019. Environmental contest: A total of 215 and 1,100 employees participated in the "Fly to ECO" environmental protection film and environmental knowledge quiz contests, respectively. Environmental lecture: One environmental lecture was held, focusing on environmental issues related to climate change, to raise the employees' awareness of environmental protection; 151 participants attended. Environmental awareness promotion: Created a comprehensive environmental education environment for all employees, set up China Airlines green footprint stickers and posters, conveyed 21 important environmental protection measures, set up description signs for 77 types of plants at the headquarters and maintenance park, and posted 11 pieces of environmental protection information in the office area.  <p>Taiwan renowned meteorologist, Dr. Ming-Dean Cheng was invited as the speaker of the environmental lecture (Vicky The Viking's Trouble with Climate)</p>  <p>CAL green footprint stickers</p>	<ul style="list-style-type: none"> Organized one enterprise and group education and training session on "greenhouse gases" and "energy management systems," respectively Organized one session on "Value Chain Environment Management Communication Meeting" in the Group Organized one session of the Seminar on ICAO CORSIA

Build an Image of Environmental Protection

Item	Promote Awareness of Green Aviation			Build Industrial Environmental Awareness
Operation	Promote environmentally friendly awareness and consumer behavior	Promote green consumption	Optimize service processes and reduce waste and waste processing costs	Organize seminars
2019 Achievements	<ul style="list-style-type: none">Continued with the practice of closing windows during summer and of shades on the side facing the sun to lower the temperature of the cabin that would rise sharply due to direct exposure and to reduce the cost of APU, and airport energy useSelected 12 environment and ecology-themed videos to play on the plane.Published 5 articles and reports via social mediaPrinted menus by recycled paper and soy ink and marked an environmental slogan on the last page of the menuAdded the warning of an embargo on transport of endangered species on the Company websitePublished CAL's environmental practices and electronic and mobile approaches to carbon reduction in in-flight magazinesMarked the Taipei-Kinmen carbon label on the website of Mandarin Airlines, supplies, check-in counter, boarding pass, in-flight magazines	<ul style="list-style-type: none">Incorporated environment-friendly products and added the "Sustainability Logo" icon to the sales catalog of duty-free goods delivered homeUpdated and shared the carbon footprint of routesEnhanced the promotion of the Eco Travel Carbon Offsetting ProgramMandarin Airlines supported the EPA's "Green Point Discount for Air Ticket Fare" program and promoted the participation of Green Point program	<ul style="list-style-type: none">Adopted local ingredients for in-flight meals and Group catering and put a ban on food ingredients from endangered speciesImplemented waste managementIncorporated the concept of environmental protection into design of in-flight meals and suppliesPromoted and implemented electronic and information servicePursued the reduction of the weight of in-flight magazines and enhanced weight-reducing and fuel-saving benefits	<ul style="list-style-type: none">Organized expert consultation seminars on aviation sustainable alternative fuels and continued to build consensus between the industry and the government



Key Achievement 1:
Promotion of Eco Travel Carbon Offsetting Program

CAL has integrated the official website, the ticketing system, travel reminders, and a diversified electronic-friendly service platform to strongly promote passengers support a carbon offsetting initiative and practice the concept of "zero carbon" through flights, with the best performance among Taiwanese peers. In 2019, a total of 156 people participated in the offsetting initiative, and the amount of offset reached 258.45 metric tons, the best in the industry in Taiwan. In 2019, CAL added carbon offsetting links to the employee preferential ticket system and the business trip dispatching system and strengthened the promotion inviting employees to respond to and realize the goal of "carbon neutral" status in aviation.



Key Achievement 2:
Promotion of Green Consumption—Mandarin Airlines Launched "Green Point Discount for Ticket Fare"

Mandarin Airlines supported the EPA's environmental point collection activity in 2019, which was the initiative that promote the environmental point collection activity to the aviation industry. Passengers could exchange the green points for discounts on air tickets of Mandarin Airlines. Flight passengers were invited to respond to green life while enjoying more practical rewards.



ECO Travel Carbon Offsetting



Green Point Discount for Ticket Fare

Future Plans


Operational Focus	Future Development Plan
1. Advance operational effectiveness of management systems	<div>1. Advance the operation of ISO 14001 and ISO 50001 management systems</div> <div>2. Promote and implement the transition of ISO 14064</div> <div>3. Promote informatization of management systems</div> <div>4. Engage in environmental management system planning in the international aviation industry</div>
2. Expand the scope of environmental, energy and greenhouse gas management	<div>1. Gradually expand the environmental management level to the value and supply chains.</div> <div>2. Implement environmental risk assessment of outstations and suppliers</div> <div>3. Assist the Group's enterprises to improve their momentum in carbon management</div>
3. Comply with the Carbon Offset and Reduction Scheme for International Aviation (CORSIA)	<div>1. Continue to engage in strategic planning for CORSIA operations with IATA and Taiwan government</div> <div>2. Follow CORSIA monitoring plan, manage emissions, and report to competent authorities</div> <div>3. Optimize carbon emission management and conduct carbon offset management in accordance with ICAO regulations</div>
4. Establish a financial quantification mechanism for corporate climate and environmental risks	<div>1. Continue to strengthen capabilities of the high level management, such as the Board of Directors, in climate and environmental governance</div> <div>2. Build the momentum of financial disclosures relating to climate and environmental risks</div>
5. Continue to refine carbon reduction targets	<div>1. Continue to manage and improve air and ground carbon reduction targets</div> <div>2. Strengthen energy-saving and carbon reduction measures, continue to reduce the carbon footprint of operations, and improve ecological benefits</div> <div>3. Participate in the preliminary research of SBT methodology and relevant discussion and cooperation in the international aviation industry</div>
6. Continue to improve the utilization efficiency of environmental resources	<div>1. Improve water resources and waste management</div> <div>2. Implement environmental protection and energy-saving measures and increase resource utilization efficiency</div>
7. Deliberate sustainable aviation fuel (SAF) application strategy	<div>1. Continue to keep abreast of developing trends in sustainable fuels</div> <div>2. Push the industry and the government to develop SAF strategies</div>
8. Create an environmental protection culture inside and outside the Company	<div>1. Continue to support environmental sustainability initiatives at home and abroad</div> <div>2. Create diversified promotion channels and inspire innovative momentum of cooperation inside and outside the Company</div>

2-5

Society




Highlights




22.06 million

Invested TWD 22,068,438 in charity activities throughout 2019.




500 senior citizens

Provided care for 500 disadvantaged senior citizens at four events throughout 2019.




Over 3,200 students

From 2014 to now, CAL's Love All Around team has visited more than 15 cities and countries, 27 villages and towns, and 53 elementary schools as well as social welfare organizations in Taiwan to help 3,207 students.




45,000 students

Sponsored book programs for 102 schools throughout Taiwan to help approximately 45,000 students.




1st Time in GCSA Award

Awarded in the Global Corporate Sustainability Award for the first year.




6th Time in TCSA Award

TCSA / 6th
Awarded in the Taiwan Corporate Sustainability Award for six consecutive years along with five TCSA awards.



3rd Time in TCSA Social Inclusion Award

Awarded in TCSA Social Inclusion Award for three consecutive years.



4th Time Reader's Digest Trusted Brand

Tigerair Taiwan, China Airlines Group's subsidiary, won a Platinum Award in the low-cost carrier category from the Reader's Digest Trusted Brand for four consecutive years, was selected as one of the best enterprises in a 1111 Job Bank online vote, and received an Asia's Top Budget Airlines award in the Now Travel Asia Awards.

Management Approach

GRI 103-1, 103-2, 103-3

Importance of Material Issues

No support from the society, no CAL. What makes CAL successful is the support of the society. 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



- 2020

1. Increasing the porportion of charity event sponsorships

2. Organizing at least one long-term education charity project
- 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 — Social 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 Communications Office** — E-Mail: tpcpp@china-airlines.com



Stakeholder Contact



Investors Service Website

Objectives and Plans

Direction	KPI	2019			2020 Objectives
		Objectives	Performance	Achievement (Note 4)	
Enhance the overall quality of national education	Increase education resource rates	Increasing investment in education resources and learning opportunities for disadvantaged students	10% (Note 1)	100%	Organizing at least one long-term education charity project
	Number of discounted tickets bought by domestic and international students	Publicizing student flight ticket and increasing opportunities for international education	823 domestic and international students (Note 2)	No	Continuing to publicize student flight ticket and increasing opportunities for international education
Raise Taiwan's visibility in the world	Increase the number of sponsoring international activities	Increasing international visibility of local brands and CAL	Sponsored 30 international Activities (including 123 flight tickets)	100%	Using CAL resources to promote local brands, and increasing international visibility of both local brands and CAL
Empower the disadvantaged to gain equal social opportunities	Increase level of sponsorship in charity events	Increasing the charity event sponsorship rate to 15%, to make development resources available for the disadvantaged	17% (Note 3)	100%	Increasing the proportion of charity event sponsorships to 20%, to empower the disadvantaged to gain equal social opportunities

Note 1: In 2019, CAL sponsored 69 projects, of which 7 projects were educational, accounting for 10% of total sponsorship.

Note 2: According to statistics on the Company website, the sales of student tickets in 2019 decreased by 1,995 due to changes in the aviation market.

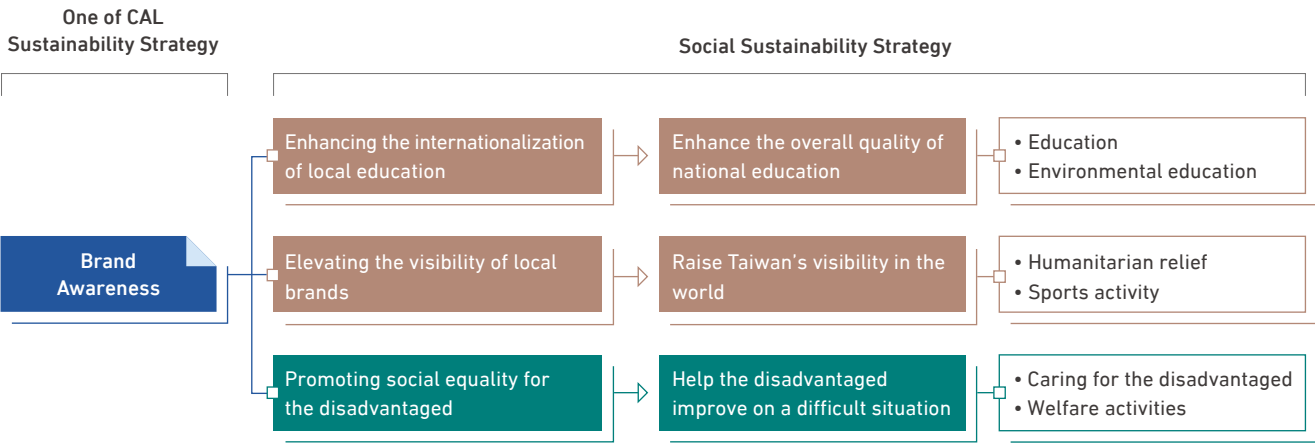
Note 3: In 2019, CAL sponsored 69 projects, of which 12 projects were charity events, accounting for 17% of overall sponsorships.

Note 4: Achievement refers to the performance fulfillment percentage.

2-5-1 Social Sustainability Strategy

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 corporate sustainability. In 2019, CAL focuses its sustainability strategy on brand awareness through enhancing the internationalization of local education and elevating the visibility of local brands. With the strategy to promote social equality for the disadvantaged as the primary goal, CAL hopes to benefit society by improving the overall quality of national education, learning resources in remote areas, and visibility of local brands in Taiwan.

CAL Social Sustainability Strategy



2-5-2 Enhancing the Internationalization of Local Education

CAL is committed to social welfare and giving back to society with our group resources. CAL has promoted education for many years, to ensure substantial improvement in children's education while continuing to pay close attention to environmental issues in hopes of creating a virtuous social development cycle.

Theme	Item	2019 Performance	
		Number of Participants / Beneficiaries	Amount Invested (TWD)
Education	Educational exchange activity; volunteer teaching program; knowledge-sharing platform at elementary schools; flight camp	45,578	566,362
Environmental Sustainability	Coastal cleanup	552	1,251,119
	Corporate animal adoption plan	-	470,000

Note: The above items and results are not limited to Mandarin Airlines and Tigerair Taiwan.

Education

CAL firmly believes that education is fundamental to the development of potential talents. Based on the spirit of giving back to society and caring for the disadvantaged, CAL has cultivated schoolchildren's reading habits through the volunteer teaching program since 2010.

Beginning in 2013, CAL has also established long-term partnerships with colleges and universities in Taiwan to provide opportunities for learning expertise and hands-on practice, in the hope of improving industry and academia cooperation and to reach the ultimate goal of achieving talent cultivation.

Educational Exchange Activity

To empower students in remote areas to dream big, Mandarin Airlines launched a Dream Big charity event, where students from Tafalong Elementary School in Hualien and the Chin-ai Music Orchestra in Nantou flew with Mandarin Airlines to visit each other and have cultural exchanges. All of the students considered it an unforgettable experience.





Volunteer Teaching

Since its founding in 2011, the CAL Volunteer Club addresses itself to supporting the socially disadvantaged. Each year, it teaches aviation knowledge and English at schools in the vicinity to cultivate students' international outlooks. In 2019, 92 volunteers organized 16 sessions at Xihai Elementary School, Zhuwei Elementary School, Shanfeng Elementary School, and Guolin Elementary School in the Dayuan District of Taoyuan. The sessions totaled 32 hours, benefiting 1,106 students. Upholding the spirit of mutual assistance and love, the CAL Volunteer Club gives back to society through concrete action.



CAL volunteers and students



Volunteers show students how to use life vests and oxygen masks

Knowledge-sharing Platform at Elementary Schools

Since 2014, CAL has co-sponsored the Knowledge-sharing Platform Charity Project in partnership with the Global Views Educational Foundation. By giving complimentary Global Kids Junior Monthly subscriptions to elementary school students in Taoyuan City, Taitung County, Nantou County, and Hualien County, CAL helps to foster students' independent reading habits and contributes to children's cultural education. In 2019, around 44,472 students of 102 schools in Taiwan are benefited.

Note: Calculation of beneficiary students = Average students per elementary school from Statistic of Ministry of Education (Taiwan) x Schools donated by CAL

Flight Camp

CAL continued to organize the Mandarin Airlines Flight Camp in 2019 to enable young people to receive cabin crew knowledge in Taiwan.



The Mandarin Airlines Flight Camp promotes cabin crew knowledge in Taiwan



Environmental Education

While pursuing business 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 2019, CAL organized the coastal cleanup at Shalun Beach in Tamsui for the first time, at which a total of 552 CAL employees and their family members participated. CAL also organized a coastal cleanup in Qijin District, Kaohsiung City in order to protect the Earth through concrete action.



CAL supports the International Coastal Cleanup day

Animal Conservation

Mandarin Airlines continued its cooperation with the Taipei Zoo on the Blue-tailed Bee-eater Egg Retrieval and Nurture Project, to airlift blue-tailed bee-eater eggs from Kinmen to Taipei for care. With Mandarin Airlines' support, a group of cute blue-tailed bee-eaters, also called "summer elves," was born in the Taipei Zoo in 2019, then made their first appearance in the Asian Tropical Rainforest Area in July of the same year. Since 2015, Tigerair Taiwan and the Taipei Zoo have worked together to promote the corporate animal adoption program. Under this program, in addition to tigers, Tigerair Taiwan has adopted leopard cats and Formosan clouded leopards for the 2017 to 2021 period, in order to support animal conservation through concrete action. CAL has called on the public to value the conservation of tigers, leopard cats, and Formosan clouded leopards.



Mandarin Airlines assists in airlifting blue-tailed bee-eater eggs from Kinmen to Taipei for nurturing, to take early and effective action

2-5-3 Increasing the International Visibility of Local Brands

Sponsorship	Item	2019 Performance	
		Number of Participants / Beneficiaries	Amount Invested (TWD)
Humanitarian Relief	In-flight physician project	419	None
Athletic sponsorships	Formosa Dreamers; Pauian Archiland Basketball Team; basketball player Jeremy Lin; baseball players Wang Wei-Chung and Chen Wei-Yin; tennis player Tseng Chun-Hsin; 2019 Taiwan Legend Championship; fencer Chen Yi-Tung; volleyball player Huang Pei-Hung; extreme marathoner Tommy Chen; Rising Star RG, etc.	303	5,942,639

Humanitarian Relief

In 2019, CAL continued with the In-flight Physician Project, where flight attendants and medical specialists worked together to provide passengers with better protection during their flights. Since 2017, CAL has had a partnership with Chang Gung Memorial Hospital. In July 2018, CAL further worked with the Taiwan Medical Association and the Pau Jar Charity Foundation to launch the In-flight Physician Project, through which voluntary physicians provided in-flight assistance for flight attendants and ground medical teams, thus helping protect the health of passengers with urgent medical needs. In 2019, Buddhist Tzu Chi Hospital joined the In-flight Physician Project, as the hospital identifies with CAL's philosophy of "compassion for society and benevolence for the country."

Note: The above items and results are not limited to Mandarin Airlines and Tigerair Taiwan.

Sports Activity

CAL has been dedicated to the development of national sports for many years. In 2019, CAL has sponsored a large number of sporting events in hopes of advancing Taiwan's sports environment and promoting Taiwan's international standing. CAL continued to sponsor local teams and players, and helped give many Taiwanese athletes warm welcomes. In the future, CAL will continuously support local sports, activities, and Taiwanese athletes' participation in international events through concrete action.

Sponsorship	Item / Player
Sporting Event	2019 Taiwan Legend Championship
Athletes / Teams	Formosa Dreamers; Pauian Archiland Basketball Team; basketball player Jeremy Lin; baseball players Wang Wei-Chung and Chen Wei-Yin; tennis player Tseng Chun-Hsin; fencer Chen Yi-Tung; volleyball player Huang Pei-Hung; extreme marathoner Tommy Chen; Rising Star RG, etc.

Note: The above items and results are not limited to Mandarin Airlines and Tigerair Taiwan.

Mandarin Airlines also sponsored tickets for Taiwanese baseball star Chen Wei-Yin to participate in a baseball camp held in Taitung. In the event, he taught young players solid basic skills, encouraged them to bravely pursue their dreams, and expressed the hope that they will shine on the international stage and become rising stars.



Chen Wei-Yin flies with Mandarin Airlines to participate in a baseball camp in Taitung



Chen Wei-Yin gives special instruction on pitching skills

2-5-4 Empowering the Disadvantaged to Gain Equal Social Opportunities

As a corporate citizen and a player in the aviation industry, CAL bears responsibilities for social sustainability and economic development. By utilizing our core strengths and capabilities, CAL continues to fulfill our commitment to creating social value.

Theme	Item	2019 Performance	
		Number of Beneficiaries	Amount Invested (TWD)
Caring for the Disadvantaged	Disadvantaged students, seniors and members of the general public	61,448	2,762,036

Note: The above items and results are not limited to Mandarin Airlines and Tigerair Taiwan.

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 fulfill social equality and development through its resources and specializations. This has been done in the hope of helping the disadvantaged to improve their quality of life and their education levels.

Disadvantaged Students and Communities

CAL's Love All Around team consists of CAL employees who volunteer to provide care for schoolchildren in remote areas, and teach children aviation knowledge during employees' days off. Since 2014, they have visited 53 elementary and junior high schools and social welfare organizations in 15 cities / counties and 27 townships across Taiwan, providing care for 3,207 students. CAL employees also teamed up to visit remote schools in Taitung and teach 345 students aviation knowledge, in the hope of cultivating more potential talents. In 2019, our cabin crew organized 15 fundraisers and charity bazaars to provide needed assistance for disadvantaged organizations. There were 58,035 beneficiaries. CAL has been doing our utmost for corporate social responsibility by organizing charity events for schoolchildren in remote areas with associated athletes. In 2019, in addition to the China Airlines 60 to Go Charity Meet & Greet with Jeremy Lin, CAL invited Taiwanese baseball stars Chen Wei-Yin and Wang Wei-Chung to share their experiences at the CAL Baseball Camp. By organizing these charity events, CAL aimed to cultivate Taiwanese rising athletes.



The Love All Around team has warm interactions with students



Participants at the China Airlines 60 to Go Charity Meet & Greet with Jeremy Lin



CAL Baseball Camp cultivates Taiwanese rising athletes



CAL Baseball Camp invited Taiwanese baseball stars Chen Wei-Yin and Wang Wei-Chung to share their experiences



CAL volunteers taught aviation knowledge



CAL sponsored tickets (Taipei-Vienna) for the Flying Fish team from Orchid Island's Yayu Elementary School



Mandarin Airlines has striven to care of the disadvantaged in Hualien and Taitung for many years. In celebration of the 28th anniversary, Mandarin Airlines specially organized a charity bazaar and fair; Mandarin Airlines donated the proceeds, which totaled TWD 100,000 and five boxes of supplies to Hannah's Hope Home in Taitung, in hopes of creating a new home for orphans under 2 years old in Hualien and Taitung.

After more than two years of planning and construction by the Taitung Christian Hospital and partners, the Xinshi Building was officially inaugurated to provide day care for elderly persons with disabilities or dementia and orphans under 2 years old.



Mandarin Airlines donates TWD 100,000 in bazaar proceeds to Hannah's Hope Home



Tigerair Taiwan worked with Taiwan Taoyuan International Airport to organize a two-session flight safety workshop, where the importance of flight safety was explained in simple language to a total of 50 schoolchildren. The event also instilled the concept of safety in the schoolchildren, in hopes that they will fly properly when traveling abroad in the future.



Tigerair Taiwan works with Taiwan Taoyuan International Airport to organize the flight safety workshop

Tigerair Taiwan, the Taiwan Fund for Children and Families, and the Transportation Bureau of Kaohsiung City Government joined forces to launch the Take a Bus for Charity event, in which citizens were encouraged to use public transport during the summer.

Every time a passenger traveled by bus with a registered iPASS during the event, the Transportation Bureau of Kaohsiung City Government donated TWD 1 to the Taiwan Fund for Children and Families to support disadvantaged children. In addition, each participant was entered into a prize drawing for Tigerair Taiwan tickets.



Tigerair Taiwan, the Taiwan Fund for Children and Families, and the Transportation Bureau of Kaohsiung City Government join forces to launch the Take a Bus for Charity event

Accidental fires that happened in some nursing homes caused people to be worried about fire safety in Taiwan's nursing homes. In accordance with laws and regulations, the Genesis Social Welfare Foundation pursued a fire-fighting equipment upgrade plan to make all rooms easily evacuated. To help the Genesis Social Welfare Foundation sell Fire-fighting and Safety Charity Fair passes, Tigerair Taiwan sponsored tickets to attract more participation in the event, greater donations for fire-fighting equipment, and upgrading and making nursing homes safer for people in vegetative states.



Tigerair Taiwan works with the Genesis Social Welfare Foundation to promote the Fire Fighting and Safety Charity Fair

Senior Citizens

Upholding the spirit of "treating our family elders as they ought to be treated, as well as the elders of others," we have long partnered with the Huashan Social Welfare Foundation to provide care for senior citizens in Taiwan. In 2019, CAL continued to engage in social sustainability by organizing three events (Chinese New Year, Dragon Boat Festival, and Mid-Autumn Festival Celebration) for 400 senior citizens. In addition, our volunteers visited senior citizens and offered them gifts during festivals for delivering care and making them warm-hearted atmosphere in order to enforce the social sustainability.



CAL volunteers participate in the Mid-Autumn Festival Celebration



Volunteers from CAL and the Huashan Social Welfare Foundation with one of the seniors



CAL volunteers participate in the Mid-Autumn Festival Celebration

In 2019, Mandarin Airlines continued to provide care for elderly persons living alone in Nantou County by holding a charity bazaar, at which second-hand clothes, toys, and accessories donated by employees were sold. TWD 90,000 in bazaar proceeds was donated to the Life Reconstruction Association for meal delivery services.



The Life Reconstruction Association delivers meals to elderly persons living alone



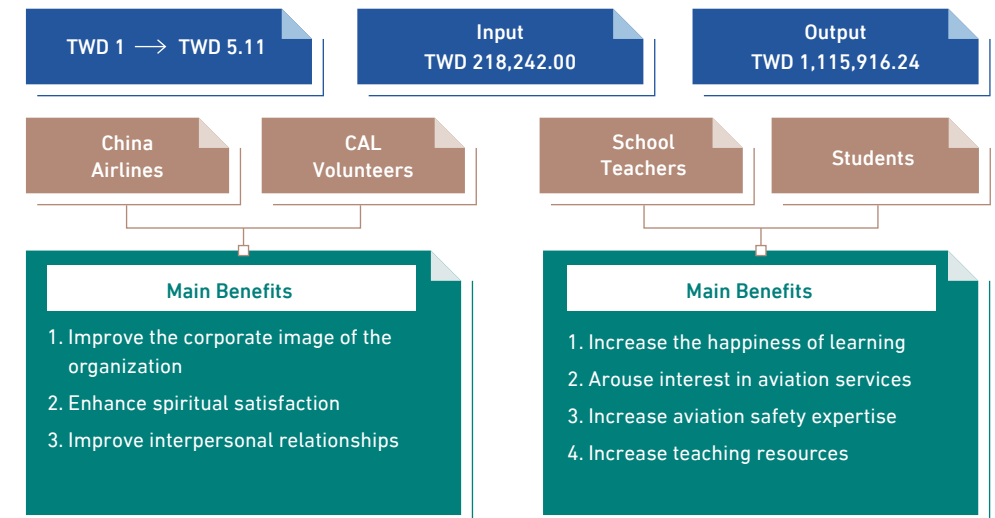
2-5-5 Creating a Sustainable Society GRI 201-1

CAL has long committed ourselves to social welfare and social development with our resources, in the hope of creating a positive cycle of social and business development. For this purpose, CAL conducts quantitative evaluations of our social investment with financial data and makes timely adjustments of social investments based on the results of evaluations, in the hope of achieving social sustainability.

Social Investment Evaluation

CAL has long been enthusiastic about public welfare and giving back to society. Since 2015, it 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. Since 2019, CAL has further introduced the social return on investment (SROI) evaluation method to analyze the resources invested and subsequent benefits, scientifically evaluate the Company's resources, and make the appropriate allocation based on efficiency. CAL has met the expectations of various stakeholders and achieved the true value of creating a sustainable society.

CAL took the 2019 CAL volunteer teaching activity as the target for calculation. According to the SROI evaluation method, the calculation result of this activity is 5.11, which means that for every TWD 1 invested, TWD 5.11 of social benefit can be generated. The volunteer teaching activity not only enriched the existing teaching resources for school teachers but also stimulated students' interest in aviation services. These benefits have echoed CAL's charity development in the cultivation of aviation talents to which CAL has attached great importance for a long time. In the future, CAL will continue to review SROI forecasts as well as feedback and suggestions from stakeholder engagement, while adjusting the resources invested to continuously enhance positive social benefits. The relevant content above is shown in the figure below.





For the contribution to social investments, CAL donated TWD 22,068,438 in 2019. Commercial initiatives, charitable events and community investments represented 70%, 3%, and 27% of our total social investment, respectively. Social investments could be categorized into materials, money, volunteers, and management overhead, which represented 47%, 35%, 4% and 14%, respectively. For more information, refer to the table below.

Type of Social Investment

Item	Amount (TWD)			2019	
	2017	2018	2019	Content	Percentage (%)
Commercial Initiatives	43,119,512	29,560,138	15,384,554	• Supported public forums and cultural events • Sponsored Taiwanese athletes in international events	70
Charitable Events	1,250,200	4,964,813	728,867	• Provided domestic and international disaster relief • Sponsored educational events	3
Community Investments	1,729,703	1,379,995	5,955,017	• Organized supportive events for the disadvantaged • Taught English at elementary schools • Coastal cleanup	27

Input of Social Investment

Program	Amount (TWD)			2019	
	2017	2018	2019	Content	Percentage (%)
Material Donations	17,274,055	18,684,751	10,328,290	Donation of flight tickets and in-flight products	47
Monetary Donations	27,716,057	16,265,200	7,746,631	Cash input for each event	35
Employee Volunteers	367,612	478,800	960,132	Volunteers for park tours, teaching, and coastal cleanup	4
Management Overhead	741,691	476,195	3,033,385	Overhead for various activities	14

Effectiveness of Social Investment

Item	2017	2018	2019
Amount of Social Investments	77,555,512	114,870,682	60,502,597
Number of Beneficiaries	31,641	45,598	162,933
Volume of Media Exposure	214 / Number of Facebook fans: 814,733	192 / Number of Facebook fans: 927,693	196 / Number of Facebook fans: 1,019,990
Number of Flight Tickets Sponsored	271	381	333

Environmental / Social Effectiveness		
Sponsorship	Content / Reach	Amount (TWD)
Other Donations for Art and Charitable Events	2019 Taiwan Lantern Festival; Eden Social Welfare Foundation; Down Syndrome Foundation R.O.C.; 2019 Future Commerce; Huashan Social Welfare Foundation; Make a Wish Association; 2019 Taiwan Plus, etc.	12,132,282
Reunion Event	Approximately 300 beneficiaries	192,236 (Note 1)
Coastal Cleanup at Tamsui's Shalun Beach and in Qijin District, Kaohsiung	Approximately 552 participants	1,251,119 (Note 2)
Aviation English Teaching	1,932 elementary school students	1,352,400 (Note 3)
Knowledge-Sharing Platform Project, Global Kids Junior Monthly, with Global Views	Approximately 44,472 elementary school students	662,400 (Note 4)
CAL Headquarters Visits	1,071 participants	280,000 (Note 5)
Benefits to Business Operations		
Indicator	Content / Reach	Amount (TWD)
Media Exposure	Media reports: 196 Number of Facebook fans: 1,019,990	19,600,000 (Note 6)
Number of Flight Tickets Sponsored	333	10,328,290
Revenue from Flight Tickets Sponsored	Flight tickets sponsored at a discount	3,736,861 (Note 7)
Revenue from Students Flight Tickets	823 student flight tickets	10,967,009

The effectiveness of social involvement is calculated as follows:

Note 1: Meals, and transportation, and miscellaneous fees (TWD182,090) + personnel cost (19 volunteers x TWD178 (average hourly wage) x 3 hours) = TWD10,146.

Note 2: Meals, events, transportation, and miscellaneous fees (TWD517,610) + personnel cost (464 volunteers x TWD178 (average hourly wage) x 58 hours) = TWD279,816.

Note 3: Tuition: TWD350 / lesson (2 hours) per student x 1,932 students = TWD1,352,400.

Note 4: 184 magazines / month subscribed to x TWD300 x 12 months = TWD662,400.

Note 5: 28 visiting fee x TWD10,000 (basic fee per regular visit) = TWD280,000.

Note 6: The benefits from media exposure cannot be estimated and are thus calculated by ad placement: TWD100,000 / ad x 196 ads = TWD19,600,000.

Note 7: Total amount of flight tickets (TWD5,670,324) – discount (TWD1,933,463) = TWD3,736,861 (revenue).

Note 8: As the aforementioned effectiveness of social involvement is hard to quantify, the environmental / social effectiveness is presented by cost.

Future Plans

1. Enhancing the overall quality of national education

In 2019, CAL increased the proportion of our educational investment to 10%. This included sponsoring tickets for Orchid Island's Yayu Elementary School to participate in the International Festival of Children's Folk Ensembles-Festival of the Children of Mountains in Poland, and launching the Knowledge-sharing Platform Charity Project with the Global Views Educational Foundation, to provide more learning opportunities for disadvantaged students. In 2020, CAL will continue to invest in education projects and organize at least one long-term education charity project, to enhance the overall quality of national education. In organizing the volunteer teaching program, CAL will adopt the SROI model to identify and set the primary orientations for social sustainability. To increase opportunities for students to receive international education, CAL plans to take advantage of our aviation resources and develop scholarships or student flight ticket programs within academia-industry partnerships, in the hopes of cultivating potential talents for the aviation industry

2. Increasing Taiwan's international visibility

In 2019, CAL sponsored a number of international exchange activities to effectively promote international visibility for both local brands and CAL, making Taiwan known worldwide through cultural diplomacy. A total of 30 international exchange events and 123 tickets were sponsored by CAL in 2019. In 2020, CAL will continue building on our achievements, and keep increasing Taiwan's international visibility and brand awareness, in order to strengthen Taiwan's international influence and competitiveness through soft power. By sponsoring flight tickets and cooperating with domestic organizations / enterprises, CAL aims to promote economic growth, employment assistance, and social well-being in underdeveloped areas / developing countries, all while increasing the visibility of both local brands and CAL.

3. Helping the disadvantaged overcome difficulties

In 2019, CAL sponsored 69 projects, of which 12 projects were charity events, for an achievement rate of 100%. In 2020, CAL will strengthen cooperation with non-profit organizations / groups to provide equal opportunities for socially disadvantaged persons. CAL aims to increase our charity event sponsorship rate to 20%, in hopes of helping the socially disadvantaged obtain the resources they need and overcome the difficulties they encounter in life. In the future, CAL will work with volunteer associations / international charity organizations to develop long-term, strategic sponsorship plans and action plans. By becoming deeply involved, we will provide comprehensive and uninterrupted assistance, from companionship to capacity building, for the socially disadvantaged.



CHAPTER

3

Sustainability Governance

3-1 Corporate Governance

3-2 Risk Management

3-1 Corporate Governance

Highlights



DJSI / 4th

4th Time selected for DJSI Emerging Markets Index

The only Taiwanese airline selected for DJSI Emerging Markets for four consecutive years and ranked in 3rd place among the world's airlines.



FTSE / 4th

4th Time selected for FTSE4Good Emerging Index

Selected in the FTSE4Good Emerging Index for four consecutive years.



TIP / 2nd

2nd Time selected for FTSE4Good TIP Taiwan ESG Index

Selected in the FTSE4Good TIP Taiwan ESG Index for two consecutive years.



3rd 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 three consecutive years.



Top 5% of TWSE / TPEX listed companies

Ranked in the top 5% of TWSE / TPEX listed companies in the fifth Corporate Governance Evaluation.

3-1-1 Governance Framework GRI 102-5, 102-10, 102-18

Board of Directors

As the highest governing organization at CAL, the Board of Directors is responsible for supervising, resolving on crucial issues, and guiding management, in addition to formulating and complying with policies and rules, in accordance with both laws and regulations, and with the powers granted by the shareholders' meetings. The composition of the Board of Directors is diverse; it is based on talent, regardless of gender, nationality, or race.

A total of eleven directors have been elected to the 21st term Board of Directors, including three independent directors, two of whom are female, with good qualities and expertise or experience in management of international companies. The tenure of the 21st term Board of Directors is three years (from June 27, 2018 to June 26, 2021). CAL convenes Board meetings at least five times every year and may convene extraordinary meetings for important or urgent business needs.

As of 2019, shareholders holding more than 5% of CAL's shares are as follows


Major Shareholder	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	34.45%
National Development Fund, Executive Yuan	Accelerating industrial innovation, economic transformation, and national development	9.59%

Note: For experience / education, concurrent posts, expertise, field of experience, compliance of independence, and the operations of the Board of Directors, refer to the [CAL's Annual Report](#).

Functional Committees of the Board

The Board of Directors has three functional committees: the Remuneration Committee, Audit Committee, and Risk Management Committee. These help the Board of Directors with its supervision and guidance when meetings are convened; 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

Frequency of Meetings : At least once every quarter


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.




Remuneration Committee

Frequency of Meetings : At least twice every year

Responsible for evaluating the overall remuneration and welfare policy for directors and executives on a regular basis.



CAL's Remuneration Committee Charter



Risk Management Committee

Frequency of Meetings : Once every quarter

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, and flight safety.

General Audit Office

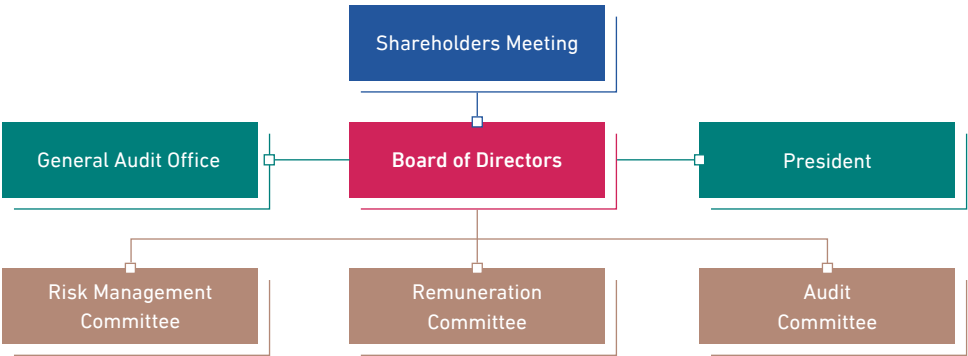
To enforce corporate sustainability, the General Audit Office is responsible for auditing the corporate governance system to prevent fraudulent activities and corruption. The results of audits are continually followed and required to be corrected by the given time limit. The audited cases in 2019 are summarized below by category. All of the cases have been corrected and reported to the General Audit Office for approval.

Audited Cases in 2019

Type of Cases	Number of Cases Audited	Number of Comments	Number of Corrections
Head Office	15	97	97
Branch	51	260	260
Subsidiary	10	61	61
Transaction in Derivative Products	12	None, all complying with regulations	-
Procedures for Lending Funds and Making Endorsements / Guarantees	4	1	1

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



3-1-2 Regulatory Compliance

GRI 102-16, 103-1, 103-2, 103-3, 205-2, 412-2

Internal Regulations and Code of Conduct

As regulatory compliance and integrity are the basis of business management, CAL shapes its corporate culture and value through the formulation of internal regulations and codes of conduct that attach great importance to business integrity. 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 also commits itself to the following 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 political neutral stance and does not make any political contributions, so we have never provided political donations. In addition, the Board of Directors Code of Ethical Conduct and Employee Code of Conduct have been formulated to ensure that both the Board of Directors and employees behave ethically and comply with anti-corruption laws. In 2017, CAL formulated the China Airlines Group Code of Conduct and implemented online training thereof. A total of 6,382 employees attended 3,191 hours of training. In 2018, 4,795 employees attended 2,398 hours of second-phase training. In 2019's third-phase training (flight crew), 1,293 employees did 647 hours of training, for a three-year total of 12,470 trainees and 6,236 training hours and a 98.17% completion rate. In 2020, CAL will continue to implement training for employees who have not completed training. In 2019, we also officially informed our affiliates to organize training on the China Airlines Group Code of Conduct. As suppliers are important partners, CAL also requires that suppliers agree to and implement the Supplier Code of Conduct, which stipulates compliance, anti-corruption, and other concepts.

Note 1: Trainees include separated employees.
Note 2: The completion rate is calculated based on the December 31, 2019 trainee numbers.

List of Internal Regulations

Name	Regulating Object(s)	Objective
Code of Corporate Governance	CAL and its subsidiaries	To establish a sound corporate governance system
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 subsidiaries 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
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 Department, head of Accounting Department, 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

3-2 Risk Management

GRI 102-15

3-2-1 Risk Management Mechanisms GRI 102-11

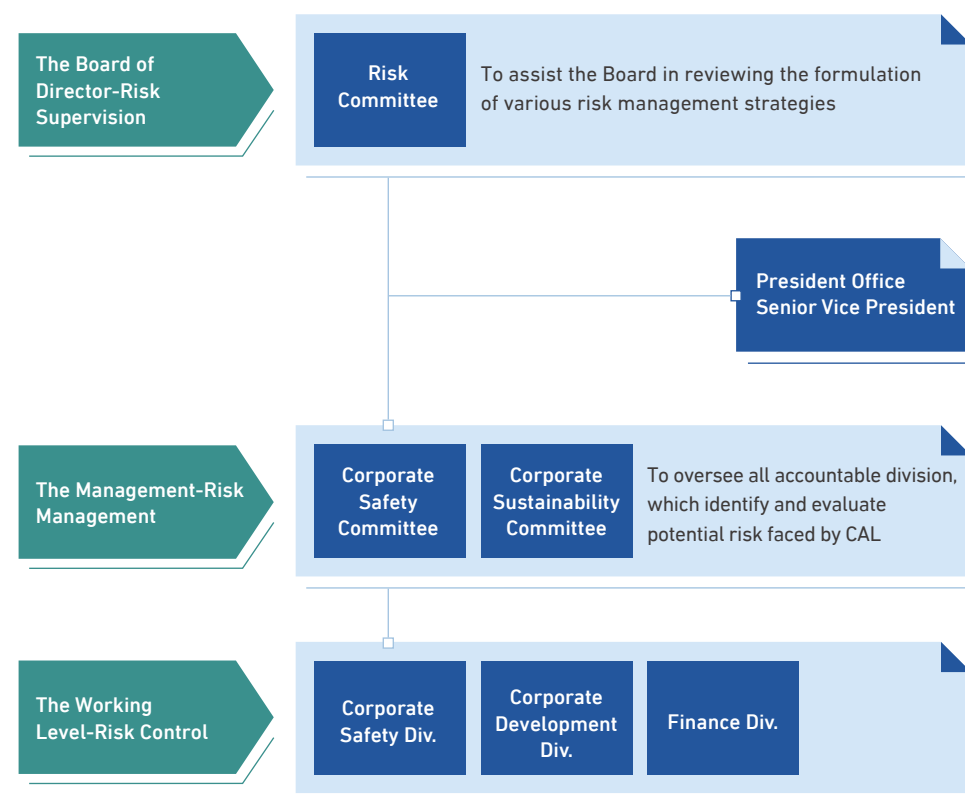
Risk Governance and Structure

Risk management is at the core of a company's sustainable development. Facing increasingly new types of risks, the Board of Directors has set up the Risk Committee to help review the formulation, implementation, and countermeasures of risk management strategies; units in charge are also required to manage and control the major types of risks. In addition, risks involving safety and business operations are at the management level and cross-departmental. The Corporate Safety Committee and the Corporate Sustainability Committee have been established under the President; units in charge are responsible to identify and evaluate potential risks faced by CAL, propose countermeasures, and report results to related committees and meetings on a regular basis. Senior Vice President (Finance) is our highest level in charge of risk management and Senior Vice President (Flight Operation) is our highest level for auditing risk management.

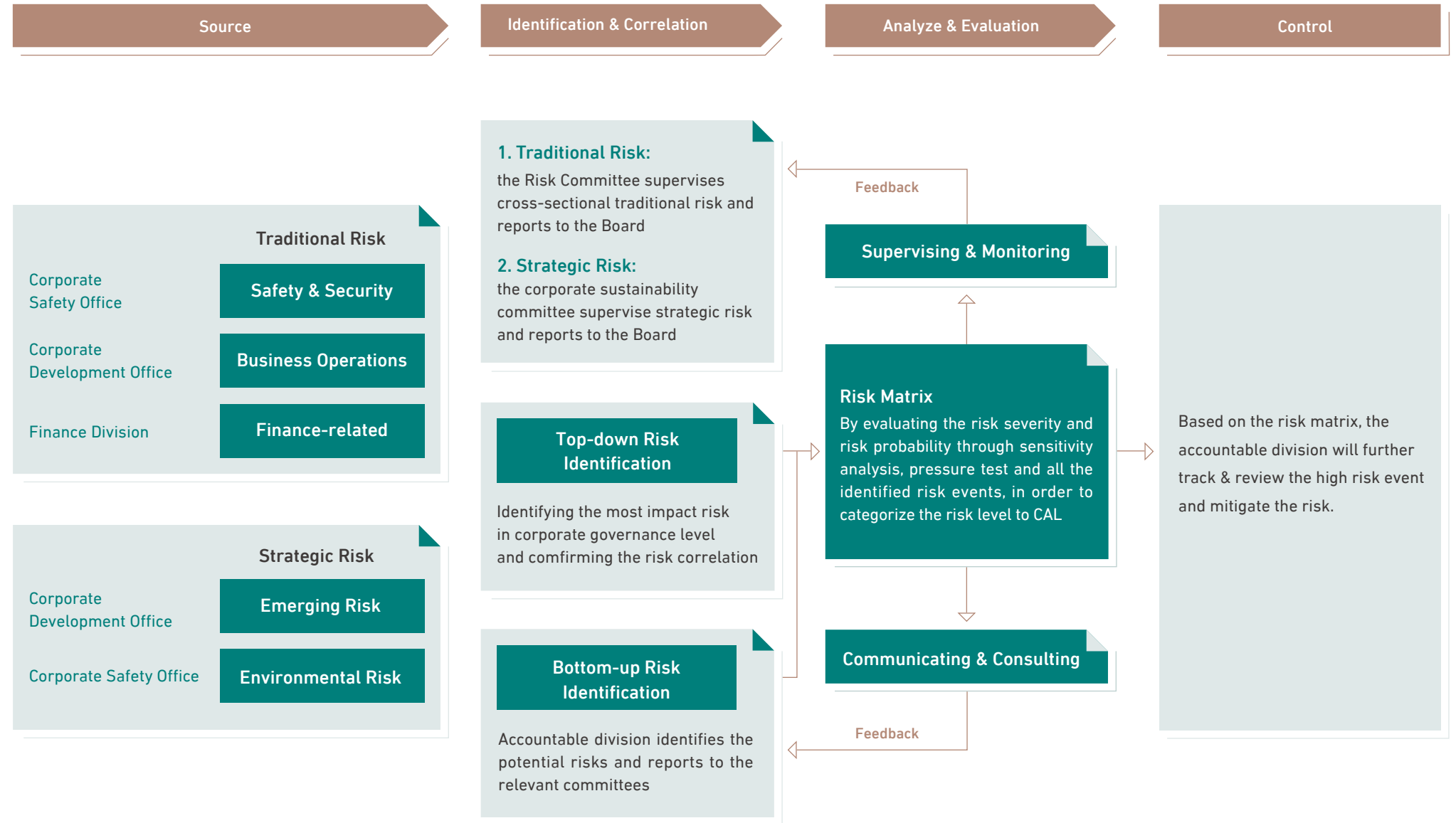
Enterprise Risk Management Framework and Procedures

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. The 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 and the Corporate Sustainability Committee.

Risk Governance and Structure of CAL



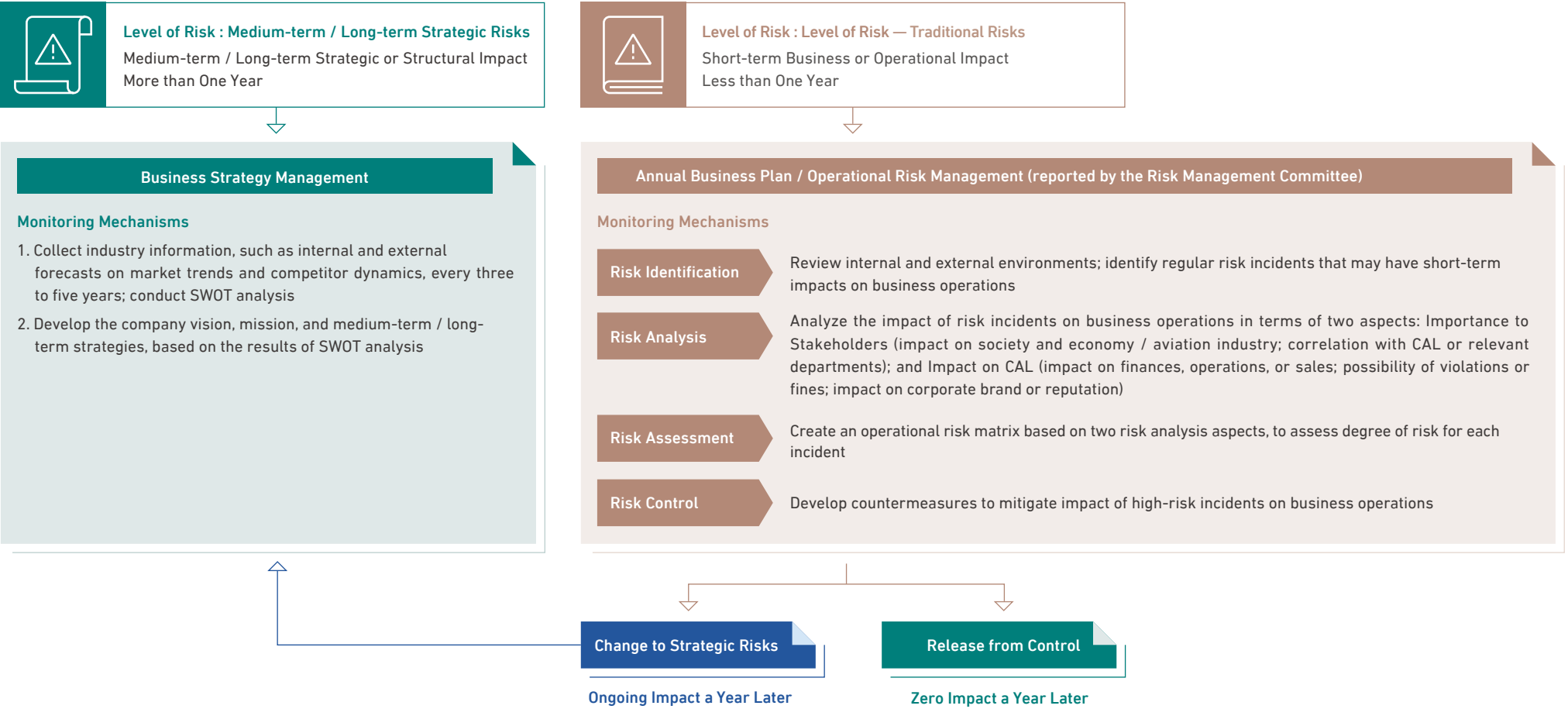
CAL ERM Model and Procedure



3-2-2 Risk Identification and Countermeasures

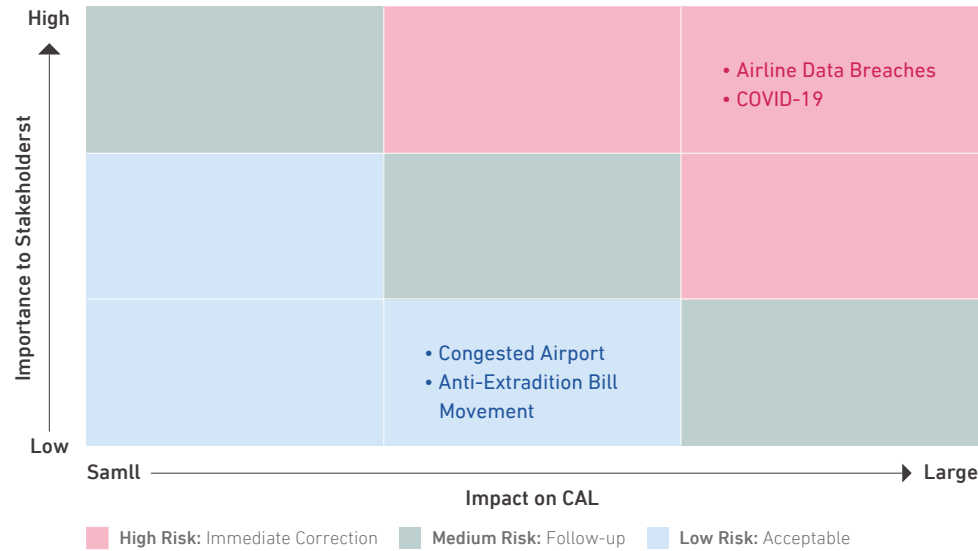
CAL manages risks with consideration of the business environment and daily operations in the aviation industry. Risk incidents have different impacts on business operations, in terms of their regions, degrees, and timeliness; risk incidents fall into certain categories and periods of time. If risks are 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. CAL manages traditional risks — divided into safety, operational, and financial — with the goals of mitigating risks, strengthening resilience to crises, protecting stakeholders' interests, and enhancing corporate sustainability.

1. Safety 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)

2. Business Operational Risk Management

The aviation industry faces an ever-changing business environment. Apart from major political and economic turmoil, internal and external contingencies may also have considerable impact on CAL. 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 risks' impact on the Business Strategies and on the Annual Business Plan. (Refer to 1-1-2 Analysis of Business Environment in the Aviation Industry)

3. Financial Risk Management

Economic and financial situations at home and abroad can also affect CAL's business results. Interest rates, exchange rates, inflation, and fuel represent the major costs to airlines; such costs are very sensitive to external factors and can become quite volatile. Therefore, the Finance Division confines these major costs within a certain range using financial hedging instruments, monitors financial risks on a regular basis, and develops relevant strategies and measures to achieve the goals of financial risk management. (Refer to 1-1-2 Analysis of Business Environment in the Aviation Industry)

Mid-term / Long-term Strategic Risks

Medium-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 develops the company vision, mission, and medium-term / long-term strategies based on the analysis results.

1. Environmental Risk Management

As we are aware of the direct impact and materiality of climate issues in the aviation industry, and in response to the voluntary carbon reduction initiatives of the International Civil Aviation Organization (ICAO), the International Air Transport Association (IATA), and the MOTC Civil Aeronautics Administration, CAL has set three major phased objectives for flight and ground operations. Since 2018, CAL has 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 2-4-2 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: Economic, environmental, geopolitical, social, and technological. 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 likelihood of such risk incidents. In view of this, CAL has incorporated these identified emerging risks within the scope of risk management, and reviews emerging risks on a regular basis, as well as developing relevant countermeasures.

• Anti-Extradition Bill Movement

The Anti-Extradition Bill movement has escalated since June 2019, significantly reducing global tourists' willingness to travel to Hong Kong. In 2019, the number of visitors to Hong Kong was 55.9 million, a decrease of 14.2% year-on-year. In addition to Mainland China, the number of visitors to Hong Kong from around the world declined throughout the year, within Mainland China and short-haul markets falling by 14.2% and 18.6% and the long-haul and

new markets falling by 12.7% to 13.4%, respectively. The number of overnight and same-day travelers also decreased by 18.8% and 10.4%, respectively, throughout the year. The 2019-20 Hong Kong protests had an ongoing impact on airlines' operations. Hong Kong Airlines faced a financial crisis. To reduce costs, Cathay Pacific Airways reduced flights as planned, postponed the delivery of new aircraft, and encouraged its employees to take unpaid leave. The load factor of passenger's flights to / from Hong Kong showed negative year-on-year growth. In the short run, the market situation will remain "challenging and uncertain."

• Outbreak of COVID-19

Considering the outbreaks of severe acute respiratory syndrome (SARS) between 2002 and 2003; Middle East respiratory syndrome coronavirus (MERS-CoV) between 2012 and 2015; Zika virus; Asfarviridae; H5N1; and H1N1, one of the priorities for the aviation industry has to be creating a total epidemic prevention network, providing employees with a healthier and safer work environment, and protecting the health and safety of passengers. As COVID-19 raged, the number of confirmed cases and deaths in China continued to rise, while countries around the world took precaution measures and airlines reduced or cancelled flights to / from China. Cathay Pacific Airways, EVA Air, and Starlux Airlines cancelled more than 750 flights to / from China, Hong Kong, and Macao. As COVID-19's mount higher than SARS, the aviation industry's prospects may remain clouded.

• Airline Data Breaches

In recent years, increased awareness regarding privacy protection and personal data security has made personal data protection a critical focus in business management, both in Taiwan and overseas. Laws such as the European Union's 2018 General Data Protection Regulations (GDPR) and January 2020's California Consumer Privacy Act (CCPA) demonstrate the seriousness with which countries around the world are treating personal data and privacy protection. Under the GDPR, Google's lack of consumer transparency resulted in the company being fined €50 million (c. TWD 1.76 billion) by the CNIL, France's data protection watchdog. British Airways (BA) had security breaches in its website and smartphone app, which resulted in hackers stealing over 500,000 passengers' data.

For this, BA was fined 183 million (c. TWD 6.4 billion) by the UK's Information Commissioner's Office (ICO). Cathay Pacific Airways also experienced a data hack that affected 9.4 million passengers; as a result of this incident, the ICO faulted the company for inadequate information security measures. However, the hack occurred before the GDPR had taken effect, so in accordance with the former Data Protection Act, the penalty was only 500 thousand (c. TWD 19.2 million). To ensure personal privacy and to protect the Company itself, CAL has published the Privacy Protection Policy and the Privacy Protection Statement. These clarify to passengers how their information is collected, and what their rights are under the law. Through these public statements, the Company makes clear our responsibilities for, and emphasis on, personal data protection.

• Congested Airport

Infrastructure is vital to the development of the air transport industry. At present, Taiwan Taoyuan International Airport is already overcapacity, and the construction of Terminal 3 has been delayed. This has had a significant impact on overall tourism, and on inbound and outbound passenger traffic. These factors are keeping civil aviation transport operators from moving ahead, and even aggravating flight delays. As defined by the Worldwide Slot Guidelines (WSG), a total of 198 airports worldwide, including 64 airports in the Asia-Pacific region and North Asia, will be classified as Level 3 overcrowded airports, requiring slot coordination, by the summer of 2020. Taiwan Taoyuan International Airport and major airports in the Asia-Pacific region are on the list, which shows the lack of sufficient air transport infrastructure in the Asia-Pacific region. Airport slots correlate with the expansion of networks and airline routes. Because of the long construction period, it is difficult to address slot coordination in the short run, which is seriously affecting the long-term development of all airlines.



Duty-free Purchase of Cigarettes on the Special Charter Flights

Background

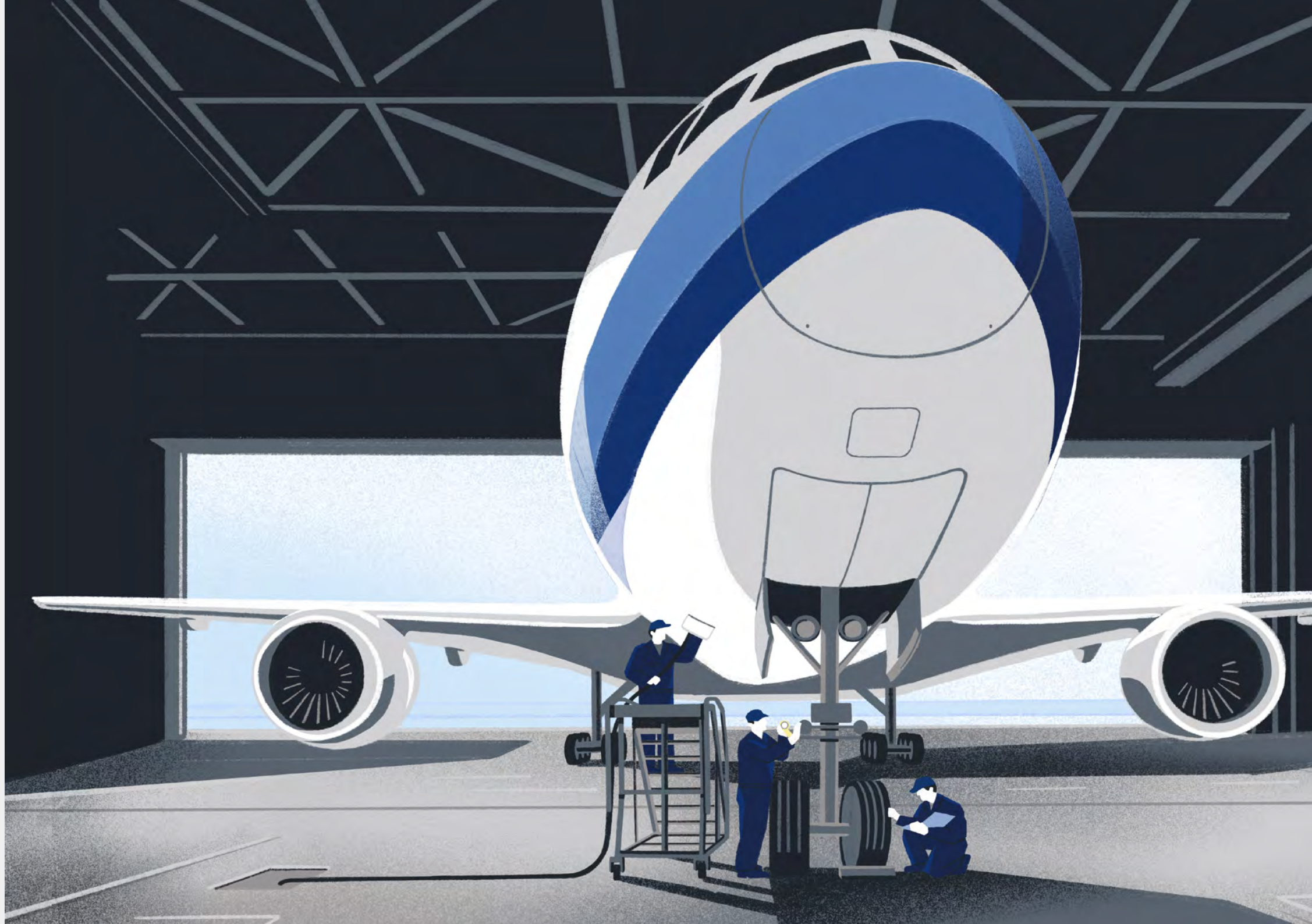
CAL allowed passengers boarding a special charter flight to order duty-free cigarettes beforehand, and delivered the purchases as usual. Several executives and employees of CAL were prosecuted for suspected violations of the Tax Collection Act. The case is currently being tried by the Taiwan Taipei District Court.

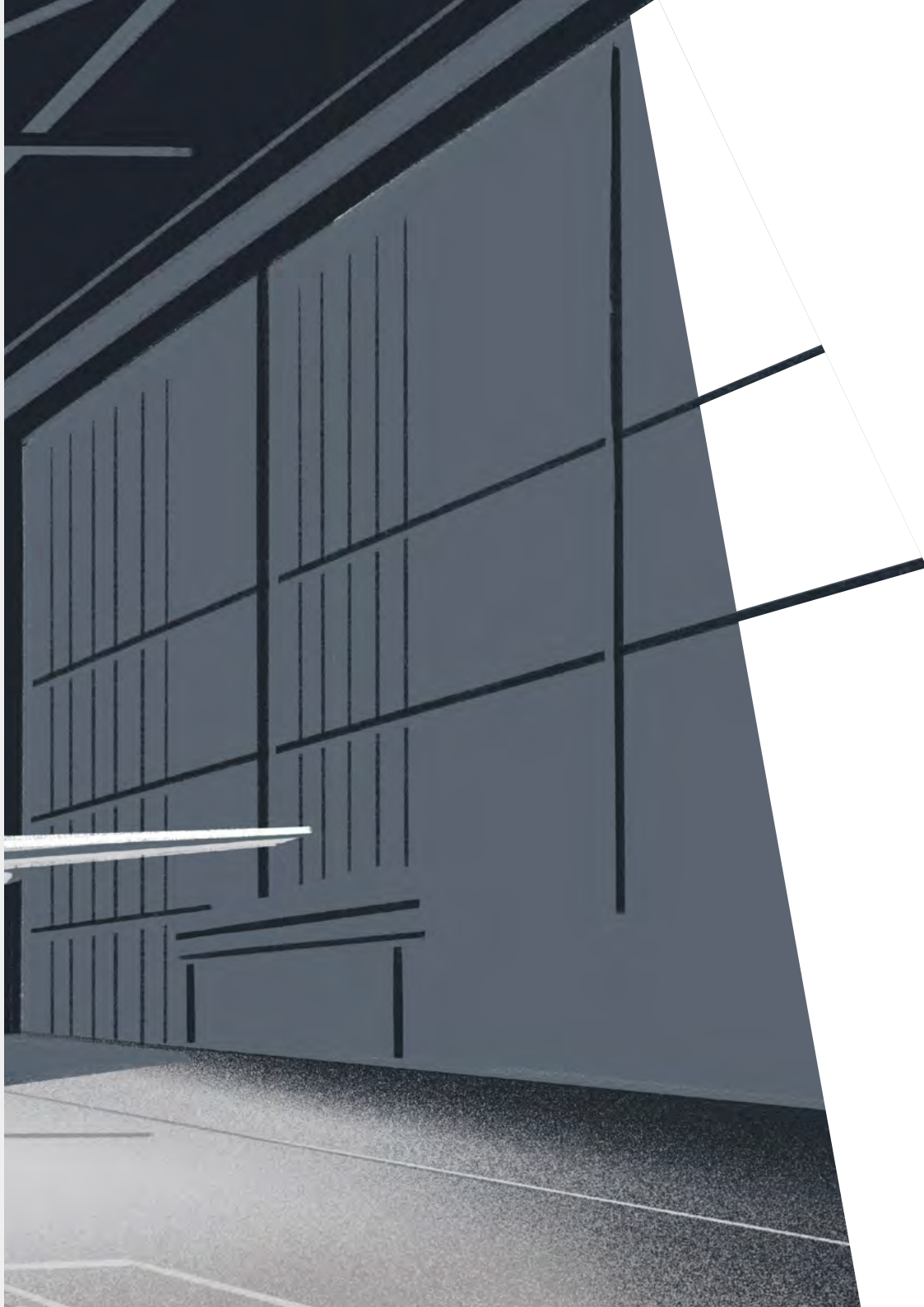
CAL's Action / Clarification

Regarding the duty-free purchases of cigarettes on the special charter flight, CAL initiated an internal investigation on July 22, 2019. The preliminary investigation results have been reported to the Ministry of Transportation and Communications and disclosed to the public.

Correction

In the future, special charter flights will be subject to the same duty-free product regulations as scheduled flights. The quantity of cigarettes loaded will be limited by the total passenger load. Controls on duty-free product quantities for special charter flights have also been set up to ensure that duty-free products are loaded within control limits for spaces, weights, and on-board delivery.





Appendix

- Financial Performance
- Customer Satisfaction Table in 2019
- Management of Material Human Rights Issues in 2019
- Environmental Performance
- GRI Content Index
- The United Nations Global Compact Comparison Table
- Independent Limited Assurance Report

Financial Performance

Five-Year Financial Summary

Consolidated Condensed Balance Sheet — Base on IFRS (CAL Group)

(Unit: TWD thousands)

Year		Financial Summary for the Last Five Years				
		2015	2016	2017	2018	2019
Current assets		45,642,615	47,338,201	47,411,834	52,827,560	51,822,342
Property, Plant and Equipment		129,628,866	140,136,737	153,617,531	163,107,718	145,886,971
Intangible assets		1,009,678	1,137,115	1,019,345	1,210,796	1,182,692
Other assets		45,645,150	35,888,706	23,850,922	12,990,508	94,155,974
Total assets		221,926,309	224,500,759	225,899,632	230,136,582	293,047,979
Current liabilities	Before distribution	68,220,452	68,605,724	60,289,113	60,949,892	76,351,527
	After distribution	70,728,977	68,605,724	61,482,783	62,086,170	-
Non-current liabilities		93,149,314	98,027,837	106,453,000	109,139,606	156,564,335
Total liabilities	Before distribution	161,369,766	166,633,561	166,742,113	170,089,498	232,915,862
	After distribution	163,878,291	166,633,561	167,935,783	171,225,776	-
Equity attributable to shareholders of the parent		58,269,896	55,783,817	57,023,237	57,081,572	56,553,772
Capital stock		54,708,901	54,708,901	54,709,846	54,209,846	54,209,846
Capital surplus		798,415	799,932	799,999	1,241,214	2,488,907
Retained earnings	Before distribution	2,872,235	206,092	1,664,405	1,615,661	-1,297,842
	After distribution	363,710	206,092	470,735	479,383	-
Other equity interest		-66,283	112,264	-107,641	58,223	1,196,233
Treasury shares		-43,372	-43,372	-43,372	-43,372	-43,372
Non-controlling interest		2,286,647	2,083,381	2,134,282	2,965,512	3,578,345
Total equity	Before distribution	60,556,543	57,867,198	59,157,519	60,047,084	60,132,117
	After distribution	58,048,018	57,867,198	57,963,849	58,910,806	-

Consolidated Condensed Statement of Comprehensive Income — Based on IFRS (CAL Group)

(Unit: TWD thousands; EPS (net) = TWD)

Year		Financial Summary for the Last Five Years				
		2015	2016	2017	2018	2019
Revenue		145,056,217	141,079,107	156,121,785	170,711,607	168,444,160
Gross profit		20,268,374	18,005,906	21,972,411	17,207,531	16,686,928
Operating profit (loss)		8,129,197	4,564,687	8,826,160	4,022,383	2,665,821
Non-operating income and expenses		-994,312	-2,684,836	-5,302,197	-941,134	-2,762,638
Pretax profit (loss)		7,134,885	1,879,851	3,523,963	3,081,249	-96,817
Income from operations of continued segments - after tax		5,926,210	710,940	2,490,792	2,272,684	-675,002
Income from discontinued operations		-	-	-	-	-
Net income (loss)		5,926,210	710,940	2,490,792	2,272,684	-675,002
Other comprehensive income (income / loss after taxes)		1,269,760	-681,669	-1,113,176	-578,363	462,758
Total comprehensive gain (loss) for the Year		7,195,970	29,271	1,377,616	1,694,321	-212,244
Net income attributable to shareholders of the parent		5,763,714	571,540	2,208,066	1,790,361	-1,199,798
Net income attributable to non-controlling interest		162,496	139,400	282,726	482,323	524,796
Comprehensive income attributable to shareholders of the parent		7,072,042	26,103	1,240,677	1,258,035	-647,085
Comprehensive income attributable to non-controlling interest		123,928	3,168	136,939	436,286	434,841
Earnings (loss) per share		1.06	0.10	0.40	0.33	-0.22

Individual Condensed Balance Sheet — Based on IFRS (CAL Only) (Unit: TWD thousands)

Year		Financial Summary for the Last Five Years				
		2015	2016	2017	2018	2019
Current assets		37,904,039	39,908,492	37,933,696	42,932,859	40,989,612
Property, Plant and Equipment		118,446,472	129,121,632	142,265,548	149,029,054	131,029,886
Intangible assets		990,307	1,115,101	989,327	979,708	971,298
Other assets		51,802,032	41,394,218	30,729,421	21,972,600	95,885,709
Total assets		209,142,850	211,539,443	211,917,992	214,914,221	268,876,505
Current liabilities	Before distribution	64,725,525	64,339,805	54,925,364	55,179,834	68,000,173
	After distribution	67,234,050	64,339,805	56,119,034	56,316,112	-
Non-current liabilities		86,147,429	91,415,821	99,969,391	102,652,815	144,322,560
Total liabilities	Before distribution	150,872,954	155,755,626	154,894,755	157,832,649	212,322,733
	After distribution	153,381,479	155,755,626	156,088,425	158,968,927	-
Equity attributable to shareholders of the parent		58,269,896	55,783,817	57,023,237	57,081,572	56,553,772
Capital stock		54,708,901	54,708,901	54,709,846	54,209,846	54,209,846
Capital surplus		798,415	799,932	799,999	1,241,214	2,488,907
Retained earnings	Before distribution	2,872,235	206,092	1,664,405	1,615,661	-1,297,842
	After distribution	363,710	206,092	470,735	479,383	-
Other equity interest		-66,283	112,264	-107,641	58,223	1,196,233
Treasury shares		-43,372	-43,372	-43,372	-43,372	-43,372
Non-controlling interest		-	-	-	-	-
Total equity	Before distribution	58,269,896	55,783,817	57,023,237	57,081,572	56,553,772
	After distribution	55,761,371	55,783,817	55,829,567	55,945,294	-

Individual Condensed Statement of Comprehensive Income — Based on IFRS (CAL Only) (Unit: TWD thousands; EPS (net) = TWD)

Year		Financial Summary for the Last Five Years				
		2015	2016	2017	2018	2019
Revenue		133,441,725	127,524,864	139,815,211	150,264,792	146,372,401
Gross profit		17,623,801	15,275,980	17,966,397	12,649,836	11,364,235
Operating profit		7,885,097	4,475,707	7,358,114	1,847,567	80,235
Non-operating income and expenses		-1,047,275	-2,938,456	-4,269,911	468,064	-1,267,561
Pretax profit (loss)		6,837,822	1,537,251	3,088,203	2,315,631	-1,187,326
Income from operations of continued segments-after tax		5,763,714	571,540	2,208,066	1,790,361	-1,199,798
Income from discontinued operations		-	-	-	-	-
Net income (loss)		5,763,714	571,540	2,208,066	1,790,361	-1,199,798
Other comprehensive income (income / loss after taxes)		1,308,328	-545,437	-967,389	-532,326	552,713
Total comprehensive gain (loss) for the year		7,072,042	26,103	1,240,677	1,258,035	-647,085
Net income attributable to shareholders of the parent		1.06	0.10	0.40	0.33	-0.22

Five-Year Financial Analysis

Consolidated Financial Analysis – Based on IFRS (CAL Group)

Item \ Year		Financial Summary for the Last Five Years				
		2015	2016	2017	2018	2019
Financial structure (%)	Debt ratio	72.71	74.22	73.81	73.91	79.48
	Ratio of long-term capital to property, plant and equipment	118.57	111.24	107.81	103.73	148.54
Solvency (%)	Current ratio	66.90	69.00	78.64	86.67	67.87
	Quick ratio	53.06	53.16	59.46	67.50	54.57
	Interest earned ratio (times)	496.25	265.40	369.02	338.05	103.79
Operating performance	Accounts receivable turnover (times)	16.98	17.67	18.40	18.30	18.13
	Average collection period	21.49	20.66	19.84	19.95	20.13
	Inventory turnover (times)	-	-	-	-	-
	Accounts payable turnover (times)	-	-	-	-	-
	Average days in sales	-	-	-	-	-
	Property, plant and equipment turnover (times)	1.07	1.05	1.06	1.08	1.09
	Total assets turnover (times)	0.64	0.63	0.69	0.75	0.64
Profitability	Return on total assets (%)	3.28	0.80	1.60	1.48	0.76
	Return on stockholders' equity (%)	10.63	1.20	4.26	3.81	-1.12
	Pre-tax income to paid-in capital (%)	13.04	3.44	6.44	5.68	-0.18
	Profit ratio (%)	4.09	0.50	1.60	1.33	-0.40
	Earnings per share (NT\$)	1.06	0.10	0.40	0.33	-0.22
Cash flow	Cash flow ratio (%)	46.60	25.71	47.35	44.34	49.15
	Cash flow adequacy ratio (%)	233.25	303.17	351.58	366.94	518.35
	Cash reinvestment ratio (%)	10.56	4.83	8.82	8.17	12.24
Leverage	Operating leverage	3.21	4.99	3.16	6.00	14.20
	Financial leverage	1.28	1.40	1.18	1.52	-3.95

Individual Financial Analysis – Based on IFRS (CAL Only)

Item \ Year		Financial Summary for the Last Five Years				
		2015	2016	2017	2018	2019
Financial structure (%)	Debt ratio	72.14	73.63	73.09	73.44	78.97
	Ratio of long-term capital to property, plant and equipment	121.93	114.00	110.35	107.18	153.31
Solvency (%)	Current ratio	58.56	62.03	69.06	77.81	60.28
	Quick ratio	44.54	45.82	49.03	57.87	45.87
	Interest earned ratio (times)	495.43	246.03	350.56	292.02	60.78
Operating performance	Accounts receivable turnover (times)	15.56	15.92	16.62	16.57	16.72
	Average collection period	23.46	22.92	21.96	22.46	21.83
	Inventory turnover (times)	-	-	-	-	-
	Accounts payable turnover (times)	-	-	-	-	-
	Average days in sales	-	-	-	-	-
	Property, plant and equipment turnover (times)	1.07	1.03	1.03	1.03	1.05
	Total assets turnover (times)	0.62	0.61	0.66	0.70	0.61
Profitability	Return on total assets (%)	3.36	0.75	1.54	1.33	0.51
	Return on stockholders' equity (%)	10.78	1.00	3.91	3.14	-2.11
	Pre-tax income to paid-in capital (%)	12.50	2.81	5.64	4.27	-2.19
	Profit ratio (%)	4.32	0.45	1.58	1.19	-0.82
	Earnings per share (NT\$)	1.06	0.10	0.40	0.33	-0.22
Cash flow	Cash flow ratio (%)	47.38	26.71	47.41	43.61	48.16
	Cash flow adequacy ratio (%)	232.93	309.01	357.86	381.09	557.30
	Cash reinvestment ratio (%)	10.74	4.94	8.48	7.68	11.34
Leverage	Operating leverage	3.15	4.85	3.46	11.25	372.72
	Financial leverage	1.28	1.38	1.21	3.45	-0.03



Customer Satisfaction Table in 2019

Passenger Satisfaction

Item	2017	2018	2019
Yearly Goal (%) (Note)	85.2	85.1	87.2
Passenger Satisfaction (%)	85.1	87.2	87.7

Note: The expected target of passenger satisfaction is the average of the previous year's performance from January to November plus 0.1 to set the next year's target.

Historical Passenger Satisfaction on Service Items

Item	2017	2018	2019	2020 Objectives (Note 1)
Airport Service	87.2	89.0	89.6	89.4
Cabin Crew	86.8	88.9	89.7	89.5
Cabin Environment	86.8	88.7	89.3	89.0
Inflight Catering Service	79.9	82.6	83.1	82.9
Inflight Entertainment	82.7	84.8	85.1	84.9 (Note 2)

Note1: The expected target of historical passenger satisfaction on service items is the average of the previous year's performance from January to November plus 0.1 to set the next year's target.

Note2: The "Reading materials" item in Inflight Entertainment will be excluded in 2020.

Freight Customer Satisfaction

Item	2017	2018	2019
Yearly Goal (%)	88.0	88.0	88.0
Freight Customer Satisfaction (%)	87.6	87.3	88.6

Maintenance Customer Satisfaction

Item	2017	2018	2019 (Note 2)
Yearly Goal (Note 1)	8.40	8.40	8.40
Maintenance Customer Satisfaction	8.77	8.68	8.73

Note 1: The full score is 10.
Note 2: In accordance with the 2019H1 Aircraft Management Committee resolution, maintenance customer satisfaction statistics from 2019 excluding low-cost airline customers.

Management of Material Human Rights Issues in 2019 GRI 412-1

Node of Value Chain		Human Rights Issue	Mitigation Measure	Remedial Measure
Upstream	Supply Chain Partners	Right to privacy	<ul style="list-style-type: none">Formulated a personal information entrustment management procedure to regulate the matters requiring attention and responsibilities for product / service providers (suppliers) entrusted to handle personal data files	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	<ul style="list-style-type: none">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 stipulatedKept abreast of the status of key supplier management through the periodic supply chain sustainability risk survey	
		Right to health	<ul style="list-style-type: none">For suppliers of general goods, there is a clause regarding quality assurance obligation in the purchase contract, stating that the supplier must ensure that its products are not dangerous to safety or health; if the nature of its products is hazardous, warning signs and handling methods should be clearly indicated	

Node of Value Chain		Human Rights Issue	Mitigation Measure	Remedial Measure
Midstream	CAL's Own Operations	Right to privacy	Set up the personal information management system, under which there are procedures for personal information collection, processing, as well as utilization and management	Set up the personal information management system, under which there are procedures for personal information accident management
		Protection of working conditions	<ul style="list-style-type: none">• 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• Held regular labor-management meetings at the headquarters and each unit to negotiate labor conditions and welfare with employee representatives• Formed the parking lot management, catering, pension, and employee welfare committees with employee representatives to protect employees' labor rights and improve the work environment	<ul style="list-style-type: none">• Established diversified grievance channels for prompt and proper response when employees' labor rights are damaged• Operated various committees with employees' participation to communicate on labor conditions, work environment, and workplace safety and to ensure improvements as well as remedial and preventive measures against violations of rights and interests
		Right to health	<ul style="list-style-type: none">• CAL has established the Occupational Safety and Health Committee which meets every three months to review, coordinate, and advise safety and health related issues• CAL has established the ISO 45001: 2018 and TOSHMS occupational safety and health management systems, to perform hazardous risk identification and assessment regularly, and has introduced control measures, including operations / engineering, administration, and employee health management• Organized employee health checks regularly to achieve the goals of early detection, early prevention, and early treatment	<ul style="list-style-type: none">• CAL has conducted statistics and analysis on the Company's occupational incident cases while submitting reports and tracking subsequent safety and health management plans through the operation of the Occupational Safety and Health Committee and the guidance of the ISO 45001: 2018 and TOSHMS occupational safety and health management systems• Formulated a standard report form for major health-check abnormal values to provide employees with health guidance or tracking
Downstream	Customers	Right to privacy	Set up the personal information management system, under which there are procedures for personal information collection, processing, as well as utilization and management	Set up the personal information management system, under which there are procedures for personal information accident management
		Protection of labor conditions	Not applicable	Not applicable
		Right to health	<ul style="list-style-type: none">• On the front of flight safety, CAL implemented a safety management system to prevent potential risks or the impact of dangerous factors through continuous risk identification and management. Established a safety reporting system for all employees to encourage all employees to actively identify possible safety impact factors and to strengthen risk control• In terms of in-flight food safety, CAL has formulated the Caterer Selection Regulations; all local caterers should obtain relevant local food safety certification, to be selected as a supplier of in-flight food	CAL has set up the Flight First-Aid Advisory System; when passengers feel unwell during check-in, boarding, or flight, they can obtain professional medical advice through this system



Environmental Performance

Item		Unit	2016	2017	2018	2019	2019 Compared to 2018	Performance	2019 Objective	Achievement Rate	2020 Objective
Scope 1 GHG Emissions	Flight operations	Tons of CO ₂ e	7,042,520	7,149,309	7,229,903	7,059,083	-2.36%	▲	7,325,326	100.0%	7,161,311
	Ground operations	Tons of CO ₂ e	4,663	5,004	3,511	4,981					
Scope 2 GHG Emissions	Ground operations	Tons of CO ₂ e	20,831	20,677	19,949	18,169	-8.9%	▲	18,170	100.0%	17,308
Scope 3 GHG Emissions (Note 1)	Ground operations	Tons of CO ₂ e	2,070,003	1,627,649	1,644,656	1,607,690	-2.25%	▲	NA	NA	NA
Aviation Fuel Efficiency	All aircraft	Ton	2,225,736	2,259,917	2,284,937	2,230,971	-2.36%	▲	Management by aviation fuel efficiency		
	Sustainable aviation fuel	Ton	NA	6.37	20.4	0	NA	▼	NA	NA	NA
Aviation Fuel Efficiency	Passenger aircraft	L / RPK*100	4.4955	4.2802	4.2187	4.2859	1.59%	▼	4.1554	NA	4.2216
	Freight aircraft	L / FRTK	0.2168	0.2153	0.2142	0.2285	6.57%	▼	0.2110	NA	0.2251
	All aircraft (Note 2)	Tons / thousand RTK	0.2550	0.2433	0.2394	0.2459	2.70%	▼	0.2147	NA	0.2114
Energy Consumption	Fossil fuels	MWh	29,045,588	29,484,167	29,815,419	29,114,586	-2.35%	▲	29,430,994	100%	29,523,064
	Electricity purchased	MWh	39,304	37,344	36,009	34,088	-5.33%	▲			
	Elevator power regeneration	kWh	NA	297	1,061	1,423	34%	▲	Full operation	100%	Full operation
	Renewable energy	MWh	NA	NA	NA	90	NA	▲	90	100%	120

Note 1: The emission of energy activities, lease assets, and employee commuting (1,607,690 tons CO₂e) in 2019 passed external verification.
Note 2: The total aviation fuel consumption of all aircraft fuel efficiency includes training aircraft and maintenance. The fuel consumption of passenger and freight aircraft only includes passenger and freight aircraft fuel.

Item		Unit	2016	2017	2018	2019	2019 Compared to 2018	Performance	2019 Objective	Achievement Rate	2020 Objective
Water Resources	Water consumption	Thousand tons	136.35	141.26	148.22	146.49	-1.17%	▲	147.104	100%	145.993
	Recycled water (Note 3)	Thousand tons	1.59	1.89	31.94	17.41	45%	▼	NA	NA	NA
	Recycling ratio (Note 4)	%	1.17%	1.34%	21.55%	11.88%	-44.87%	▼	NA	NA	NA
	Heavy metal wastewater	Ton	10,667	8,579	10,014	9,620	-3.9%	▲	NA	NA	NA
	Organic wastewater	Ton	15,518	14,647	10,443	11,638	11.44%	▼	NA	NA	NA
Cabin Waste (Note7)	Amount produced (Note 5)	Kg	NA	3,417,870	3,669,703	4,168,857	13.6%	▼	Cabin waste and ground waste (not including waste converted to electricity) totaling 1,049,925 kg	NA	NA
	Amount recycled	Kg	NA	1,068,483	995,369	1,116,396	12.16%	▼			
	Recycling ratio	%	NA	31.26%	27.12%	26.78%	-1.25%	▼			
Ground Waste (Note 6 / Note 7)	General industrial waste / domestic waste	Kg	419,689	456,997	998,518	935,981	-6.26%	▲			Ground waste totaling: 994,653
	Hazardous industrial waste	Kg	13,430	16,758	14,785	17,717	+19.8%	▼			
	Cadmium-containing batteries	Kg	1,920	1,782	1,649	1,098	-33.41%	▲			
	Amount recycled	Kg	NA	NA	456,803	434,648	-4.85%	▼			
	Recycling ratio	%	NA	NA	45.01%	45.52%	1.13%	▲			
NOx	Passenger aircraft	g / RPK	0.0160	0.0152	0.0150	0.0149	-0.81%	▲	0.01477	100%	0.01477
	Freight aircraft	g / RTK	0.0302	0.0294	0.0301	0.0321	6.64%	▼	0.0296	NA	0.0296

Item		Unit	2016	2017	2018	2019	2019 Compared to 2018	Performance	2019 Objective	Achievement Rate	2020 Objective
Plastic Packaging (plastic packaging related to passenger / cargo transport) (Note 8)	Weight of plastic packaging	Tons	979,050	1,025,583	1,126,252	1,165,393	3.5%	▼	NA	NA	NA
	Percentage of purchase of plastic packaging	%	2.54%	2.99%	2.04%	2.26%	10.2%	▼	NA	NA	NA
	Percentage of recyclable plastic packaging	%	58%	61%	55%	52%	-5.5%	▼	NA	NA	NA
	Percentage of biodegradable plastic packaging	%	0.37%	0.36%	0.36%	0.46%	27.8%	▲	NA	NA	NA

Item	Total Weight of Package (ton)	Percentage of Purchase (%) (Note 10)	Percentage of Recycled Materials and Certified Materials (%) (Note 11)
Wood or Paper Packaging (Note 9)	15,700	0.062%	1.15%
Metal Packaging (Note 9)	151.2	0.059%	100%
Glass Packaging (Note 9)	2,822.5	0.022%	100%

Note 3: In 2018, water meters were installed at CAL Park. EMO and CAL Park were included in the calculation of the amount of recycled water. In and before 2017, only EMO was included in the calculation of the amount of recycled water.

Note 4: Recycling ratio = Total amount of recycled water / Total consumption of water resources.

Note 5: Since 2017, the scope of collection has been expanded to include the total amount of cabin waste returned to Taoyuan.

Note 6: The scope of ground operations data from 2016 to 2017 includes EMO and CAL Park. Since 2018, Kaohsiung Branch and VIP rooms of four stations (Taoyuan, Songshan, Kaohsiung, and Tainan) have been included in the scope of ground operations data.

Note 7: The disposal of airborne waste and ground waste (non-recyclable) is entrusted to a third party through the incineration plant converting heat to generate electricity. In 2019, the total amount of airborne waste and ground waste reached 3,685,919, including 2,462,540kg of waste produced from conversion from incineration to electricity and 1,223,379kg of waste produced from incineration and other disposal.

Note 8: 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 9: Wood, paper, metal, glass and other packaging from 2016 to 2018 were included in airborne waste and ground waste.

Note 10: The percentage of purchase is calculated as follows: Purchase amount / Cost of goods sold.

Note 11: 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.

GRI Content Index GRI 102-55

GRI Standard	Disclosure		Page Number & Response
GRI 101: Foundation			
General Disclosures			
GRI 102: General Disclosures	Organizational Profile		
	102-1	Name of the organization	5
	102-2	Activities, brands, products, and services	12
	102-3	Location of headquarters	12
	102-4	Location of operations	12
	102-5	Ownership and legal form	114
	102-6	Markets served	12
	102-7	Scale of the organization	12
	102-8	Information on employees and other workers	53
	102-9	Supply chain	74
	102-10	Significant changes to the organization and its supply chain	114
	102-11	Precautionary principle or approach	117
	102-12	External initiatives	30
	102-13	Membership of associations	30
	Strategy		
	102-14	Statement from senior decision-maker	6
	102-15	Key impacts, risks, and opportunities	117
Ethics and Integrity			
102-16	Values, principles, standards, and norms of behavior	116	

Referred to latest version 2018
(GRI 303 and GRI 403 Referred to latest version 2018, others referred to version 2016)

GRI Standard	Disclosure		Page Number & Response
GRI 102: General Disclosures	Governance		
	102-18	Governance structure	114
	Stakeholder engagement		
	102-40	List of stakeholder groups	28
	102-41	Collective bargaining agreements	62 , 66
	102-42	Identifying and selecting stakeholders	28
	102-43	Approach to stakeholder engagement	28
	102-44	Key topics and concerns raised	28, 36, 41
	Reporting Practice		
	102-45	Entities included in the consolidated financial statements	5
	102-46	Defining report content and topic boundaries	23
	102-47	List of material topics	23
	102-48	Restatements of information	No restatement
	102-49	Changes in reporting	No change
	102-50	Reporting period	5
	102-51	Date of most recent report	5
	102-52	Reporting cycle	5
	102-53	Contact point for questions regarding the report	5
	102-54	Claims of reporting in accordance with the GRI Standards	5
	102-55	GRI content index	132
	102-56	External assurance	5

GRI Standard	Disclosure		Page Number & Response
Material Topics			
Economic			
GRI 103: Management Approach	103-1	Explanation of the material topic and its Boundary	23, 35, 48, 72, 79, 103, 116
	103-2	The management approach and its components	35, 48, 72, 79, 103, 116
	103-3	Evaluation of the management approach	35, 48, 72, 79, 103, 116
GRI 201: Economic Performance	201-1	Direct economic value generated and distributed	13, 109
	201-2	Financial implications and other risks and opportunities due to climate change	86
	201-3	Defined benefit plan obligations and other retirement plans	62
	201-4	Financial assistance received from government	No major financial assistance
GRI 202: Market Presence	202-2	Proportion of senior management hired from the local community	53
GRI 204: Procurement Practices	204-1	Proportion of spending on local suppliers	74
GRI 205: Anti-corruption	205-2	Communication and training about anti-corruption policies and procedures	116
	205-3	Confirmed incidents of corruption and actions taken	No such as things happened
GRI 206: Anti-competitive Behavior	206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	45, 46
Environmental			
GRI 103: Management Approach	103-1	Explanation of the material topic and its Boundary	23 , 72, 79
	103-2	The management approach and its components	72, 79
	103-3	Evaluation of the management approach	72, 79

GRI Standard	Disclosure		Page Number & Response
GRI 301: Materials	301-1	Materials used by weight or volume	92
GRI 302: Energy	302-1	Energy consumption within the organization	97
	302-2	Energy consumption outside of the organization	97
	302-3	Energy intensity	97
	302-4	Reduction of energy consumption	97
	302-5	Reductions in energy requirements of products and services	97
GRI 303: Water	303-1	Water withdrawal by source	93
	303-2	Management of water discharge-related impacts	92
	303-3	Water withdrawal	92
	303-4	Water discharge	92
	303-5	Water consumption	92
GRI 305: Emissions	305-1	Direct (Scope 1) GHG emissions	97
	305-2	Energy indirect (Scope 2) GHG emissions	97
	305-3	Other indirect (Scope 3) GHG emissions	97
	305-4	GHG emissions intensity	97
	305-5	Reduction of GHG emissions	97
GRI 306: Effluents and Waste	305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	94
	306-1	Water discharge by quality and destination	93
	306-2	Waste by type and disposal method	95
GRI 307: Environmental Compliance	306-3	Significant spills	No significant spills
	307-1	Non-compliance with environmental laws and regulations	No such as things happened
GRI 308: Supplier Environmental Assessment	308-2	Negative environmental impacts in the supply chain and actions taken	74

GRI Standard	Disclosure		Page Number & Response
Social			
GRI 103: Management Approach	103-1	Explanation of the material topic and its Boundary	23 , 35, 48, 72, 103
	103-2	The management approach and its components	35, 48, 72, 103
	103-3	Evaluation of the management approach	35, 48, 72, 103
GRI 401: Employment	401-1	New employee hires and employee turnover	53
	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	62
	401-3	Parental leave	62
GRI 402: Labor / Management Relations	402-1	Minimum notice periods regarding operational changes	62
GRI 403: Occupational Health and Safety	403-1	Workers representation in formal joint management – worker health and safety committees	68
	403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	68
	403-8	Workers covered by an occupational health and safety management system	68
	403-9	Work-related injuries	68
	403-10	Work-related ill health	68
GRI 404: Training and Education	404-1	Average hours of training per year per employee	59
	404-2	Programs for upgrading employee skills and transition assistance programs	39, 59
GRI 405: Diversity and Equal Opportunity	405-1	Diversity of governance bodies and employees	53
	405-2	Ratio of basic salary and remuneration of women to men	62
GRI 406: Non-discrimination	406-1	Incidents of discrimination and corrective actions taken	49

GRI Standard	Disclosure		Page Number & Response
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	74
GRI 408: Child Labor	408-1	Operations and suppliers at significant risk for incidents of child labor	No such as things happened
GRI 409: Forced or Compulsory Labor	409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	No such as things happened
GRI 412: Human Rights Assessment	412-1	Operations that have been subject to human rights reviews or impact assessments	49 , 127
	412-2	Employee training on human rights policies or procedures	116
	412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	No such as things happened
GRI 414: Supplier Social Assessment	414-2	Negative social impacts in the supply chain and actions taken	74
GRI 415: Public Policy	415-1	Political contributions	No such as things happened
GRI 418: Customer Privacy	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	45 , 46

The United Nations Global Compact Comparison Table

Category	The Ten Principles of the UN Global Compact	Corresponding Section	Page Number
Human Rights	Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights	2-2-1 Human Rights Management Framework	49-50
	Principle 2: Make sure that they are not complicit in human rights abuses	3-1-2 Regulatory Compliance 2-3-2 Sustainable Supply Chain Management	116 74
Labor	Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining	2-2-1 Human Rights Management Framework	49-50
	Principle 4: The elimination of all forms of forced and compulsory labor	2-2-1 Human Rights Management Framework	49-50
	Principle 5: The effective abolition of child labor	2-2-1 Human Rights Management Framework	49-50
	Principle 6: The elimination of discrimination in respect of employment and occupation	2-2-1 Human Rights Management Framework	49-50
Environment	Principle 7: Businesses should support a precautionary approach to environmental challenges	2-4-2 Climate Change Mitigation and Adaptation	87-91
	Principle 8: Undertake initiatives to promote greater environmental responsibility	2-4-1 Governance of Environmental Sustainability	81-86
	Principle 9: Encourage the development and diffusion of environmentally friendly technologies	2-4-3 Achievements in Environmental Sustainability	92-100
Anti-Corruption	Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery	3-1-2 Regulatory Compliance	116

Independent Limited Assurance Report



安侯建業聯合會計師事務所

KPMG

台北市11049信義路5段7號68樓(台北101大樓)
68F., TAIPEI 101 TOWER, No. 7, Sec. 5,
Xinyi Road, Taipei City 11049, Taiwan (R.O.C.)

Telephone 電話 + 886 2 8101 6666
Fax 傳真 + 886 2 8101 6667
Internet 網址 kpmg.com/tw

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 in Appendix I on the Corporate Social Responsibility Report of CAL ("the Report") for the year ended December 31, 2019.

Reporting Criteria

CAL shall prepare the selected information in accordance with the Core Option of 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 information included in the Report. CAL is also responsible for establishing and maintaining internal controls relevant to the preparation and presentation of the selected information 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 an independence limited assurance conclusion on whether the selected information is free from material misstatement. 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 had a reasonable assurance engagement been performed.

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 Statements of Auditing Standard No. 46 – "Quality Control for Public Accounting Firms" in the Republic of China. Accordingly, we maintained a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements and professional standards as well as applicable legal and regulatory requirements.

~ 1~

KPMG, a Taiwan partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity.



Summary of Work Performed

Our main work on the selected information included:

- Obtaining and reviewing the report of CAL;
- Inquiring with responsible management level and non-management level personnel to understand the operational processes and information systems used to collect and process the information reported.
- Performing analytical procedures on the report, and if necessary, selecting samples, and testing the selected samples, in order to acquire sufficient and appropriate evidence based on the understanding of the above procedures.

The work described above are based on our professional judgment and consideration of the level of assurance and our assessment of the risk of material misstatement of the selected information, 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.

Inherent limitations

The Report for the year ended 2019 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, nothing has come to our attention that causes us to believe that the selected information has not been properly prepared, in all material respects, in accordance with the Reporting Criteria.

Other Matters

The management of CAL is responsible for the maintenance of its website, which according to its report, we shall not be responsible for any further changes on the information or its applicable benchmarks, nor be responsible for reconducting any assurance work after the issuance date of the Report.

Taipei, Taiwan (Republic of China)
June 12, 2020

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.

~1-1~

KPMG			
Appendix I : Summary of the Selected Information :			
No.	Corresponding Section	Selected Information	GRI Standards
1	2-6 Flight Safety, Flight Crew Management, Professional Training and Evaluation (P.39)	<ul style="list-style-type: none"> CAL utilizes the hazard losses and implements risk management mechanisms through three concepts: "Proactive", "Preventive" and "Protective", adopts a complete internal and external environmental change training, such as new stations, new routes, new aircraft, new systems, new procedures, currency proficiency checks, Flight Operation Quality Assurance and regular evaluation of pilot instructors, to enhance pilots of the highest quality and ensure flight safety. Safety Training and Objective Test: CAL has introduced evidence-based training (eBT). CAL has achieved 100% EBT for a total of 2,383 flight crew in 2019. Professional Training Facilities: CAL has been equipped with various types of simulators for flight training. CAL's flight simulators and ground / water escape training facilities have been certified by international aviation administrations. The flight simulators are available for domestic and international training. Competence Training System: In 2019, UN CAL flight crew have participated in a variety of short- and long-term training courses, 113 of whom completed training. In addition, in response to the introduction of an Airline Information Management System (AIMS) in 2019, CAL has undertaken IFPS program to ensure the effective use of training resources. Employee Development Program in 2019: <ul style="list-style-type: none"> (1) Training for Passenger Transport Marketing Personnel <ul style="list-style-type: none"> a. Quantitative Impact of Business Benefits: Due to external impacts such as the China-US trade war, total revenue from passenger and cargo transport decreased by TWD 4.09 billion in 2019 as compared to 2018, but revenue from passenger transport continued to grow, by TWD 1.93 billion. b. Proportion of Employee Participation in the Program: Proportion to total employees: 8.3%. (2) Annual salary re-evaluation of front-line operating units <ul style="list-style-type: none"> a. Quantitative Impact of Business Benefits: "Number of flights in 2019: 18,477; GRI index line in 2019 due to human factors: 1,582/1,554. b. Proportion of Employee Participation in the Program: Proportion to total employees: 30.2%. (3) Regular Service Training <ul style="list-style-type: none"> a. Quantitative Impact of Business Benefits: The customer satisfaction rate of ground services in 2019 is 89.6. The customer satisfaction rate of cabin crew members is 89.7. b. Proportion of Employee Participation in the Program: 1. 	GRI Standards 305-2
2	2-2-3 Employee Development (P.45)	<ul style="list-style-type: none"> (1) Training for Passenger Transport Marketing Personnel <ul style="list-style-type: none"> a. Quantitative Impact of Business Benefits: Due to external impacts such as the China-US trade war, total revenue from passenger and cargo transport decreased by TWD 4.09 billion in 2019 as compared to 2018, but revenue from passenger transport continued to grow, by TWD 1.93 billion. b. Proportion of Employee Participation in the Program: Proportion to total employees: 8.3%. (2) Annual salary re-evaluation of front-line operating units <ul style="list-style-type: none"> a. Quantitative Impact of Business Benefits: "Number of flights in 2019: 18,477; GRI index line in 2019 due to human factors: 1,582/1,554. b. Proportion of Employee Participation in the Program: Proportion to total employees: 30.2%. (3) Regular Service Training <ul style="list-style-type: none"> a. Quantitative Impact of Business Benefits: The customer satisfaction rate of ground services in 2019 is 89.6. The customer satisfaction rate of cabin crew members is 89.7. b. Proportion of Employee Participation in the Program: 1. 	GRI Standards 305-2

-2-

KPMG			
Appendix I : Summary of the Selected Information :			
No.	Corresponding Section	Selected Information	GRI Standards
3	2-2-4 Employee Rights (P.45)	<ul style="list-style-type: none"> Retention Portal (Retirees Association): CAL has initiated its retirees and employees in establishing a global retiree association and the CAL Retiree Portal. Every year, the Retiree Association organizes two to three quarterly activities and one annual gathering to promote interchanges between retirees. CAL also offers grants to the Retiree Association to provide positive activities and encouragement. 	GRI Standards 102-44
4	2-1 Third-Party Objectives and Plans (P.38)	<ul style="list-style-type: none"> Overall Passenger satisfaction: 87.7 Overall Freight Satisfaction: 88.6 Overall Maintenance satisfaction: 8.75 (Note: The full score is 10) 	GRI Standards 102-44
5	2-2-4 Employee Rights, Employee Communication, Labor Union (P.46)	<ul style="list-style-type: none"> In 2019, a total of 15,201 CAL employees participated in CAET, accounting for 96.48% of the total workforce. A total of 831 Mandarin Airlines employees participated in the Mandarin Union, accounting for 90.72% of the total workforce. The coverage rates of CAL and Mandarin Airlines being identical to the aforementioned participation rate. Occupational Health Statistics of CAL Group in 2019: <ul style="list-style-type: none"> A. CAL: <ul style="list-style-type: none"> Number of annual disabling injuries: 62 Absence days of annual disabling injuries: 1,397 FR: 2.35 (Male: 1.60 / Female: 4.50) SR: 66 (Male: 30 / Female: 35) Occupational Disease Rate: 0 Absence Rate: 1.25% (Male: 1.60%; Female: 2.60%) Number of Incidents Resulting in Work-Related Fatalities: 0 FSI: 0.44 B. Taiwan: <ul style="list-style-type: none"> Number of annual disabling injuries: 43 FR: 3.12 SR: 78 Occupational Disease Rate: 0 Absence Rate: 1.82% 	GRI Standards 102-41
6	2-2-4 Employee Rights, Employee Communication, Labor Union (P.46)	<ul style="list-style-type: none"> In 2019, a total of 15,201 CAL employees participated in CAET, accounting for 96.48% of the total workforce. A total of 831 Mandarin Airlines employees participated in the Mandarin Union, accounting for 90.72% of the total workforce. The coverage rates of CAL and Mandarin Airlines being identical to the aforementioned participation rate. Occupational Health Statistics of CAL Group in 2019: <ul style="list-style-type: none"> A. CAL: <ul style="list-style-type: none"> Number of annual disabling injuries: 62 Absence days of annual disabling injuries: 1,397 FR: 2.35 (Male: 1.60 / Female: 4.50) SR: 66 (Male: 30 / Female: 35) Occupational Disease Rate: 0 Absence Rate: 1.25% (Male: 1.60%; Female: 2.60%) Number of Incidents Resulting in Work-Related Fatalities: 0 FSI: 0.44 B. Taiwan: <ul style="list-style-type: none"> Number of annual disabling injuries: 43 FR: 3.12 SR: 78 Occupational Disease Rate: 0 Absence Rate: 1.82% 	GRI Standards 102-41

-3-

KPMG			
Appendix I : Summary of the Selected Information :			
No.	Corresponding Section	Selected Information	GRI Standards
7	2-2-3 Employee Development (P.45)	<ul style="list-style-type: none"> Number of Incidents Resulting in Work-Related Fatalities: 0 Number of annual disabling injuries: 12 FR: 2.32 Occupational Disease Rate: 0 Number of Incidents Resulting in Work-Related Fatalities: 0 FSI: 0.35 	GRI Standards 102-44
8	2-2-3 Employee Development (P.45)	<ul style="list-style-type: none"> Number of annual disabling injuries: 6 FR: 0 Occupational Disease Rate: 0 Number of Incidents Resulting in Work-Related Fatalities: 0 FSI: 0 	GRI Standards 102-44
9	2-2-3 Employee Development (P.45)	<ul style="list-style-type: none"> Number of annual disabling injuries: 6 FR: 0 Occupational Disease Rate: 0 Number of Incidents Resulting in Work-Related Fatalities: 0 FSI: 0 	GRI Standards 102-44

-4-

KPMG			
Appendix I : Summary of the Selected Information :			
No.	Corresponding Section	Selected Information	GRI Standards
10	2-2-3 Employee Development (P.45)	<ul style="list-style-type: none"> Number of annual disabling injuries: 6 FR: 0 Occupational Disease Rate: 0 Number of Incidents Resulting in Work-Related Fatalities: 0 FSI: 0 	GRI Standards 102-44
11	2-2-3 Employee Development (P.45)	<ul style="list-style-type: none"> Number of annual disabling injuries: 6 FR: 0 Occupational Disease Rate: 0 Number of Incidents Resulting in Work-Related Fatalities: 0 FSI: 0 	GRI Standards 102-44

-5-

KPMG			
Appendix I : Summary of the Selected Information :			
No.	Corresponding Section	Selected Information	GRI Standards
12	2-2-3 Employee Development (P.45)	<ul style="list-style-type: none"> Improvement Action: CAL will continuously assess the risks to its suppliers using SAQ in order to review the performance of supply chain sustainability and identify suppliers with high risk. Based on the existing audit system, CAL will seek to understand the supplier's real problems and provide guidance and urge them to take corrective measures; in addition, CAL will keep communicating on sustainable development and urge them to enhance supply chain sustainability. CAL is committed to fulfilling its corporate social responsibility by fostering the development of related industries in Taiwan. Except for services in labor equipment, parts, and operations that are subject to international standards, CAL has managed to source from local suppliers (Taiwan, Penghu, Kinmen, and Matsu) to promote local economy. As a result of the concentrated procurement strategy, the amount of local procurement in 2019 increased by 40% over 2018. In the future, CAL will continue to contribute to local economic development by promoting local procurement. Amount of Local Procurement: TWD 66.43 Million (30%) Number of Local Suppliers: 1,296 (7%) The domestic sewage of CAL is collected and sent to the airport sewage treatment plant for treatment, and non-water is based to be produced in the aircraft maintenance process, which causes heavy damage to the environment and needs to be properly treated before discharge. Based on the concept of full recycling and treatment, CAL has established two wastewater treatment plants in the maintenance park to handle electrolyzing wastewater (containing heavy metals such as chromium and cadmium) produced in the aircraft maintenance process through tertiary treatment prior to discharge into the Nan-Shan river basin (the C water body). In the first line of control, well-qualified employees are trained to carry out the management and regularity monitor the quality of the discharged water as per the regulations of the Environmental Protection Agency (EPA). A second and third-level operation and inspection mechanism has been incorporated into corporate environmental risks for close monitoring. Water Waste Discharge in 2019: <ul style="list-style-type: none"> 1. Heavy Metal Wastewater: 0.629 Tons 2. Organic Wastewater: 11.638 Tons 	GRI Standards 305-2

-6-

KPMG			
Appendix I : Summary of the Selected Information :			
No.	Corresponding Section	Selected Information	GRI Standards
13	2-2-3 Employee Development (P.45)	<ul style="list-style-type: none"> Waste Information in 2019: <ul style="list-style-type: none"> 1. General Operations: (Total: 924,799 kg) <ul style="list-style-type: none"> Domestic Waste: <ul style="list-style-type: none"> Non-recyclable / Incineration: 301,626 kg Recyclable / Recycling Plans: 321,349 kg Industrial Waste: <ul style="list-style-type: none"> Non-hazardous - Reuse/Recycling/Incineration/Burial: 113,019 kg Hazardous - Curing/Burial/Chemical Treatment: 18,815 kg 2. In-flight Services: (Total: 4,168,837 kg) <ul style="list-style-type: none"> General Industrial Waste: (Domestic Waste): <ul style="list-style-type: none"> Non-recyclable / Incineration: 1,302,481 kg Recyclable / Recycling Plans: 1,116,396 kg All waste is cleared by certified third-party waste-disposal companies on a regular basis, keeping a record of disposal in accordance with laws and regulations. All catering waste is incinerated in accordance with international quarantine regulations. Cabin waste and ground waste: Third-party waste disposal companies clear cabin waste and ground waste by the incineration process converting it to generate electricity. In 2019, the total amount of cabin waste and ground waste reached 1,687,929 kg, including 2,862,540 kg of waste converted to electricity and 1,233,380 kg of waste cleaned through incineration or otherwise. 3. In 2019, CAL consumed 146,490,300 liters of water, a decrease of approximately 1.17% compared to 2018. Consumption of Water Resources in 2019: <ul style="list-style-type: none"> 1. Water Consumption: 146.49 Thousand tons 2. Amount Recycled: 17.41 Thousand tons 3. Recycling Rate (Amount Recycled/Consumed): 11.89% 90% and 90% Emissions of CAL Group in 2019: <ul style="list-style-type: none"> (1) Passenger Aircraft: <ul style="list-style-type: none"> SO_x: Emissions: 58.95 Ton NO_x: Emissions: 414.48 Ton CO₂: Emissions: 13,09 Ton SO_x: Emissions: 58.95 Ton NO_x: Emissions: 414.48 Ton CO₂: Emissions: 13,09 Ton (2) Freight Aircraft: <ul style="list-style-type: none"> SO_x: Emissions: 13.09 Ton NO_x: Emissions: 134.48 Ton CO₂: Emissions: 1,687.93 Ton 	GRI Standards 305-2

-7-

KPMG			
No	Corresponding Section	Selected Information	GRI Standards
		(1) Passenger Aircraft : - SO _x : Emissions : 30.61 Ton - NO _x : Emissions efficiency : 0.2076 g/RTK - NO _x : Emissions : 119.11 Ton - NO _x : Emissions efficiency : 2.1677 g/RTK 3. Freight Aircraft (1) Passenger Aircraft : - SO _x : Emissions : 16.19 Ton - NO _x : Emissions efficiency : 0.0199 g/RTK - NO _x : Emissions : 188.72 Ton - NO _x : Emissions efficiency : 0.0181 g/RTK	
		■ CAL has set the Code of Corporate Governance, the Board Directors Code of Ethical Conduct, Economic Code of Ethical Conduct, the Procedure for Handling Material Issue Information, the Ethical Corporate Management Best Practice Principles, and the Procedures for Ethical Management and Guidelines for Conduct.	
	3-1-2 Regulatory Compliance (P.118)	■ A total of 6,382 employees attended 3,191 hours of training. In 2020, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second-phase training. In 2019, 4,795 employees attended 2,781 hours of second	



No. 1, Hangzhan S. Rd., Dayuan Dist.,
Taoyuan City, 33758, Taiwan (R.O.C)

TEL 03-399-8888 FAX 03-399-8570
www.china-airlines.com

