China Airlines Flying a Course towards Sustainability



China Airlines Corporate Sustainability Report



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CHINA AIRLINES 🥳

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O-1 About This Report

Welcome to China Airlines' Sustainability Flight!

China Airlines (hereinafter referred to as "CAL") issues the corporate sustainability report and discloses related information on its <u>CSR website</u> on a regular basis to maintain good and smooth communication with all stakeholders.

With the theme of "A Journey to Sustainability," the corporate sustainability report of 2017 invites all stakeholders to board CAL's " Sustainability Flight." This report takes stakeholders to a journey in which they will obtain in-depth understandings of CAL's practice and performance of corporate social responsibility and sustainable development, allowing them to "Fly a Course towards Sustainability" with CAL.

Cover Story

CAL's new A350-900 in the first light of dawn after flying through the starry clouds. Stars in the layers of clouds are like dedicated CAL employees working in an increasingly competitive aviation market. Breaking through the starry clouds symbolizes flying up constantly through concerted efforts made by all CAL employees. The light of dawn which CAL's A350-900 ushers in is just like warm smiles CAL employees wear along the trajectory of CAL's repeated success in sustainability.

China Airlines Flying a Course towards Sustainability

CHINA AIRLINES CHINA AIRLINES CHINA AIRLINES CHINA AIRLINES



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Reporting Principles & Standard Disclosures GRI 102-54

This report is prepared in accordance with the GRI standards Core Option published by the Global Sustainability Standards Board. The report and the GRI content index are described in the appendix.

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

Report period

The report discloses CAL's information from January 1, 2017, to December 31, 2017; some of major material information up to March 31, 2018, is also reported.

Report boundary

This 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 this report.

Note

China Airlines, Mandarin Airlines, and Tigerair Taiwan account for 97% of the consolidated revenue.

Guarantee of Truthful Reporting GRI 102-56

Internal audit

All data and information disclosed in this report are provided by various departments of CAL, proofread and examined by the Corporate Sustainability Committee, and reported to the Board of Directors according to China Airlines Corporate Social Responsibility and Sustainable Development Best Practice Principles.

External certification

This report has been verified by SGS Taiwan Ltd. in accordance with GRI standards Core Option and the high verification level of AA 1000 AS Type-II. The truthfulness of this report is guaranteed. <u>Please</u> refer to the appendix for the assurance statement.

Data quality

Financial figures in this report and data relating to ISO quality, environmental and energy management, and greenhouse gas emissions have been verified by independent third-party entity.

Financial Data	Deloitte
Quality Management ISO 9001	DNV GL
Environmental Management ISO 14001	DNV GL
Energy Management ISO 50001	DNV GL
Greenhouse Gas ISO 14064-1	DNV GL

Publication History GRI 102-51, 102-52

This report is published in both Chinese and English every year. The dates of release are as follows:

First edition release date	August, 2014
Previous edition release date	June, 2017
Current edition release date	June, 2018
Next edition release date	June, 2019

Feedback GRI 102-1, 102-53

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

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Letter from Management

GRI 102-14



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From our Chairman

The global economy grew steadily with the growth rate of 3% in 2017, in particular, Asia market continued to be a driving force. CAL optimized Group's resource, passenger and freight network and add on new long-haul fleet introduction, turn out remarkable performance. Such excellent performance was credited to our employees, partners, passengers and shareholders. In the face of many challenges, CAL upholds "believing that we can always do better" and takes passengers' safety and employees' rights and interests as our first priority, in hopes of offering better flight experience.

The United Nations declares 2017 as the International Year of Sustainable Tourism for Development. As part of global citizen and corporate citizen in Taiwan, CAL focus on the UN's sustainable development goals (SDGs) and five strategic objectives of the International Civil Aviation Organization (ICAO). With continuous efforts made by the Corporate Sustainability Committee and our employees, CAL reached the following major achievements in 2017: 2nd Inde





Being selected in the FTSE4Good Emerging Index



CAL participated in the CDP for six consecutive years



Winner of Taiwan Corporate Sustainability Awards (TCSA)



Gold winner in Trusted Brand Awards of Reader's Digest Asia for 19 consecutive years



Being selected in Taiwan High Compensation 100 Index and Taiwan Employment Creation 99 Index



Leading Mandarin Airlines to grant the world's first ISO 14067 Carbon Footprint Declaration of Reasonable Assurance and Taiwan CFP Label

CAL includes sustainable development in its long-term development strategies which based on safety and governance and integrated with fleet network, products and services, group business, and brand awareness. It covers 12 directions from the value creation model in terms of Trust, Human resources, Cooperation, Society, and Environment. With an aim of improving environmental, social and governance (ESG) performance, CAL highlights and discloses material issues of stakeholders' concerns, striving to become the preferred airline in Taiwan.

Chairman

nH Ho

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From our President and Chairman of Corporate Sustainability Committee

Safety is CAL's unshrikable responsibility and employees are our most valuable asset. As we are in a highly investing, risky, energy consumption, and competitive market, it is a crucial issue for CAL to reduce environmental impact while creating business benefits and moving toward a sustainable future.

To improve flight experience, CAL has introduced A350-900 fleet and as a replacement for A340. In 2017, CAL passed the IATA Operational Safety Audit, the highest international standard for flight safety, as the seventh time without any finding, observation, or defect. While improving products and services, CAL endeavors to become a happiness enterprise that attaches importance to the friendly workplace, work-life balance, self-care, and communication. CAL was awarded Top 20 Youngsters' Favorite Brands by Cheers.

In terms of environmental sustainability, CAL actively promotes energy conservation and carbon reduction and environmental management. With the effective operation of the Environmental Committee, over 160,000 tons of carbon was reduced in 2017. CAL also sets the target of CO_2 emissions reduction voluntarily to support and fulfill the three targets of IATA.

As a leading carrier in Taiwan's aviation industry, CAL continued to create social value by increasing cooperation with organizations at home and abroad and participating in cultural diplomacy, social development, local practice, and sponsorship in international events, so as to form a positive cycle with our business model. This is the fifth release of CAL's Corporate Sustainability Report. This CS report is compiled in accordance with the core option of GRI Standards. Also we adopt true value to measure externalities generated from CAL's value chain and business activities. External costs and benefits are also quantified as a reference for business decision-making.

Looking to the future, CAL will continuously strengthen aerospace maintenance and e-commerce to form four pillars as passenger transport, freight transport, maintenance, and e-commerce. With integrated group's resources and efforts to increase value for stakeholders and to lead the sustainable development of the aviation industry, further achieving prosperity in both the organization and society.

President

V.C. Hainh





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FTSE4Good

ECONOMIC

1st place

Awards

in Five-Star Service

Won the first place in 2017 Global

Views Monthly Five-Star Service

Awards-International Aviation

Emerging Index Being selected in the FTSE4Good Emerging Index

2017 Key Performance and External Affirmation

2nd time selected in DJSI Emerging Markets Index

One and only Taiwanese airline selected in this index and ranked as 3rd place of air line industry

Top 5 % of TWSE/TPEx listed companies

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

Compensation 100 Index Taiwan EMP 99 Index Selected in the Taiwan Employment

Taiwan HC 100 Index

Selected in the Taiwan High

Selected in the Taiwan Employment Creation 99 Index

> Air Cargo Excellence Awards

Won Air Cargo Excellence Awards of Air Cargo World for the 3rd time

One & Only Taiwanese airline

Tigerair Taiwan was granted Award for Special Contribution to Taiwan Tourism in Japan category by the Tourism Bureau, M.O.T.C. (Taiwan) and won Reader's Digest Trusted Platinum Brand Awards Award in low-cost carrier category



Carbon Footprint Certificate and Taiwan CFP Label

1st airline group granted ISO 14067 Carbon Footprint Certificate and Taiwan CFP Label



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Diamond-level green building

The headquarters was certified Diamond-level Green Building by the Ministry of the Interior.

1st **highest** score in environmental policy and management/reporting of DJSI assessment

CAL was selected in DJSI Emerging Markets Index and ranked the industry's first place in environmental policy and management / reporting.

One & Only Taiwanese airline to sign the Buckingham Palace Declaration

CAL was Taiwan first and only airline to sign Buckingham Palace Declaration against wildlife trafficking

2,300 students

118 people

with disabilities employed

employed 118 people with disabilities.

CAL is the only company in the industry that

received the Golden Wingspan Award. CAL

CAL's Love All Around team visited more than 11 cities in Taiwan and helped approximately 2,300 students

29,000 students

Textbook Sponsorship Program for 64 schools throughout Taiwan to help approximately 29,000 students



46 million

Invested TWD 46,099,415 in charity activities in 2017

TCSA Social Inclusion Award

Received the 2017 Social Inclusion Award of Taiwan Corporate Sustainability Award (TCSA)



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Branch Office Note: Asia (Excluding Taiwan)



Destinations

countries	29	destinations	144

(including the CAL Group and Code-shared Routes)

Passenger Load

China	79.0%	Oceania	79.2%
Hong Kong	76.2%	Americas	81.5%
Northeast Asia	81.8%	Europe	81.7%
Southeast Asia	77.0%		

0-3-1 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, which serves in domestic and regional markets and low-cost international flight service. With a multi-brand strategy, the CAL Group shares resources and increases strength to provide varied services for our customers. Until December 2017, through codeshare agreements with other airlines, the CAL Group has offered flights to/from 29 countries and 144 destinations worldwide.



	CAL	Mandarin Airlines	Tigerair Taiwan
Capital (TWD:billion)	54.7	2	2
Employees	12,645	940	644
Fleet size	100	6	11
Headquarters	Taoyuan	Таіреі	Taipei



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CAL Group's Operation Achievements GRI 201-1

After the cabin crew member strike and rounds of collective bargaining in 2016, CAL management and employees continuously strengthen the operating constitution through a variety of improvement strategies and integration of group business. With excellent performance of China Airlines, Mandarin Airlines and Tigerair Taiwan, the overall business of the Group was improved in 2017. The Group generated TWD 156.12 billion for consolidated operating revenue, which was composed of TWD 102.22 billion from passenger transport, TWD 43.33 billion from freight transport, and TWD 10.57 billion from others. The consolidated net profit before tax was TWD 3.52 which deducted from TWD 53 billion impairment of Assets from selling old aircraft. CAL has profited before tax for three consecutive years.



9.80

145.06

7.13

10.08

141.08

1.88

10.57

156.12

3.52

Other revenue

Pretax profit

Total operating revenue

Individual financial statement

	2015	2016	2017
Operating revenue	133.44	127.52	139.82
Operating cost	115.82	112.25	121.85
Operating expense	9.74	10.80	10.61
Income tax expense	1.07	0.97	0.88
Salary expenses	14.19	14.18	15.18
An analysis of employee benefits expense by function	19.12	19.72	21.22
Post-employment benefits	0.72	1.05	1.24

According to the statistics from Civil Aeronautics Administration, Ministry of Transportation and Communications, The China Airlines Group is the ranking leader in market share on both passenger and freight transport of Taiwan.

2017 Performance of International Passenger and Freight Transport

		Passenger Transport		Freight Transport	
Airline	Flights	Passengers	Market Share	Tonnage	Market Share
China Airlines	75,368	13,654,945	25.9%	900,745.42	38.03%
Mandarin Airlines	24,748	1,365,925	2.51%	17,966.93	0.76%
Tigerair Taiwan	14,828	2,139,446	3.93%	1,244.64	0.05%
Total	114,944	17,160,316	31.53%	919,956.99	38.84%

Unit : TWD billion



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O-3-2 Business Environment in the Airline Industry

International passengers and freight demand heavily rely on the air transport in order to complete their final purpose; therefore, air transport is a derived demand and greatly affected by the changes of socio-political situation and macroeconomic development. According to International Air Transport Association (IATA) statistics, the airline industry transported 4.1 billion passengers and nearly 60 million tons of freight in 2017, which created the value of USD 787 billion and nearly 70 million job opportunities. The airline industry contributed 1.0% of the global GDP in 2017, which reflects that the airline industry stimulates the society and economy development and is the catalyzer to each other. CAL has routinely adjusted our "Sustainability Strategy" by reviewing the business environment in the airline industry, stakeholder engagement and materiality analysis in order to strengthen our long-term development.

Business Opportunities

Airline Market in the Asia Pacific is Booming

According to IATA statistics, the revenue passenger kilometer (RPK) increased by 6.6% and the freight tonne kilometer (FTK) grew by 3.9% in 2017; due to the economic growth in emerging markets and the rise of the middle class, passenger and freight air transport in the Asia Pacific region maintained a growth rate of 9.0% and 3.5% respectively, with the air passenger market growing at a faster pace than other regions worldwide. Looking to 2018, IATA optimistically estimates that the international air passenger market in the Asia Pacific region will increase of 6.0% and 4.5% respectively and the passenger market in the Asia Pacific region will increase of 7.0%. This indicates that the continued growth and demand for developing the air passenger market in the Asia Pacific region are on the rise.

Market Liberalize in Asia Pacific Region

The Freedom of air (is also known as "air traffic right") is critical to the airline network development. Taiwan has entered into the open-skies agreements with the United States, Australia, Singapore, Malaysia, and Thailand. The bilateral air service agreements in Japan, Korea, Vietnam, and Philippines have been liberalize gradually. In addition, the market liberalization has offered existing airlines for additional flights, but also granted the market access to newly established carriers in order to provide consumers more options. Besides, ASEAN has actively entered the ASEAN Multilateral Agreement on Air Service in order to create a single aviation market, which significantly reduces restrictions on airline companies in ASEAN and promotes the growth of airline markets in the Asia Pacific region.

Policy favors the Travel Demand in Taiwan

Facing the regional economic integration and adjustments of strategies for foreign trade, the Taiwanese government has implemented the New Southbound Policy since 2016 which focuses on economic and trade cooperation, talent exchange, resource sharing, and regional connectivity to strengthen the strategic partnership with 10 countries in Southeast Asia, 6 countries in South Asia, Australia and New Zealand, in order to improve trade and tourism in Taiwan. According to the Taiwan Tourism Bureau statistics, the number of foreigners visiting Taiwan increased by 1% in 2017; in particular, the number of visitors from Southeast Asian countries increased by 29%, significantly higher than the overall number of foreigners visiting Taiwan. This shows that the implementation of the New Southbound Policy helped drive the development of the airline industry.

E-commerce gradually Changes the Air Cargo Market

In the 2000s, the Internet gradually matured. The e-commerce models have advanced from portals and search engines to B2B, B2C and 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. According to the report released by Seabury Aviation Consulting in 2017, from 2006 to 2016, international parcels and express deliveries increased by 2.5 times and 1.6 times respectively, higher than other types of freight.



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Business Risks

International Political Tensions and Protectionism

After the World War II ended in 1945, the post-war new order was set by liberalization, privatization, and marketization, further leading to neo-liberalism and globalization in trade, financial and airline markets. Financial risks and the economic inequality were the underlying causes of the Global Financial Crisis in 2008. Afterwards, the protectionism rose as countries intended to protect their own benefits with focus on local demand and supply chains; therefore, multilateral free trade agreements ceased or were postponed. In the long term, protectionism could cause the shrink of international trade and transnational business and thus is a potential risk factor for the development of air passenger and freight transport.

Intense Competition and Emerging Airlines

With a trend of market liberalization in the airline industry, countries have gradually removed their control over airline companies and adopt an open-sky policy. According to IATA and Association of Asia Pacific Airlines (AAPA) statistics, the compound annual growth rate (CAGR) of available seat kilometer (ASK) increased by 6.2% worldwide and by 8.2% in the Asia-Pacific region over the past five years due to the continuous expansion of networks by existing airlines and the rise of emerging airlines. In addition, the competition in the Asia Pacific region was intense in terms of low-cost carriers (LCC), while routes from/to Asia-Pacific and North America and Europe face the emergence of airlines from the Middle East, China, and Southeast Asia. While this innovative business model creates cost advantages and drives new demand, it also battle for existing market share of the existing airlines, causing the passenger yield decreased by 6.4% worldwide and by 7.2% in the Asia Pacific region over the past five years. It has a structured impact on the overall revenue of airlines and the air transport industry.

Congested Airport Capacity

Infrastructure is important for the development of the airline industry. If the airport capacity cannot catch up with the development of the airline industry, it will keep airlines from moving ahead. According to the definition of IATA Worldwide Slot Guidelines (WSG), a total of 203 airports worldwide, including 37 airports in the Asia-Pacific region, is classified as Level 3 overcrowded airports by summer of 2018. Taiwan Taoyuan International Airport and major airports in the Asia Pacific region are included in the list, showing lack of air transport infrastructure investment in the Asia Pacific region. Airport slots correlate with the expansion of networks and routes of airlines. Due to a long period of airport construction, the long-term development of airlines is seriously affected.



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0-3-3 Materiality Analysis and Stakeholder Engagement

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

CAL adopted stakeholders' expectations and options and based on Safety and Governance to combine with Fleet and Network, Product and Service, Group Business, and Brand Awareness as our Sustainability Strategy. CAL sets the following three steps for materiality analysis based on GRI reporting principles (stakeholder inclusiveness, sustainability context, materiality and completeness) to identify 7 material issues of stakeholders' primary concern listed in the materiality matrix and 27 sustainability issues covered; different channels of communication are also established to respond to stakeholders' needs and expectations.

Step 1 Review and Identification	Step 2 Evaluation and Prioritization	Step 3 Validation and Response
GRI Reporting Principles Sustainability context and stakeholder inclusiveness	GRI Reporting Principles Materiality and stakeholder inclusiveness	GRI Reporting Principles Completeness and stakeholder inclusiveness
CAL reviewed new trends of the aviation industry and sustainability and the major events of CAL and the industry in 2017 based on the result of the materiality analysis in 2016 and identified three new issues, namely cross-industry cooperation, identification of emerging risks and trends, and social involvement.	After identifying material issues, CAL evaluated and prioritized by the GRI reporting principles. The stakeholders' level of concern was evaluated based on the result of the survey of material issues in 2016 (totaling 3,624 questionnaires); the level of impact on economy, environment, and society was evaluated based on the internal workshop and the survey (covering 34 members of sustainability task forces). The result of evaluation and prioritization was then	The Corporate Sustainability Committee, the hi governing organization of corporate sustaina reviewed and validated the materiality matrix in and explained the management approach to material issue in each chapter of this report a the <u>CAL's CSR website</u> .
	reviewed and discussed by external experts and	



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Materiality Matrix

Material issues	Sustainability issues covered
Flight Safety	• Flight Safety
Labor/Management Relations	Workplace safety and health Labor/management relations Employee welfare and salary Recruitment and talent retention Human rights Career development and training
Environmental Sustainability	Environmental policy and management system Greenhouse gas and climate change Aircraft fuel efficiency Energy Management Waste management Water resource management Discharging and management of polluted water
Customer Service Management	Passenger service Management Financial performance Antitrust Privacy policy Sustainability Strategy and organization Ethical guidelines Legal compliance Cross-industry cooperation
Risk Management	Risk assessment and management Identification of emerging risk and trend
Brand Image	Brand marketing Social Involvement
Supply Chain Management	Supply Chain Management



Environmental



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Material Issu	es Corresponded	to GRI Standards

				Bound				
Material issues	Corresponding to GRI Topic-specific Standards	Internal Entity (Note)			External Entity			Corresponding chapters / sections
		China Airlines	Mandarin Airlines	Tigerair Taiwan	Govern- ment	Custom- ers	Suppliers	
F	-	•	•	•	0	0		2-1 Trust
	GRI 202 Market Presence			٠		•		
	GRI 401 Employment GRI 402 Labor / Management Relations	•	•	•	0	0		
	GRI 403 Occupational Health and Safety			•	0			2-2 Human resources
	GRI 404 Training and Education	•		•		0		
	GRI 405 Diversity and Equal Opportunity	•	•	٠				
L	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	•	•		0			2-3 Cooperation
	GRI 412 Human Rights Assessment							2-2 Human resources
	GRI 302 Energy	•				0		
	GRI 303 Water	•			•	0		
	GRI 305 Emissions	•	•	•		0		2-4 Environment
E	GRI 306 Effluents and Waste	•			•	0		
	GRI 307 Environmental Compliance	•			•			GRI Content Index



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				Bound				
Material issues	Corresponding to GRI Topic-specific Standards	Internal Entity [Note]			External Entity			Corresponding chapters / sections
			Mandarin Airlines	Tigerair Taiwan	Govern- ment	Custom- ers	Suppliers	
	GRI 201 Economic Performance	•	•	•		0		0-3 About China Airlines
	GRI 205 Anti-corruption GRI 206 Anti-competitive Behavior	•			•	0		GRI Content Index 2-1-2 Customer Service
c	GRI 415 Public Policy	•			•			GRI Content Index
	GRI 418 Customer Privacy	•			•	•		2-1-2 Customer Service
R	GRI 102 General Disclosures: 1. Organizational Profile / 2. Strategy	•			0			0-1 About This Report 0-2 Letter from Management
F	-	•			0	0	0	1-2-1 Vision and Strategies for Sustainable Development 2-5 Society
S	GRI 204 Procurement Practices GRI 308 Supplier Environmental Assessment GRI 414 Supplier Social Assessment	•						2-3 Cooperation

F: Flight Safety L: Labor/Management Relations E: Environmental Sustainability C: Customer Service Management R: Risk Management B:Brand Image S: Supply Chain Management • : Direct influence : Business influence

Note : The disclosure scope of this CSR report mainly focuses on China Airlines. Mandarin Airlines and Tigerair Taiwan only disclose some related performance.

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

In addition to the following seven stakeholders identified in accordance with the principles of AA1000 SES (2011) Stakeholder Engagement Standards, CAL added a new stakeholder, Associations (including Aviation Organizations), based on stakeholders' recommendations and the result of the materiality analysis in 2017. To facilitate effective communication with stakeholders, CAL has set up the <u>Stakeholder Contact</u> on the official website as well as corresponding channels of communication based on the nature and needs of stakeholders.



Stakeholder Contact



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Employee	Customer	Investor Gov	Government		
Material Topics Raised by Stakeholders	Sorted by Level of Concern]				
Communication Channel & Frequency					

:qu icy

Labor meeting	Monthly	Customer satisfaction survey	On demand	Shareholders' meeting	Yearly	Missive	As needed
Labor union	On demand	Global business meeting	Once every year	Shareholders hotline/mailbox	On demand	Visit	As needed
Employee suggestion box	On demand	Discussions with travel agencies	Once every quarter	Road show	Once every three years (once every	Participation in projects	As needed
mployee feedback website	On demand	CAL's website, CSR website,	On demand		year starting from 2018)	Participation in public hearings, seminars, conferences, and	As needed
		Facebook, e-mail, and SMS				negotiation forums	
China Airlines newsletter	On demand	Customer service hotline	On demand	Interview	As needed	Participation in initiative	As needed
China Airlines Retirees	On demand	On-site visit	As needed			Audit	As needed

Key Communication

 Employment and retention of employees Development, rights and interests, and health of employees and safe workplace Communication Result 	 Customer relationship management Protection of customers' rights and interests: privacy, food safety, and in-flight drinking water quality 	 Operating Result Flight safety and passenger transport Risk management model 	 Communication of laws and regulations Sharing of important industry information
The employee satisfaction survey is carried out once every two years. In 2017, the employee satisfaction rate was 6.88 (out of 10).	In 2017, the passenger satisfaction rate, the freight satisfaction rate, and the satisfaction rate of maintenance factories were 85.1%, 87.6%, and 8.77 (out of 10) respectively.	CAL continued to disclose operating results according to the law and needs of investors	 CAL was ranked in the top 5% of TWSE/TPEx listed companies in the fourth Corporate Governance Evaluation Sharing of important industry information
Corresponding Chapter			
2-1 Trust 2-2 Human Resources	2-1 Trust	2-1 Trust 3-1 Corporate Governance	2-1 Trust 2-4 Environment



Partner (Suppliers and Contractors)

Society

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artifer (Suppliers and Contractors)		Society		riculu		Association (including Aviation organizations)		
Aaterial Topics Raise	ed by Stakeholders (So	orted by Level of Concern)				1		
	s Pc						E	
Communication Chan	nnel & Frequency							
Telephone	As needed	Charity Event	As needed	News release	As needed	Participation in project meeting	Monthly, as needed	
E-mail	As needed	Community activity	As needed	Press conference	As needed	Participation in seminars on work	As needed	
Coordination meeting	As needed	News release	As needed every month	Interview	As needed	Organization or participation in summit, executive summit, committee, and coordination meeting	Regularly, as needed	
Business visit	As needed		Daily,	Active communication of		Participation in meetings convened by government	Regularly, as needed	
On-site audit	At least once every six months	- Online mailbox	as needed	industry information	As needed	Telephone, e-mail, and platform	As needed	
Key Communication							·	
Sustainable supply chair	n management	1. Support of social development	nt	Collection of issues of stake		1. Collection of trends at home and abroad a	and promotion of business	

Media

and promotion of transparent communication. operation 2. Assumption of social responsibility 2. Coordination of business relationship and promotion of mutual benefits 3. Creation of social sustainability **Communication Result** A supplier conference was held at the end of In 2017, a total of 23,263 people benefited, 2017. 214 articles of news were released. 1. In 2017, CAL participated in 17 project meetings regarding 2017 reporting a growth of 23% compared to 2016 reporting a growth of 93% compared to 2016 environmental issue 2. CAL held the AAPA President Assembly in Taiwan in November 2017, which was highly recognized 3. CAL participated in meetings and projects organized by international organizations and aviation alliances, such as IATA, SkyTeam and TAA, to strengthen the cooperation with airlines at home and abroad Corresponding Chapter 2-1 Trust 2-2 Human Resources 2-1 Trust 2-2 Human Resources 2-1 Trust 2-4 Environment 2-1 Trust 2-3 Cooperation

F: Flight Safety L: Labor/Management Relations E: Environmental Sustainability C: Customer Service Management R: Risk Management S: Supply Chain Management

Association (including Aviation Organizations)



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Initiative and Membership GRI 102-12, 102-13

Endeavoring to become a leader in Taiwan's aviation industry, CAL actively supports domestic and international standards and statements pertaining to sustainable development, such as the SkyTeam Corporate Social Responsibility Statement and Global Tourism Code of Ethics. In addition, CAL also offers support and assistance to the industry and country's sustainable development by participating in various initiatives and organizations pertaining to transportation and safety. In 2017, CAL spent TWD36.33 million on memberships (TWD33.35 million (92%) in aviation industry development and TWD2.98 million (8%) in corporate sustainable development). The participations are summarized as follows:

Initiatives





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Memberships

International Air Transport Association, IATA

Environment Committee (ENCOM), CSR Task Force, CORSIA, and Air Freight Carbon Footprint Working Group; 2 members and 2 observers 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 an environmental observer to participate in the discussions on environmental protection in the global civil aviation industry and to support survey and research of related environmental issues.

CAL implemented major policy reforms and projects based on the industry trends and updates of international airlines to become the world's leading airline.

Contribution 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.

Association of Asia Pacific Airlines, AAPA

Member of the Executive Committee



Role and Participation

As a founding member of AAPA, CAL has endeavored to connect airlines in the Asia-Pacific region. CAL has also played several important roles in speaking for airlines in the Asia-Pacific region.

Contribution and Benefit

1. In October 2017, CAL organized the AAPA President Assembly with AAPA in Taiwan.

 CAL participated in the discussions about environmental protection, improvement in fuel efficiency, and development of biofuels and provided information for regulators in Taiwan.

Flight Safety Foundation, FSF



Convener of the Technical Regulation Team

Role and Participation

CAL served as the convener of the Technical Regulation Team under the Flight Safety Foundation (FSF) to promote and establish the mechanism for collecting and studying laws and regulations pertaining to international flight safety and environmental protection and to advise on amendments or countermeasures, in hopes of improving national legislation and industrial competitiveness.

Contribution and Benefit

CAL promoted and established the mechanism for collecting and studying laws and regulations pertaining to international flight safety and environmental protection and advised on amendments or countermeasures to improve national legislation and industrial competitiveness.



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Taipei Airlines Association, TAA

Chairman, Secretary General

Role and Participation

It will be normal to promote the development of tourism and travel through nongovernmental organizations in the future. TAA is an important organization of Taiwanese airlines. As a leader in Taiwan's aviation industry, CAL pursued the tenth chairman and the director of TAA to speak for Taiwanese airlines.

Contribution and Benefit

TAA is an important organization of Taiwanese airlines. To bring its effect into full play, CAL pursued the chairman of TAA to address industrial issues and speak for the common interests of Taiwanese airlines.

SkyTeam Directors and supervisors

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 attended working meetings at all levels and annual meetings held by the Supervisory Board and the Governing Board on a regular basis.

LEAM.

× Sp

Contribution and Benefit

Becoming a member of SkyTeam helped CAL consolidate its network in Greater China, where the economy grew increasingly and expanded to global destinations. It also facilitated cooperation with code share carriers, making Taipei an aviation hub connecting major business centers around the world. It has become an important milestone for Taiwan to rank among the leading air transport and commercial hubs in Asia.

Association of Atmosphere Protection in Taiwan, AAPT Director

Role and Participation

CAL acted as one of the directors to help 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.

Contribution 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 Right Management Founding Member

Role and Participation

Established by the Environmental Protection Administration, the Strategic Alliance for Cleaning Development and Carbon Right Management is an information-sharing platform that helps the industry with low-carbon transformation and carbon reduction and promotes industrial cooperation and fulfillment of corporate social responsibilities.

Contribution and Benefit

CAL actively shared its experience and opinions with the industry, the government, and the academia to be aware of trends of carbon management in the international aviation industry and to promote lowcarbon transformation and industrial cooperation.

Center for Corporate Sustainability, CCS 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.

Contribution 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.

CHINA AIRLINES 🛞

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CAL is deeply aware of the continuous and rapid changes of global environment. In the face of such challenging environment, it is CAL's responsibility to make a profit and promote economic, environmental, and social sustainability at national and international levels, and it is also the most important commitment CAL makes to stakeholders. In 2014, CAL established the Corporate sustainability Committee (see the figure below), the highest level of sustainability governing organization chaired by the President, to be responsible for sustainability development.

The committee was organized by six task forces which focus on sustainability improvement/implementation plan. The Committee holds at least two meetings every year and reports the implementation results for the year and the work plan for the following year to the Board of Directors on a regular basis.

The Risk Management Committee under the Board of Directors is then responsible for ruling on issues relevant to sustainability risks as well as opportunities. To improve CAL's competitiveness, the Board of Directors approved the <u>Corporate Social</u> <u>Responsibility and Sustainable Development Best Practice Principles</u> in 2016, which provides the highest guiding principles for the Company's sustainability development and applies to the Company's management of economic, environmental and social risks and effects. There are the progress of sustainability development in 2017: The Chairperson appointed the Corporate Development Office take over the duty of Executive Secretary from Corporate Safety Office.

2 The committee was organized by six task forces based on business unit function and sustainability strategy which are Customer Relation, Human Resource, Supply Chain, Environment, Society and Corporate Governance. The Ground Service Division was included in Supply Chain task force in 2017 by considering labor service cooperation. The task forces are conducted by vice presidents and supervised by senior vice presidents which target to reinforce the relevance between sustainability and business.

3 CAL's sustainability strategy is echo to the UN's Sustainable Development Goals (SDGs).

- CAL participated in initiatives taken by international organizations to learn industry trends and contribute to the amendments to national laws and regulations, further promoting sustainable development.
- 5 CAL updated the Corporate Social Responsibility and Sustainable Development Best Practice Principles according to the latest Corporate Social Responsibility Best Practice Principles released by Taiwan Stock Exchange (TWSE) and the Financial Supervisory Commission.



Corporate Social Responsibility and Sustainable Development Best Practice Principles



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Corporate Sustainability Committee





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1-2-1 Vision and Strategy

Corporate sustainability not only is a strong constitution required to regulate sustainable development, but also maintains the commitment to stakeholders in both the value chain and the industry chain. CAL's vision and core of the sustainable development is to become the preferred airline in Taiwan. CAL's sustainability strategy are based on Safety and Governance with the following focuses: Fleet and Network, Product and Service, Group Business, and Brand Awareness, aligned to governance, environment and society and echo with 9 of UN Sustainable Development Goals (SDGs). Corresponding 12 directions have been established through the value creation model. With the Group's resources and the issues concerned by stakeholders, CAL attempts to improve value of Trust, Human Resources, Cooperation, Society, and Environment.

Core	Sustainability Strategi	es	Echo to UN SDGs		
	Safety	Embed the safety culture into products and services	8 DECENT WORK AND COMMAND GROWTH 13 CLIMATE COMMAND CROWTH COMMAND CROWTH		
	Governance	Root sustainable concept in value chain to make positive influence	4 COUNTY COUNTY 5 COUNTY CO		
	Fleet and Network	Promote highly efficient fleets and network to forward environmental friendliness	6 ALEAN MARTER 7 ATTRAMEENT 8 ESERVITA 13 ACTER 13 ACTER 13 ACTER 14 ACTER		
	Product and Service	Provide services with sustainable value and technology	8 ECCANNE GROWTH ECONOMIC GROWTH INFORMATION INFORMATI		
	Group Business	Spread sustainability to group business to improve cooperation and sustainable development	8 ECCANDIC GROWTH ECCANDIC GROWTH AGREGATION AGREGA		
	Brand Awareness	Promote local brand and transportation friendly	3 GOODHEARTH 		



Sustainability Strategy Framework

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Sustainability Strateg	ies	Direction	Description
C - (-)	1	Flight Safety	Keeping passengers' safety by continuously improving, implementing systematic and instant responses to flight safety, risks and emergencies, to become a trusted airlines
Safety		Training	Upholding the safety quality of CAL's employees through complete, well-designed and continual training programs on flight safety, to root our safety culture and consolidate the core value
Governance	0 2 0	Talent	Creating a diverse and inclusive workplace and providing training and internship opportunities to improve social competitiveness
Governance		Influence	To enhance CAL's influence on the industry by participating in or supporting policies and public initiatives, and adjust and strengthen corporate governance step by step based on international trends
Fleet and	• 7	Efficiency	Creating an extended and efficient air transport network by continuously introducing next-generation fleets to drive business growth and high quality of flight experience
Network		Green Transportation	Improving the efficiency of transportation system to reduce carbon emissions. And to increase employees' awareness of climate change by investing in green services then engage our customers
Product and		Mutual Benefit	Sharing and connecting with other industries to provide customer service with social value
Service		Technology	Optimizing customer experience by applying big data and mobile technology
Group		Multi-brand	With integrating groups' multiple resources and service to expand CAL's competitive advantages step by step. Striving for the same sustainable vision of CAL group
Business		Partnership	Cooperating and growing with group business partner to develop long-term partnership and improve total service quality
Brand		Local Brand	To Deepen the impression of CAL as a local brand by promoting local industries then extend to flight experience
Awareness		Accessibility	Improving the accessibility of the disadvantaged and create diverse flight experience in terms of gender



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1-2-2 Value Creation Model

As a leader in Taiwan's aviation industry, in order to make mutual prosperity with stakeholders, move towards sustainability and endeavor to create the sustainable value for all stakeholders, CAL develops Sustainability Strategy Framework to picture the sustainability context of CAL. To help all stakeholders understand the true value of CAL, CAL discloses its six capitals (Financial, Natural, Manufactured, Intellectual, Human, Social and Relationship) publicly.





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True Value of China Airlines

CAL understands that externality measure is an important basis for valuing a company's true earning and find out potential risks in future operations. Thus, in 2017, CAL introduced the True Value covered three dimensions such as economic value-add, environmental externality and social externality to evaluate its true earning of its overall operation(such as air transport, aviation maintenance, and passenger transport) from the value chain for monetizing the external environment and social costs and benefits. According to the result of the calculation, CAL's true earning in 2017 was around TWD 22 billion, showing an increase of TWD1.27 billion compared to traditional financial performance (EBITA). The benefit (positive) is TWD 17.7 billion more than cost (negative) which is TWD 16.4 billion. Due to the characteristics of the aviation industry, greenhouse gas (GHG) emissions and noise pollution were the main sources to generate the cost (negative). In the future, CAL will continue monitoring and view the True Value as an important tool for enforcing sustainable development.





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The sustainability flight will go through five stations, namely, Trust, Human Resources, Cooperation, Environment, and Society Value to introduce CAL's approaches to sustainability.

SAFETY

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Environment	Society	



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Trust





Over 99% reliability for passenger flights Reliability for passenger flights exceeds 99% in 2017.



Keep enhancing the safety management system in accordance with on international standards of IOSA.



1st seminar of Advanced Safety Management Evaluating for Effectiveness in Taiwan

Held the seminar in cooperation with Taiwan Flight Safety Foundation and UKCAAi.



✓ st **place** in Five-Star Service Awards

Won the first place in 2017 Global Views Monthly Five-Star Service Awards-International Aviation.



73 % achieved

better than the industry average

Had 16 items outperforming the industry average of LOSA*Collaborative Archive (*Note: LOSA contains 22 items.)



nrd time won the award

Won Air Cargo Excellence Awards 2017 of Air Cargo World for the 3rd times



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Importance of Material Issues



Flight Safety Customer Service Risk Management Management

• Flight Safety

Each journey represents the possibility to happiness to every passenger, and zero accident is the baseline to achieve the goal. Thus, providing reliable and safe service is not only the core value of China Airlines, but also our only path towards sustainability.

the quality of transportation plays the key role on the survival of CAL. Moreover, protecting customers' privacy and maintaining the balance of the competitiveness of aviation market are the crucial factors that CAL generates the best service quality. By monitoring the market trend and listening to customers' expectations and feedback, CAL constantly innovates to optimize the guality of transportation service and creates the value of sustainability for customers.

Unit in Charge

Corporate Sustainability Committee-Customer Relation Task Force and Corporate Safety Committee.

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

Commitment and Long-term Goals

Commitment

Flight Safety

Flight safety is not only the core value of CAL, but a tremendously serious promise we make to our passengers. Each flight represents the promise we make to escort our passengers to the destination, and that involves in the possibility to happiness of all the passengers and their families. We view passengers as our families and endeavor hard for them.

Customer Service

By upholding the service idea of "We treasure each encounter", securing the customer right and enforcing the responsibility of maintaining the market competitiveness, CAL commits itself to offering reliable and quality service based on a flight safety and the operation principle of justice and integrity. In addition, CAL always pays attention to international trends and standards for service management and takes into account customer benefit hoping to achieve the corporate mission of "Create more wonderful moments through flying".

13 ACTION

17 PARTNERSHIPS FOR THE GOALS

8

Long-term Goals



11









Integrate weather related risk analysis and contingency measures.

Identify CAL advantages through experience, capabilities and knowledge sharing with Joint Venture (JV) partners.

Examine and streamline working procedure 8 DECENT WORK AND ECONOMIC GROWTH

Management Mechanism

- The meeting of Corporate Sustainability Committee, at least twice a year.
- The meeting of Corporate Safety Committee, every guarter.
- The Quality Review Meeting, every quarter.
- Customer Relation Task Force reports to Corporate Sustainability Committee, every guarter.



Customer Service

As a professional transportation service provider,


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Objectives and Plans

Flight Safety

KPI		2018		
KP1	Objectives	Performance	Achievement	Objectives
Fatal and Hull loss	0	0	100%	0
Runway Excursions	0	0	100%	0
Controlled Flight into Terrain	0	0	100%	0
Loss of Control in Flight	0	0	100%	0

Customer Service

KPI		2018		
	Objectives	Performance	Achievement	Objectives
Overall passenger satisfaction	85.2	85.1	100%	85.2
Overall freight service satisfaction	88.0	87.6	100%	88.0
Overall maintenance satisfaction	8.40	8.77	100%	8.40

Grievance Mechanism

Business Contacts

- Passenger Passenger Branch Office Website : <u>https://goo.gl/3uNFNp</u>
- Cargo Cargo Sales, Marketing & Services Division / E-Mail : <u>tpefqci@china-airlines.com</u>
- Aircraft Maintenance Maintenance Division / E-Mail : <u>emo.customer@china-airlines.com</u>



Stakeholder

Contact

2-1-1 Flight Safety

Safety is the core value of China Airlines, and also our absolute commitment to customers. CAL has initiated the Safety Management System since 2007 to incorporate the concept into the mindset of all employees, requiring them to be thoroughly diligent in their routine operation.



Preparation before Flight

In-Flight

- Engineering and Maintenance Organization Preflight Check
- Flight Opreations Division / System Operation Control Division—Pre-flight inspection by crews, and ensure security status of flight information
- Ground Services Division Ensure Passager safety while boarding
- Cabin Crew Division Cabin safety inspection and safety demonstration
- Cargo Sales & Market, Service Division Baggage and cargo transprortation check
- In-Flight Service Supply Division—Ensure the quality of in-flight meal





Operation after Landing

Engineering and Maintenance Organization—Aircaft maintenance
 Cabin Crew Division—Cabin safety inspection
 Corporate Safety Office—Hold Safety Management System (SMS) activities and safety meeting / Flight data analyis and security inspection



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Safety Management System (SMS)



Safety policy

In compliance with the ICAO Safety Management Manual (SMM), CAL has formulated a safety policy. Moreover, CAL established the Corporate Safety Committee (CSC) and the Airline Safety Review Committee (ASRC) that are under the Risk Management Committee and formed by all related departments to set up the Corporate Safety Manual and specific goals of the safety policy. Every employee, from top management to front-line, shall be fully aware of his/her responsibilities. CAL arranges periodical meetings to examine the progress of KPIs, identifies the trend of risk development, and reviews the implementation of corrective/preventive measures, ensuring that everything is implemented effectively.







Division

 Cargo Sales & Market, Service Division

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Management Structure of Committees for Safety Management



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Safety risk management

CAL had introduced the Aviation Quality Database (AQD) for relevant safety data collection and risk control since 2014. AQD contains the four main functions including hazard reporting, risk management, audit, and data analysis. All employees are able to report findings that may cause impacts on safety in daily work through AQD. Responsible units will review the findings and feedback. Potential risks identified within CAL system such as hazard reports, or from external resource such as international incidents and flight safety announcements made by foreign civil aviation authorities will be assessed through AQD; required mitigation measures will be taken to ensure the severity of risks is effectively reduced to the acceptable level. In 2017, CAL identified risk factors through data analysis that could affect operation, modified procedures and monitored the results by periodically tracking on safety indicators.

According to the overall result in 2017, incidents with medium and high risks, such as runway excursions, controlled flight into terrain, and loss of control in flight did not occur. This reveals that the risk CAL faced were well-controlled. We applied the next-generation SMS and set up the training course on risk management to provide employees a clear concept of how to relate the procedures for risk management to daily operation through group interaction. In 2017, 676 employees completed the training.

Safety assurance

1. Safety performance indicators

CAL sets the safety performance indicators based on the requirements of national civil aviation authorities and international practice to evaluate safety performance. The safety performance indicators are reviewed and discussed in the meetings of the Risk Management Committee, Corporate Safety Committee, Flight Safety Committee, and each safety task force on a regular basis. When there is a warning sign, responsible units need to propose corrective plans, which will be followed upon in the meetings; in addition, indicators and objectives will be adjusted based on the annual review of AQD and foreign flight safety reports. The safety performance indicators in 2018 are set according to the historical data of CAL and the safety reports issued by international organizations and authorities, such as IATA/EASA. Moreover, more indicators such AIRPOX/Near Midair Collision are included in 2018.

2. Self-inspection

To ensure that work performed by all front-line employees is in accordance with operating manuals, each unit is required to carry out a primary self-inspection every twice a year, and the Corporate Safety Office is responsible for carrying out a secondary self-inspection once every year. In compliance with international flight standards, the IATA Operational Safety Audit (IOSA) Checklist is used by professional auditors throughout the self-inspection.

Safety promotion

1. Safety training

All of CAL's newcomers are required to attend the preliminary training on SMS and participate in the recurrent training once every three years. Each year, the Corporate Safety Office will organize the cultivation course for the person in charge of safety promotion in each unit. The Corporate Safety Office also appoints employees to attend courses on flight safety and security organized by Taiwan Flight Safety Foundation.

2. Safety promotion

Since 2016, the Corporate Safety Office had planned annual safety events to enhance all employees' awareness of safety and to inspire them to act safely in a positive way. Safety events in 2017 included the introduction of operation risks, safety drawing with kids competition, safety promotional video competition, case studies, and individual/group competition regarding safety motivation. These events reported a large attendance.



 CAL implements the safety promotion projects every year to enhance all employees' awareness of safety and sets safety as the highest standard



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Fulfill the Just Culture and apply its decision-making tools.

2016

Strengthen employees' awareness of safety.

2017

- Strengthen safety and Just Culture
- Promoted management by walking around (MBWA): To facilitate the interaction between supervisors and outstanding front-line employees, the reward cards were designed in 2017 for outstanding employees; in addition, front-line supervisors with outstanding performance were invited to share their mindset of safety with all employees through the video.
- 2. Held safety events, including three Safety Visit events where supervisors and employees involved in related business interaction.
- Granted Safety awards to three outstanding employees to enhance employees' awareness of safety and supervisors' management in a positive and inspiring way.

2018

Enhance management by communicating with employees in a caring and encouraging way and incorporate the safety policy into each operation.



Each safe journey relies on the cooperation and communication among different departments. In particular, front-line operators including flight crews and personnel in the System Operation Control Division, and Engineering & Maintenance Organization all work closely with each other to ensure safety.

Flight Crew Management

Professional Training and Evaluation

Risks are identified and prevented based on three perspectives: Predictive, Proactive, and Passive. CAL adopts comprehensive training courses on internal and external environmental changes, 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. *FOQA aims to reduce accidents and crashes to improve flight safety through flight information. In other words, it mines routine flying logs and abnormality reports, analyzes the operating characteristics of active fleets, and then conducts an assessment to identify potential risks for correction.

1.Strict Training and Fair Test

Various types of training are offered to the flight crews, including orientation, promotion training, aircraft type training, recurrent training, and annual retraining. In 2017, CAL conducted over 57,598 hours of training on ground services and flight simulators for 1,373 pilots. In recent years, there has been an increasing demand for the flight crews in the airline industry worldwide. CAL also invests TWD 340 million in 2017 on pilot training. CAL introduced Evidence-Based Training (EBT) in 2016. The training and assessment program is characterized by developing and assessing the overall capability of a trainee across a range of competencies rather than measuring the performance of individual events. Through data analysis, the system can suggest the flight crews with the ability operate the aircraft with improved risk-management and crisis-handling skills.

CAL is actively cooperating with EBT Foundation to introduce EBT instructors up to international standards. As of today, CAL has equipped with 121 qualified EBT instructors. On December 26, 2017, CAL received the approval of 5-step process for certification from CAA. Starting from January 1, 2018, CAL will implement the annual evidence-based retraining for the flight crews. EBT ensures that the flight crews are competent; moreover, setting up the flight operation database can be an advantage for future training model design.



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2.Professional Training Facilities

Flight crews need to be familiar with complicated devices in cockpit while being aware of the command from the tower and the ground at the same time. The coordination between eyesight and hands on operation, multitasking, and concentration are of extreme importance. CAL has introduced advanced full-motion simulator systems in accordance with our fleet plan to assist the flight crews to simulate on all kinds of abnormal situations and weather conditions, so as to improve flight safety. CAL's flight simulation equipment and training system, ground/water escape training facilities/equipment have been certified by civil aviation bureaus in Europe, South Korea, Vietnam, Malaysia, Philippines and Hong Kong. The simulators are available for not only domestic but also overseas airlines for training. As of today, CAL has introduced flight simulators for more than 20 years with the total hours of use reaching 280,700, and the total number of trainees is 140,350.

3.Comprehensive Management System

The Integrated Pilot Training System (IPTS) was formally activated by CAL in 2014. All training records are now fully electronically documented to ensure the effective use of all information, including training courses, instructor management and training records. In 2017, 754 CAL employees attended a variety of training courses, 579 among who completed and passed the training; CAL has also introduced e-learning to enhance training quality of training and reduce costs, making training more convenient and more efficient.

Health and Emotional Management

CAL sets strict standards not only on pilot training, but also on pilots health and emotion management. In order to prevent and reduce the physical and mental stress of pilots in long-haul flight missions, CAL adopts proactive planning, crew feedback and prediction in the management of crew rosters based on SMS and sets requirements higher than statutory, to ensure all flight crews being fully ready for flight missions.

1. Life Management

In addition to strict training and requirements based on highest standards for safety, CAL also engages with the physical and mental health of the flight crews to ensure the safety of each flight mission. To prevent and reduce the physical and mental stress of pilots in long-haul flight missions, CAL sets its own requirements stricter than regulatory to ensure the flight crews completely are ready for flight missions.

2. Fatigue Management

CAL sets stricter standards for the flight mission than regulatory requirements. Based on SMS, CAL allocates pilot missions according to the flight schedule, complies with the regulatory standard, and takes crew feedback into consideration. Based on the regulatory requirements for fatigue management, CAL ensures that the flight crews take sufficient rests before each flight mission to minimize the possibility of operation under fatigue. Flight crews are required to fill out the IMSAFE (Illness/Medication/Stress/Alcohol/Fatigue/Emotion) before check-in for each flight mission. Flight missions will be assigned based on the evaluation of physical and mental health in the IMSAFE. The flight crews are required to report fatigue or illness to the chief pilot or his/her deputy. The fleet manager is responsible for adjusting missions for fatigued Crew members.CAL sets up the standard procedures of "Regulations Governing Risk Management of Fatigued Flight Crew" for implementation, allocating sufficient pilots on board, and coordinates with passenger/cargo service departments to adjust flights based on the capacity of the flight crews. In order to enhance the quality and be more efficient in pilot resource allocation, we plan to introduce the fatigue management IT system by the end of 2018.

3. Stress and Health Management

CAL adopts CRM (Crew Resource Management) to train pilots for situation awareness, workload management, communication skills, teamwork, decision-making and judgment, and to enhance their mindset. CAL provides free psychological counseling, where psychological consultants explore personal background and experiences through face-to-face interaction to review and analyze their problems and obstacles to growth, figure out solutions and ways to vent stress, and further discover their potential. As flight safety is the core value of CAL, CAL encourages the flight crews to avoid high-risk or energy-consuming leisure activities even during their off-duty, so as to be in the best state physically and mentally when on duty.



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4. Alcohol and Drug Management

CAL pays much attention on flight safety management. Regulations have been established to prohibit the use of alcohol and drugs, including alcoholic beverages and food, narcotic drugs, or other drugs that may affect the normal performance of employees.

Flight crews are not allowed to drink alcoholic beverages 12 hours prior to a flight mission and CAL will ensure that they will not be affected by alcohol when check-in and on duty through alcohol tests. Since April 10, 2017, CAL has performed alcohol tests on the entire flight crews serving flights departing from Taiwan in accordance with the requirements of CAA.



Proactive Planning

- Monthly review and discussion of crew schedules for the following month.
- Plan for crews' pre-mission/post-mission rest periods and congurations that exceed statutory requirements.
- For night-time missions, mission time is reduced by 2 hours.
- Manage mission assignments based on crew experience information provided by fleet.
- Monitor night-time mission performance on regionalroutes jointly with the fleet.

Crew Feedback

- Evaluate fatique based on crew mission reports, and arrange missions, crew assignments or station as necessary.
- Dispatcher must immediately adjust the assignment of crew members reporting of fatigue or discomfort.

Prediction

- Adjust crew sizes based on peak and slack season for travel.
- Decide condition of crea dispatch and crew size after the new destinations are evaluated by fleet.

Flight Monitoring and Surveillance Control

Our System Operation Control Division operates around the clock to monitor the status of our flights and ensure their safety in real time by utilizing various communication tools and internal mobile platforms. Wherever our flights may be, all factors that may affect them are closely monitored, including weather conditions and disasters. Furthermore, the crews of flights in the air are provided with real-time updates on hazards like volcanic ash, typhoons, turbulence, and emergency response plans through ICAO 4D/15 tracking.

We hired meteorologists for weather forecast for each station to facilitate the flight operation and ensure flight safety. In terms of airport monitoring, ground monitoring software/hardware is upgraded to connect the air traffic radar and CCTV, so as to monitor the status of flights in real time and improve punctuality.



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Flight Monitoring and Surveillance Control

During November 28 to 30, 2017, Mount Agung eruption closed Bali's main airport in Indonesia, causing 60,000 passengers stranded. The System Operation Control Division convened an emergency meeting on November 27 to coordinate flights and schedule with related departments. During the volcanic eruption, the local branch office followed up closely regarding the status of volcanic activity, updated the status to the head quarter and passengers, and arranged passengers' accommodations on daily basis, while trying their utmost to provide passengers necessary assistance; Cabin Crew Division arranged sufficient menpower in case of extra crews were required due to rerouting, and all related departments including Passenger Sales Division, Cargo Sales, Marketing & Services Division, Ground Services Division, Quality Assurance Division, and Engineering and Maintenance Organization cooperated and updated status via the internal communicating platform. It is indeed a team effort to bring back all passengers back to Taiwan in short time.



Maintenance Quality

CAL proactively manages aircraft conditions through the Reliability Control Program. Various abnormal and technical parameters and information arising from the normal daily operation of aircraft are collected and analyzed to formulate the most appropriate maintenance strategies and plans to maintain the reliability of aircraft systems, improve maintenance quality and enhance flight safety.

Maintenance Capabilities

Our Engineering and Maintenance Organization has been certified as a repair station by 11 countries, including the EU, the United States and China. CAL has become the largest modernized aircraft repair center in Taiwan, with modern hangars that accommodates five large wide-body aircraft to perform heavy checks simultaneously, and with engine test cell of a thrust rating upto 120,000lbs, thereby support various highlevel aircraft maintenance.

Collaboration with Schools

Technician cultivation is the core of improving the maintenance quality. Due to employee retirement and expansion in aircraft maintenance capabilities, CAL requires about 150 new maintenance employees every year. To recruit more talented candidates, CAL has begun collaborating with Taiwan's colleges and universities since 2012. Currently, CAL has collaborated with 11 schools. During the semester, students can learn at CAL regarding practical knowledge and experience, and the sessions can be credited to part of their maintenance training courses.



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China Airlines Technical Training Center

CAL was certified to establish the China Airlines Technical Training Center (CTC) in 2015 to expand its capabilities of technical training in response to the rapidly growing demand for maintenance operation in both domestic and international markets. CTC is the first institution in Taiwan that is certified to provide aircraft type training and license conversion training. In 2017, CAL acquired the certification by the Civil Aviation Administration of China (CAAC).

Quality Management System

To unify the requirements for quality in the aviation industry, the International Aerospace Quality Group (IAQG) published AS9100, the quality requirements for the international aviation industry, in 2001, to continuously improve the quality management system to customers' satisfaction based on the cycle of Plan-Do-Check-Act (PDCA). CAL had acquired the certification and its extension from ISO 9001 since 1996. In May 2017, CAL EMO (Engineering and Maintenance Organization) was the first repair station in Taiwan certified by IAOG for AS9110. As AS9110 latest standard - AS9110:2016 being released in 2017H2, CAL improved its management systems and working process and passed the audit by the IAQG.

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 the quality management system, including AS 9110.





Flight Safety – Safety comes first.

In 2017, the alcohol testing of pilot incident attracted much public attention. We must reiterate again that CAL will never compromise on safety. Pilots are responsible for the safety of all passengers and must operate in the best state. CAL announces and reminds constantly to flight crews regarding the regulations and punishments associated with alcohol testing.

CAL has implemented alcohol testing on all flight crews before on duty in airports in Taiwan in accordance to the regulations of CAA since April 2017. All crew members must be self-disciplined and pilots who did not pass the alcohol test will be punished with no tolerance. Flight safety is CAL's commitment to all passengers. It is the best proof that CAL has received the safety certification from international organizations in recent years. We will continuously endeavor to ensure flight safety and gain the trust of our customers.





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2-1-2 Customer Service GRI 102-44

Customer Relationship Management

According to one of promotion way extended from CAL sustainability strategy, "Product and Service and Brand Awareness", and by upholding a customeroriented spirit and rigorous as well as quality standard, providing patient service, even beyond expectations from customers is the key to earn the trust of customers.

Good customer relationships are an important factor in the success of CAL. The principle of offering quality service is that we listen to our customers and respond with empathy and sincerity.

CAL sets up a variety of instant communication platforms for different groups of customers, including Facebook prior to the other domestic airlines, Instagram, and WeChat, to offer service to customers who are accustomed to communicating through the Internet or portable devices and solve their problems instantly.

CAL integrates all customer feedback through the Customer Service System (CSS) and responds with a detailed explanation within a given time limit. Meanwhile, CAL sends customer feedback to related units for reference to improve the quality of service, further becoming passengers' most trusted airline.

Traditional Communication Channels

1. Customer service hotline









3. Suggestion form

While on board, customers can request a copy of the Suggestion Form from a crew member. After completing the form, it can be mailed or handed to the crew member to be forwarded to our Customer Relations Department.

Online Communication Channels



Customers can send messages to CAL Facebook page with suggestions or questions regarding their itineraries. An immediate response will be provided during work hours.

1. Customer service on Facebook

they can simply use the email forms to change a reservation or

confirm itinerary.

2

3. Customer feedback

Customers can give us feedback through the online feedback system.





4. Customer satisfaction survey Customers can take advantage of our standard online system to complete passenger satisfaction surveys.



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Protecting Customers' Rights

Protecting customer privacy GRI 206-1, 418-1

Protecting customer rights and interests is a major responsibility of China Airlines

CAL attaches great importance to customer privacy and regards it as a basic principle of service.

In addition to following international regulations and introducing the management systems related to information security, such as ISO 27000 Information Security System and BS-10012 Personal Management Information System, CAL established the personal information management committee and set the Data Privacy and Security Statement in 2014, which addresses the collection, usage, acquisition and change of customer information as well as the privacy / safety statement and information confidentiality; CAL discloses the personal information policy on the official website and fully strengthens employees' awareness of information protection and conduct through SOP and training. CAL is dedicated to protecting customers' personal information.

As of 2017, CAL has completed the risk assessment of personal information at each level and has not received any complaints about privacy violations. In the future, CAL will continue to maintain this high standard of privacy protection.

EU General Data Protection Regulation (GDPR)

History of GDPR

The rapid development of social media, cloud computing, portable devices, mobile internet, and big data (digital, network-based, mobile, and cloudbased) in recent years has brought new issues and challenges for personal data protection. Enterprises also face the impact in terms of politics, information system, and cultures. On April 27, 2016, the European Parliament approved the General Data Protection Regulation (GDPR), which will take effect on May 25, 2018, to protect the processing and free circulation of personal information.

Importance to CAL

The GDPR is a data-based regulation. Whether the premise is located in EU, enterprises, regardless of scale, are required to collect, use, or process personal information of residents in EU in accordance with the GDPR in the process of providing products or paid or free services across borders.

CAL Progress

CAL established the Personal Information Management Task Force at the end of 2017 and elected the Data Protection Officer (DPO) to promote the project. To meet the compliance with the DGPR on schedule, consultants were employed later to evaluate the progress, analyze differences, plan improvements, as well as design the privacy protection plan and improvements. In the era of digital economy, data is currency. The EU GDPR ensures personal information protection and corporate innovation and maintains a balance between the party's rights and business interests for the purpose of increasing the trust in digital services. Taking a proactive attitude toward the compliance with the GDPR, CAL endeavors to fulfill the responsibility for personal information protection to create competitive advantages, improve brand trust, and minimize potential financial risks.

Response

- 1. Set up the crisis management mechanism for leakage of personal information
- 2. Set the mandatory requirements for audits and retention of personal information
- 3. Make public the processing of personal information on the official website
- 4. Set up the mechanism to strengthen individual rights
- 5. Process personal information legally and obtain the consent of the individual
- 6. Review data processing contracts
- 7. Design the privacy protection plan
- 8. Set up the framework of responsibility



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Food Safety

CAL not only prioritizes quality of food services, but also focuses on food sanitation and safety. To ensure food safety, CAL requires catering service providers to comply with international safety and health standards for aviation meals in each process, from preparation to storage and transportation. The microbiological examination is required for all products, materials, and food equipment; in addition, quality audits are carried out from time to time to request catering service providers to correct nonconforming items within the given time limit, or punishment will be imposed according to the contract. Training on HACCP and catering services is also organized to increase employees' awareness of food safety and quality.



Inflight Potable Water Safety

In addition to inflight catering, CAL also values the quality of drinking water provided during the flight. Our water quality far exceeds the regulations of environmental protection and bottling facility sanitation. CAL's rigorous water quality control standards are reflected in the inflight potable water management procedure.

- 1. The safety of potable water is included in the preliminaries of new destinations.
- 2. We set high safety standards for our potable water suppliers, and perform inspections annually.
- 3 .We conduct safety audits on potable water for all of our out-stations.
- 4. We apply a strict maintenance plan for potable water facilities in accordance with the regulations set by facility manufacturers.

Customer Satisfaction

Getting the customer's smile is the ultimate goal for CAL. CAL is fully aware that it can only impress its customers by providing satisfactory services. To understand what our customers expect, CAL proactively collects customer opinions through various channels, includes On-board Passenger Satisfaction Survey System, Dynasty Package Survey Form, Cargo Service Satisfaction Survey, and Maintenance Service Satisfaction Survey.

In 2017, CAL collected 266,582 questionnaires for customer satisfaction surveys. After compiling and analyzing the data, each responsible department started to look into problem areas found and to improve our products and services. Every year, CAL establishes service quality objectives and actions to achieve these objectives in order to increase customer satisfaction.

Passenger Satisfaction

CAL takes customers' need and feeling seriously and constantly cares passenger during their flight experience. Due to the labor dispute in the past two years, the customer satisfaction was slightly lower than the target in 2017. However, CAL gained much from it for the engagement effectiveness. By upholding the positive attitude and the idea of "We treasure each encounter", CAL absorbed the communication experience and reviewed itself with high standards to set the objective in 2017 which is higher than that in 2016.

Meanwhile, for showing the determination regarding improvement, we formulate the mid and long term objective in 2020. With an aim of improving customers' value, CAL introduces A350, develops new routes, expands the codeshare partnership with other airlines, offers 30 kg of luggage without extra charge, precheck in service, foreign third-language broadcast, brand new design combing with local culture and style, and non-stop flight to Europe. CAL hopes passengers can experience the best flight and expect the next journey in order to enforce the dream about reaching everywhere and traveling around the world.



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Historical Passenger Satisfaction on service items

ltem		2015	2016	2017	2017 Objectives
Passenger	Airport Service	88.4	87.6	87.2	87.4
Service	Cabin Crew	84.3	88.5	86.8	88.2
	Cabin Environment	Combined Statistics	86.5	86.8	85.7
	Inflight Catering Service		78.2	79.9	78.8
	Inflight Entertainment		84.4	82.7	84.5

Historical Passenger Satisfaction



Freight Customer Satisfaction

Providing professional services is the commitment CAL makes to customers. Through the annual customer satisfaction survey, CAL makes the effective engagements with customers and reviews the results to make improvements. In 2017, the customer satisfaction was below the objective due to abnormal situations, such as the strike at the warehouse in Frankfurt, and heavy import congestion at the warehouse in Los Angeles, which slowed down efficiency. In the future, CAL will continuously control risks and collect customers' feedback and other airlines' experience, hoping to offer customers the best service.

Historical Freight Customer Satisfaction



Engineering and Maintenance Organization (EMO) Customer Satisfaction

CAL takes pride in the most trustworthy and quality maintenance service provided for customers. CAL conducts the maintenance satisfaction survey at least once every year and manages customer grievances; later, corrective actions and responses are proposed based on the results of analysis. CAL also communicates with customers through visits or phone interviews to enhance the customer relationship, hoping to move towards sustainability together.

Historical EMO Customer Satisfaction



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2017 Progress

1. Safety Certification

IOSA certification

In 2016, CAL was certified by the IOSA (held once every 2 years) seven consecutive times with no new findings, observations, or safety compliance failures. In 2017, CAL continued to implement SMS based on the international standards of IOSA, in hopes of passing the IOSA certification in 2018.

SMS certification

In 2016, CAL was one of the Taiwanese airline that were first certified by the Civil Aeronautics Administration (Taiwan) for the 4-stage audit of the Safety Management System. In 2017, CAL passed the performance audit of the SMS by the Civil Aeronautics Administration (Taiwan).

2. Enhancing Safety Culture

Strengthen safety promotion activities and enhance communication between different departments.

3. On-time Performance

On-time performance

According to the statistics provided by the Civil Aeronautics Administration (Taiwan), the quarterly 30-minutes on-time performance of China Airlines was 98.95% in 2017 (Q1:98.39%, Q2:99.42%, Q3: 99.05%, Q4:98.92%). To provide passengers better services, CAL adopts a stricter 15-minute on-time performance to evaluate performance. In 2017, the 15-minute on time performance were 82.69%. For 2018, our goal of 15-minute on-time performance will be 78%.

Reliability

The reliability for passenger flights exceeded 99% in 2017.

Flight surveillance system

The system provides each branch with real-time aircraft and ground parking status as well as accurate flight information and will be an advantage to enhance CAL's punctuality and service quality.

*The statistics of CAA is the regular flights delayed over 30 minutes due to the factors attributable to the industry of CAL aircraft departing from Taoyuan and Kaohsiung. The data offered by CAL is the complete route, including the departure passenger aircraft (including charter flights and extra flights), delayed over 15 minutes due to factors both attributable and not attributable to the industry.

4. Recognition of Service Quality

First Place in Global Views

Upholding a customer-oriented spirit, CAL's staff helps solve passengers' problems with empathy, cares through professional training and agile response, offering passengers flight experience beyond their expectation, from customer service, airport service to inflight service, beyond their expectations.

In 2017 Global Views

Five-Star Service Awards which is also called Oscar of the Taiwanese service industry. CAL was named the winner of the international aviation category in recognition of its outstanding quality of service and scored the second highest marks among all competitors.

ISO 9001:2015 Revision Certification

In December 2017, CAL completed the verification of ISO 9001:2015–Quality Management System revision, which specifies the role and responsibility of top management, includes concerns of internal and external stakeholders, and enhances all employers' understanding of quality management and the competitiveness of agent authority of foreign airlines in Taiwan. Moreover, because Civil Aeronautics Administration (CAA) of Taiwan included ISO 9001 as the priority of slot allocation, the completion of ISO 9001 revision verification helps CAL optimize the schedule scheming to further improve the overall service quality for passengers.



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5.0ptimization of Pre-departure Service

CAL puts its shoes in passengers' to look for the opportunity for saving their time or increasing their travel value throughout the whole itinerary, so the early check-in service and foreign third-language boarding broadcast is provided by CAL to elevate the travel convenience of passengers. What's more, in order to improve the service quality of waiting for departure, CAL renovated the VIP rooms combining with local cultures and styles, hoping passengers enjoy and look forward to the next trip.



Early Check-in at Taipei Main Station (A1)



itation (A1) VIP Room at Bangkok Airport Combining with Plum Flowers with National Flowers of Thailand

6.Thoughtful Long Haul Flight Service

To save travel time and provide a variety of products and services, CAL offered direct flights between Taipei and Amsterdam, Frankfurt, Rome, Vienna, and London. Taking the flight from Taipei to London for example, it only takes around 13 hours for passengers to reach the destination, saving 3~7 hours of flight time; moreover, A350 was introduced to provide direct flights for passengers traveling between Taiwan and Europe to optimize the travel experience.



What's Next?

1.Keep promoting safety culture

CAL will keep promoting our safety management system through the annual safety promotion plan, including management by walking around, risk management events, safety KPI setup/monitoring/evaluation, and safety awareness promotion.

2.Enhance Evidence-Based Training

CAL will initiate the training program and set up related operating systems for EBT instructors to be proficient in teaching, so as to improve the training quality.

3. Promote e-loading system for baggage to enhance efficiency.

4.Enhance maintenance quality

CAL will cooperate with Airbus regarding type training and will enhance its maintenance, engineering and training capabilities.

5.Promote electronic maintenance jobcard and set up an automated inspection mechanism to reduce human errors.

6.Increase customer satisfaction

CAL will continuously evaluate and review for improving the services based on feedback from customer and set the target as of 2020 which is the actual performance in 2019 plus 0.1 score to show its determination to offer quality service.

7.Strengthen CAL's brand image

CAL will continue to renovate the VIP room in Taoyuan International Airport, outsource catering and human services, follow the product and service information and requirement of label, and continue to protect customer privacy to elevate our competitiveness and professional brand image.

8. Provide multiple itineraries

In the future, CAL will offer non-stop flights between Taipei to Ontario and partner with Air France to operate the direct flight between Taipei and Paris via code-sharing, in hopes of saving time in travelling to improve the overall value of journey for the passengers.



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118 people with disabilities were employed

CAL was the only company in the industry that received the Golden Wingspan Award. CAL employed 118 people with disabilities.



TWD 15.9 billion investment on salary and benefits CAL invested TWD 15.9 billion on salary and benefits.



TWD 390 million investment on employee training CAL invested TWD 390 million on employees training.

99.60% of employees participated in labor union

The rate of employees participation in labor union was 99.60%, which was 0.1% higher than that in 2016.



Tigerair Taiwan employees benefits improved

Tigerair Taiwan was the 1st low cost carrier that joined Zonal Employee Discount(ZED) program in 2017 and corporated with 17 airlines.



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Management Approach

Labor/Management Risk Relations Management

We view our employees as our families and our most valuable assets. We are always willing to communicate with respect and strive to reach a mutual understanding through negotiation. We want to create a more harmonious work environment based on an equitable, cooperative, and mutually respectful relationship.

Commitment and Long-term Goals

Commitment

We view our employees as the most valuable assets. CAL has improved and optimized the working conditions and environment to establish a safe and growing workplace. CAL respects all unions and consistently communicates regarding the stated demands with each individual labor union, views the labor rights of every employee as our first priority, and express the same level of respect and commitment of resources to all unions. Currently, apart from monthly regular meetings held by the

head office and the China Airlines Employees Union (CAEU), a number of committees with various functions fomed by management and CAEU have been established. CAL tracks and reports the status of follow-up items in the following meetings. CAL is dedicated to maintaining harmonious unionmanagement relations through open channels of communication and efficient modes of operation, hoping that both CAL's management and employees can work together to achieve equity and mutually beneficial outcomes.

• Long-term Goals

programs to enhance students' industry-specific knowledge and skills. Conduct the survey on our employee satisfaction to





Unit in Charge

Corporate Sustainability Committee-Human Resources Team

Management Mechanism

- The meeting of Corporate Sustainability Committee, at least twice every year.
- The meeting of Occupational Safety and Health Committee, every quarter.
- A labor-management meeting shall be convened on a regular basis.
- Human Resource Task Force reports to Corporate Sustainability Committee, every quarter.

Grievance Mechanism

Employee

- Employee Relationship Department
- E-Mail: wecare@china-airlines.com



Stakeholder Contact







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Objectives and Plans

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lssue	KPI	Objectives	Performance	Achievement	2018 Objectives
Occupational safety and healthReduction in the Disabling Injury Frequency Rate (FR) (Reduction in the Frequency-Severity Indicator (FSI) by 5% starting from 2018)		3.05	4.07	66.60%	(FSI)0.44
Labor-Management relationship	Labor-management meetings	12 times	12 times	100%	4 times
	The rate of employees participation in the labor unions	98.20%	99.60%	100%	98.20%
Labor rights	Seminars for potential retirees	Two classroom courses and e-learning courses	Published presentations regarding retirement on the corporate website	100%	Published presentations regarding retirement on the corporate website
	Seminars on sexual harassment prevention	One session	One session	100%	Organize online courses to expand the scope of training

Note 1: Frequency-Severity Indicator(FSI)=[Disabling Injury Frequency Rate(FR] x Disabling Injury Severity Rate(SR) ÷ 1,000) ^ 0.5 Note 2: According to the Ministry of Labor, the FR of the air transport industry in 2017 is 4.26 on average.

2-2-1 The Management Structure of Human Rights GRI 406-1, 412-1

To protect human rights, CAL has established the human rights policy and related measures based on the UN Guiding Principles on Business and Human Rights, international trends, and local laws/regulations. CAL's human rights policy applies to CAL Group members and suppliers. The Human Resources Team under the Corporate Sustainability Committee is responsible for the governance of human right management mechanism.

In previous years, CAL included material human right issues in the overall material issues. In 2017, CAL identified human right issues independently based on the UN Guiding Principles on Business and Human Rights in order to react on human right issues more thoroughly and to reduce potential risks. The Human Resources Team identified material human right issues and conducted a survey by engaging with stakeholders. A matrix for material human right issues was created and five material human right issues were identified in 2017 based on 264 valid questionnaires. CAL modified the human rights policy based on the latest material issues, conducted the due diligence, and set mitigation and corrective measures.





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Regulations and procedures on Human Rights





Employees should support company policies on human rights, fairly treatand 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 has also established amanagement mechanism to ensure employee care. We do not use forced labor. We do not adopt race, gender, age, family, political aliation 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 March 2016, one sexual harassment prevention seminar discussion was held, and 98 employees participated.
- In October 2017, one sexual harassment prevention seminar discussion was held, and 67 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 bargaining agreement



Front-line staff must attend non-discriminatory policy courses for boarding passengers with physical and mental disabilities to ensure the interests of passengers.

Mandarin Airlines and Tigerair Taiwan comply with the Group's human rights policy and have incorporated management measures of equality and antidiscrimination and whistle blowing channels into the regulations and organize training on a regular basis. In 2017, 18 employees from Mandarin Airlines attended two sessions of the seminar on sexual harassment prevention; Tigerair Taiwan had integrated contents concerning sexual harassment prevention and grievance mechanisms in the orientation for new employees. In December 2017, Tigerair Taiwan organized the seminar of "the influence of being polite", with 20 employees attended, and stated grievance mechanisms and the grievance mailbox.





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Procedures to Identify Material Issues on Human Rights

Material Human Rights Issues Identified







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Mitigation and Corrective Measures for Material Issues on Human Rights

CAL continues to maneuver our influence on human rights and ensure our management structure intact. In 2017, we worked with external consultants to develop and implement the framework of due diligence based on the UN Guiding Principles on Business and Human Rights, reviewed the compliance, examined whether the material issues on human rights were applicable by each item, and proposed recommendations for improvement on management mechanism. After conducting due diligence and examining the remedies, all mitigation/ corrective measures for material issues on human rights to value chain were set under risk control, expect for the inapplicable ones.

Corrective measures were also taken for events pertaining to material human rights issues. For mitigation and corrective measures set in 2017, please refer to the Appendix of



Material Issues on Human Rights in 2017

In addition to the 5 mitigation and corrective measures for material issues on human rights, there was a dispute over Right to assembly and association in 2017. The Discipline Review Board reviewed improper conduct done by three cadre members from the China Airlines Employees Union (CAEU), and caused CAEU misunderstood that CAL interfered with the Right to assembly and association. CAL had made an official statement to state company standpoint and clarity the dispute in short time.

Unions and managements should be helpful rather than being against to each other. CAL respects all activities and announcements made by CAEU representatives including suggestions to striving for better yet reasonable working conditions and creating a better working environment. However, three cadre members in subject case defamed the reliability on CAL's flight safety and damaged their uniforms during non-working hours, caused violation on CAL's internal regulations. The Discipline Review Board determined the disciplinary actions based on the above violations regardless of their positions as the cadre members of the CAEU. As of today, three employees in subject case still work in air service without being dismissed or transferred to other departments.

The media reported that a CAL pilot was dismissed due to the failure of passing the test of alcohol. The pilot was aware of his duty but failed to comply with the code of conduct for the flight crews, causing potential risks on flight safety. CAL dismissed the pilot to defend on flight safety, as flight safety is the core of airline operations and the commitment CAL made to all customers. On November 10, 2017, the Board for Decision on the Unfair Labor Practices under the Ministry of Labor announced that CAL won the lawsuit. Besides, regarding the 14 requests made by the Pilot Union, CAL is still negotiating with the Pilot Union, in the hope of reaching an agreement to both parties' satisfaction.

It is not the CAL's intention to dispute with the unions during the past two years. We had repeatedly stressed our standpoint on that we respect all activities held by unions, and that it is every employee's responsibility to defend on the company's reputation and endeavor for CAL's sustainability. We hope all unions to minimize bias and work together for a better future.

Improvements and Follow-ups

Employees

CAL holds training course on sexual harassment prevention seminar for new and current employees every year, and publishes training materials on intranet for all employees to access to prevent sexual harassment in workplace, besides, we place posters in standby office of frontline employees to introduce the definition, types, and whistleblowing channels for sexual harassment.



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When there is a suspected incident of sexual harassment, employees can file grievances mailbox, hotline, or e-mail box. If the perpetrator of the incident is a CAL employee, the Human Resource Division must investigate within 7 days after receiving the grievance and form a Complaint Review Committee, with at least 50% female members. If the incident is defined as a sexual harassment, disciplinary actions will be made and psychological counseling may be arranged for both the offender and victim based on each incident. If the perpetrator of sexual harassment is not a CAL employee, we will assist the victim with legal aid. In 2017, three cases of sexual harassment were reported and all of them were settled according to the law and CAL's internal regulations. There was no sexual harassment incident in Mandarin Airlines and Tigerair Taiwan. CAL will continue keeping on our commitment to protect employees, prevent sexual harassment, and create a friendly working environment.

Employees may file grievances according to CAL's Employee Complaint Regulations. Employees who disagree with the outcome of their grievances may appeal to the Human Rights Division to endeavor for their employee rights and interests. In 2017, most grievances in CAL were due to concessional flight tickets; and there was one grievance due to the same reason in Tigerair Taiwan. All grievances were reviewed and handled according to the procedures. No grievance was filed in Mandarin Airlines.

Grievances against Sexual Harassment from 2015 to 2017

	2015	2016	2017
Number of grievances	7	1	4
Number of grievances established	5	1	3
Category	Physical	Physical	Physical
Outcome	Administrative disciplinary	Administrative disciplinary	Administrative disciplinary

Employee Grievances from 2015 to 2017

	2015	2016	2017
Performance grade	2	3	2
Concessional flight tickets	16	5	19
Leave of absence	0	1	2

	2015	2016	2017
Disciplinary actions	1	1	3
Occupational hazards	0	0	0
Others	5	8	2



- Employee Grievances Email: wecare@china-airlines.com
- Grievances against Sexual Harassment Tel: (03)399-8922 Email: SHC@china-airlines.com



• Grievances against Sexual Harassment Hotline: (02)7735-6930 Email: talktome@tigerairtw.com



- Employee Grievances/Grievances against Sexual Harassment Hotline: (02) 2514-2040 or 2514-2033 Email: iz@email.mandarin-airlines.com
- Employee Grievances
 Email: talktome@tigerairtw.com



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Suppliers

Chain in 2017

CAL conducted the sustainability risk survey on key suppliers. There were 64 suppliers enforcing management mechanisms for working conditions and human rights, which accounted for 88.89% of the total questionnaires retrieved. There were 34.38% of suppliers enforcing management mechanisms that acquired related certification or comply with the UN Guiding Principles on Business and Human Rights. According to the risk assessment of labor and human rights in the sustainability risk survey, all suppliers provided wages and benefits in accordance with the law, and more than 80% of the suppliers enforced management mechanisms for working conditions and human rights, including anti-discrimination, forced labor, and prohibition on child labor, but did not have sufficient management mechanism for freedom of association. In terms of secondary supplier management, 73.6% of CAL's key suppliers requested secondary suppliers to abide by the established regulations and requirements for human rights, including prohibition on child labor and forced labor, anti-discrimination, freedom of association, legal salary and reasonable working hours.



Customers

CAL has established the Personal Data Management Committee to protect and manage personal data files. An external team is recruited as the professional project consultant for implementing the personal data protection mechanism. The team has conducted a risk assessment for all divisions and all assessments were completed successfully as of 2017.

To ensure the rights of customers, the Information Security Policy has also been formulated for collection of customer Information, use of customer information, sending of Emails, customer selfprotection and disclosed on the official website. CAL also organizes training on personal information protection on a regular basis.

In 2017, four training courses on Personal Information Identification/Collection/Risk Assessment. Personal Information Security Control, and Personal Information Risk Assessment were organized with 307 trainees.



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2-2-2 Recruitment and Retention GRI 102-8, 202-2, 401-1, 405-1

Workforce Structure of CAL Group

By the end of 2017, CAL had 12,645 employees worldwide, including 12,523 full-time employees (male 6,426 accounted for 51.31% and female 6,097 accounted for 48.69%) and 122 contracted employees (male 50 accounted for 40.98% and female 72 accounted for 59.02%). Based on job categories, CAL had 3,546 employees in business operations, 4,844 flight and cabin crews, 2,458 maintenance personnel and 1,797 employees in other categories. Mandarin Airlines had a workforce of 940 employees with no contracted employees (male 454 accounted for 48.30% and female 486 accounted for 51.70%). including 397 in business operations, 229 flight and cabin crews, 139 maintenance personnel, and 175 employees in other categories. For Tigerair Taiwan, the total number of employees was 644, including 568 full-time employees (male 262 accounted for 46.13% and female 306 accounted for 53.87%] and 76 contracted employees(male 13 accounted for 17.11% and female 63 accounted for 82.91%). Based on job categories, Tigerair Taiwan had 261 employees in business operations, 330 flight and cabin crews, 28 maintenance personnel, and 25 employees in other categories. The number of employees recruited by the three airlines complied with the law.



Workforce Structure of CAL in 2017

Age	All	Male	Female
Under30	3,391	1,199	2,192
31-50	6,681	3,386	3,295
Above 51	2,573	1,891	682
Education	All	Male	Female
Master/PhD	1,360	791	569
Bachelor	10,379	5,046	5,333
Senior high	772	559	213
Others	134	80	54
Ranking	All	Male	Female
Senior [Note 2] management	124	101	23
Mid-level management	362	271	91
Junior management	170	127	43
Non-executive employees	11,989	5,977	6,012

	All	Male	Female
Full-time employees	12,523	6,426	6,097
Contracted employees	122	50	72
Indigenous employees	81	41	40
Disabled employees	118	86	32
Total	12,645	6,476	6,169
Duty	All	Male	Female
Business	3,546	1,497	2,049
Air service	4,844	1,746	3,098
Maintenance	2,458	2,357	101
Others (Note 1)	1,797	876	921
	All	Male	Female
Taiwan	10,747	5,735	5,012
China	299	151	148
Asia	1,136	383	753
Usa	291	134	157
Europe	119	51	68
Oceania	53	22	31

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 managers above VP level; mid-level management refers to general managers and deputy managers; junior management refers to section managers.



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Age	All	Male	Female	
Under 30	351	101	250	Full-time
31-50	455	240	215	employees
Above 51	134	113	21	Indigenous employees
Education	All	Male	Female	Disabled
Master/PhD	90	60	30	employees
Bachelor	779	350	429	Total
Senior high	59	41	18	Duty
Others	12	3	9	Business
Ranking	All	Male	Female	Air service
Senior (Note 2)				Maintenance
management	33	29	4	Others [Note 1]
Mid-level management	35	25	10	Region
Junior				Taiwan
management	44	38	6	China
Non-executive employees	828	362	466	

aforesaid categories.

Note 1: The job category - others includes executives higher than the rank of vice president, auditors,

Note 2: Senior management refers to managers above VP level; mid-level management refers to general

managers and deputy managers; junior management refers to section managers.

accountants, information technology personnel and other employees that are not within the

Workforce Structure of Mandarin Airlines in 2017

le	Female		All	Male	Female
01	250	Full-time	940	454	486
40	215	employees			
13	21	Indigenous employees	5	0	5
le	Female	Disabled employees	5	4	1
60	30			(=)	
50	429	Total	940	454	486
41	18	Duty	All	Male	Female
3	9	Business	397	146	251
le	Female	Air service	229	93	136
	- cinate	Maintenance	139	127	12
29	4	Others [Note 1]	175	88	87
25	10	Region	All	Male	Female
		Taiwan	853	412	441
38	6	China	87	42	45
62	466				



Age	All	Male	Female		Δ
Under 30	378	106	272	Full-time	50
31-50	219	127	92	employees	
Above 51	47	42	5	Contracted employees	
Education	All	Male	Female	Indigenous employees	
Master/PhD	80	40	40		
Bachelor	513	195	318	Disabled employees	
Senior high	24	19	5	Total	6
Others	27	21	6	Duty	ļ
Ranking	All	Male	Female	Business	2
Senior _(Note 4) management	12	7	5	Air service	3
Mid-level				Maintenance	
management	29	16	13	Others (Note 3)	
Junior management	18	8	10	Region	ļ
Non-executive				Taiwan	6
employees	585	244	341	Asia	

Workforce Structure of Tigerair Taiwan in 2017

Male Female

306

63

0

369

177

178

0

14

368

1

262

13

1

3

275

84

152

28

11

274

1

Male Female

Male Female

Note 3: The job category – others includes chief financial officer, chief operating officer, chief business officer, chief executive officer, chairman, Finance Department, Accounting Department, and Information Department.

Note 4: Senior management refers to managers above VP level; mid-level management refers to general managers; junior management refers to section managers, OIC and supervisors.



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Gender Equality and Diversity

CAL provides equal rights and opportunities for every employee regardless of gender. In 2017, female employees accounted for 48.79% of the total CAL workforce, and 23.32% of all managerial positions were held by females. In Mandarin Airlines, female employees accounted for 51.70% of the total workforce, and 17.86% of managers being female. In Tigerair Taiwan, female employees accounted for 57.30% of the total workforce, with female managers representing 47.46% of all managerial positions. Due to the nature of jobs, CAL has a higher demand for professionals in machinery, aerospace, and information management field, leading to a common gap between male employees and female employees. CAL is committed to providing a comfortable work environment and a comprehensive career development for all employees. In order to safequard 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 the China Airlines Park which are available for female employees at any time. With respect to male employees, we also offer more than 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 balance their work and family life, CAL has signed agreements with 12 daycare centers and kindergartens to provide special discounts for CAL employees.

CAL values diversity in its workforce. In 2017, CAL employed 81 indigenous employees and 118 disabled employees. In addition to our commitment to expanding employment among indigenous workers, we have employed disabled employees more than those prescribed in the law since September 2015. We also contracted visually impaired massage therapists to provide employees free on-site massages. With these efforts, CAL received the Excellency Award at the 14th Golden Wingspan Awards in 2016. We have redesigned job descriptions for disabled employees with focuses on improving working conditions and making adjustments to job requirements and career development. We also provided shuttle buses and regularly-scheduled health examinations for our disabled employees; in addition, we signed long-term service contracts with visually impaired massage therapists to provide employees free on-site massages, thereby providing job opportunities to the disabled people and enhancing our employees' health at the same time.



Workforce Diversity of CAL in 2017

Workforce Diversity of Mandarin Airlines in 2017

Workforce Diversity of Tigerair Taiwan in 2017



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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 the disabled people. In 2017, CAL recruited 862 employees, including 708 full-time employees and 154 contracted employees, accounting for 6.82% of the total workforce. Mandarin Airlines recruited 268 full-time employees, accounting for 28.51% of the total workforce. Tigerair Taiwan also employed 137 full-time and 187 contracted employees, accounting for 50.31% of the total workforce.

		12
633	 	
-	 3)	

New Employees of CAL Group in 2017

Full-time employees	708
Contracted employees	154
Total	862 (6.82%)

Gender		
Male	343	39.79%
Female	519	60.21%
Age		
Under 30	668	77.49%
31-50	166	19.26%
Above 51	28	3.25%
Taiwan	512	59.40%
China	39	4.52%
Asia	233	27.03%
Usa	45	5.22%
Europe	9	1.04%
Oceania	24	2.78%

 10

Full-time employees	268
Contracted employees	0
Total	268 (28.51%)

Gender		
Male	155	57.84%
Female	113	42.16%
Age		
Under 30	142	52.99%
31-50	107	39.93%
Above 51	19	7.09%
Region		
Taiwan	254	94.78%
China	14	5.22%
Asia	0	0.00%
Usa	0	0.00%
Europe	0	0.00%
Oceania	0	0.00%



Full-time employees	137
Contracted employees	187
Total	324 (50.31%)

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Local Employment

Due to the nature of the industry, the flight network of CAL spans across the globe, and a large number of job opportunities are available, resulting in contributions to local employment and economic development. About 84.99% of all CAL employees are based in Taiwan. The composition of CAL's international employees include foreign pilots from 20 countries, and flight attendants from Vietnam, Japan, South Korea, and Thailand. We also employ local workers at our 144 destination cities in 29 countries around the world. CAL endeavors to provide a friendly working environment to our international employees, with equal opportunities and benefits to our Taiwanese employees.

Local Employment of CAL Group in 2017

Company	Region	Employees	Management	
	Taiwan	98.48%	100.00%	
	China	95.63%	25.53%	
	Asia	87.37%	45.79%	
	USA	67.74%	25.58%	
	Europe	75.00%	18.52%	
	Oceania	47.73%	0.00%	
	Taiwan	100.00%	100.00%	
	China	100.00%	1.15%	
S	Taiwan	99.69%	100.00%	
	Asia	100.00%	50.00%	

Employee Turnover

The average employee turnover rate of CAL over the past three years is 6.24%, which is lower than the industrial average. Each of our employees is safeguarded by the employment contract, and the provisions regarding rewards, disciplinary actions and employment termination are clearly set forth in each contract. In addition, rules concerning the termination of employment and the number of days required for 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 resigned employees and local supervisors to see whether to adjust our salary and benefit practices. We also utilize internal systems and incentive programs to reduce turnover rate. In 2017, the turnover rate of CAL was similar to that in 2016, but the involuntary separation rate had increased by 7.45% being compared to that in 2016 mainly due to the expiration of contracts with 110 ground service employees employees, most of whom were from industry-academia collaboration programs. In Mandarin Airlines, the turnover rate was higher in 2017, and most of the resigned employees were front-line ground service employees, including industry-academia program students. Due to new acting transport and seasonal demand, part-time workers were in great demand. Some of their contracts expired in 2017 without renewal; some resigned due to personal career plans. In the future, Mandarin Airlines will provide a variety of communication channels for employees and improve employee benefits to retain talents. In Tigerair Taiwan, most of the resigned employees were front-line ground service employees in 2017. Due to its business expansion, a large number of hourly-paid ground service employees were recruited. Most of the employees resigned due to personal career plans. In 2017, Tigerair Taiwan showed a turning point to become profitable and improved employee benefits and communication with employees to reduce the turnover rate. Except for a higher turnover of front-line ground service employees, the turnover of aircrews and ground employees was lower compared to that in 2016.



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Employee Turnover Statistics of CAL Group in 2017

- I		2015		2016		2017	
Category		Employees	%	Employees	%	Employees	%
	Under 30	363	48.79%	336	45.16%	342	42.38%
Age	31-50	230	30.91%	231	31.05%	233	28.87%
	Above 51	151	20.30%	238	31.99%	232	28.75%
Gender	Male	337	45.30%	410	55.11%	380	47.09%
	Female	407	54.70%	395	53.09%	427	52.91%
	Taiwan	426	57.26%	475	63.84%	482	59.73%
	China	46	6.18%	49	6.59%	69	8.55%
	Asia	181	24.33%	163	21.91%	155	19.21%
Region	Usa	66	8.87%	93	12.50%	63	7.81%
	Europe	15	2.02%	12	1.61%	17	2.11%
	Oceania	10	1.34%	13	1.75%	21	2.60%
Voluntary s	eparation	545	73.25%	534	66.34%	453	56.13%
Involuntary	separation	199	26.75%	271	33.66%	354	43.87%
Total		744	5.98%	805	6.36%	807	6.38%

Note: Voluntary separation includes resignation, early retirement, and request for resignation.	
Involuntary separation includes mandatory retirement and layoff.	

m							
	CORDER CONTRACTOR	201	5	201	6	201	7
Category		Employees	%	Employees	%	Employees	%
	Under 30	63	57.27%	41	37.27%	106	61.999
Age	31-50	33	30.00%	20	18.18%	44	25.73
	Above 51	14	12.73%	22	20.00%	21	12.28
0 d	Male	52	47.27%	43	39.09%	83	48.54
Gender	Female	58	52.73%	40	36.36%	88	51.469
Region	Taiwan	97	88.18%	65	59.09%	150	87.72
	China	13	11.82%	18	16.36%	21	12.28
Total		110	15.03%	83	10.02%	171	18.19

		tigerair					
) 201	5	201	6	201	7
Category		Employees	%	Employees	%	Employees	%
Age	Under 30	3	25.00%	26	50.98%	49	56.32
	31-50	9	75.00%	23	45.10%	31	35.63
	Above 51	0	0.00%	2	3.92%	7	8.05
0	Male	6	50.00%	26	50.98%	42	48.28
Gender	Female	6	50.00%	25	49.02%	45	51.72
Region	Taiwan	12	100%	51	100%	86	98.85
	Asia	0	0.00%	0	0.00%	1	1.15
Total	·	12	5.84%	51	12.69%	87	13.50



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Employee Retention

Periodical Performance Evaluations Conducted on a Fair and Objective Basis

CAL conducts an employee performance evaluation three times a year. Except for employees working for less than a certain period of time, all the other employees are covered in the performance evaluation. Apart from conducting 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 supervisory levels, in addition to job assessment indicators, specific annual targets based on the CAL's business strategies are evaluated via Management by Objectives (MBO).

To make the assessment process impartial and objective, each employee is evaluated by several supervisors, and performance scores are also allocated according to different job rankings. In addition, to ensure that the performance evaluation provides employees positive feedback and assistance, the performance evaluation also includes an interview to provide a chance of communication and interaction between supervisors and employees.

A two-way assessment scheme has been formulated for evaluating the performance of 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 may detract from the impartiality of the performance evaluation.

The Comprehensive Remuneration System

Every year, CAL offers employees reasonable remuneration packages, related benefits, and insurance coverage based on CAL's salary policy and earnings. Performancebased salary adjustments and promotions are also provided to outstanding employees to ensure that the promotion process is conducted in accordance with the principles of transparency and fairness. In addition, we provide allowances and various types of benefits (e.g., dividends, education and training, employee stock options, concessional flight tickets, and work allowances) and flexible benefits programs (e.g., resignation packages), thereby giving employees the choice of benefit packages based on their needs. Apart from enhancing the bond between employees and management, this arrangement can also raise employee satisfaction levels and retention rates.

2-2-3 Employee Development GRI 404-1

Training Systems and Framework

China Airlines establishes sound training systems and structures to cultivate employees. We adopt diversified training methods, including virtual reality, invest in training hardware and software facilities, and develop training courses in accordance with the related regulations. CAL emphasizes the development of employees and ensures that the training courses will enhance their skills. CAL also improves the competencies of the Company's managers at various supervisory levels, and cultivates managerial capabilities and perspectives among personnel with potential for advancement. Education and Training Structure: The Training Advisory Committee was established based on the demand of education and training to arrange the planning of annual education and training activities for all employees. The primary strategic objective of CAL's training and development program is to enhance employees' job skills. The training framework of the "China Airlines Lecture Hall" is adopted to ensure that all employees are equipped with the capabilities to carry out their duties and job functions. In 2017, CAL invested about TWD 390 million in training and development. The total number of training time exceeded 320,000 hours, and the training completion rate reached 98.27%.

Education and Training Structure



required for specific duties or tasks.



Training Statistics of CAL Group from 2015 to 2017

					2015			2016					2017		
Contents	Company	Category		Training Hours	Number of participants	Average Hours/	Training Hours	Number of participants	Average Hours/	Training Hours	Number of participants	Average Hours/	Total expenses	Number of classes	Trainir completion ra
0 Preface						participant			participant			participant		opened	
1 Sustainability Management Overview			Business Air service	116,899 426,826	3,621 4,507	32.28 94.70	186,733 215,607	3,634	51.38 45.90	132,372 159,904	3,546	37.33 33.01			
Overview		Duty	Maintenance	25,605	2,321	11.03	23,708	2,415	9.82	20,966	2,458	8.53			
2 Value Creation								-					390,706,932	2,618	98.27%
2-1 Trust			Others	7,650	1,988	3.85	7,102	1,902	3.73	8,402	1,797	4.68			
2-2 Human Resources		Gender	Male	460,409	6,419	71.73	152,115	6,554	23.21	106,574	6,476	16.46			
2-3 Cooperation		ochuci	Female	170,594	6,018	28.35	281,035	6,094	46.12	215,070	6,169	34.86			
2-4 Environment			Business	2,871	252	11.39	19,082	403	47.35	9,916	397	24.98			
2-5 Society		Duty	Air service	9,367	151	62.03	16,849	171	98.53	19,673	229	85.91			
		Duty	Maintenance	14,159	126	112.37	8,850	128	69.14	17,196	139	123.71	- /		
3 Sustainability Governance	~		Others	3,294	107	30.78	4,359	126	34.60	5,814	175	33.22	5,620,037	7 1,343	92.25%
Appendix		Gender	Male	23,065	322	71.63	23,815	382	62.34	34,884	454	76.84			
		Gender	Female	6,586	314	20.97	25,324	446	56.78	17,716	486	36.45			
			Business	673	72	9.35	703	110	6.39	16,868	261	64.63			
		Dutu	Air service	4,322	203	21.29	17,910	242	74.01	15,535	330	47.08			
	Al A	Duty	Maintenance	240	18	13.33	432	26	16.62	326	28	11.63	41,298,375		98.36%
	NY		Others	147	15	9.80	189	24	7.88	1,313	25	52.52	41,298,375	1,436	78.36
		Candar	Male	2,900	166	17.47	9,527	210	45.37	10,205	275	37.11			
		Gender	Female	2,481	142	17.47	9,707	192	50.56	23,837	369	64.60			

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 includes chief financial officer, chief operating officer,

chief business officer, chief executive officer, chairman, Finance Department, Accounting Department, and Information Department.

Note 2: Training hours exclude training hours in outstations.



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Internal Recruitment and Rotation System

CAL is committed to upholding the principle of assigning each staff to proper position. We offer periodical job rotations and internal training courses to improve our employees' job skills and overall productivity. In each department, an annual staff review and rotation evaluation is conducted at least once a year. Employees who have been in the same positions for a long time are also reviewed and rotated when necessary. A comprehensive system for staff to transfer internally is also in place to provide employees chances to hone diverse capabilities and skills. In addition, we have established an internal recruitment system so that employees can participate in the selection processes

Employee Development Programs in 2017

in accordance with their wishes and ambitions. This allows CAL to utilize its human resources in a flexible way and ensures employees being assigned to the most proper positions, resulting in a win-win situation for all parties. To utilize management with flexibility and to ensure 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 units and outstations or in joint venture companies for three years will be included in the management review and rotation evaluation based on the related regulations.

Human Capital ROI

Through education and training, employees can

grow along with CAL's strategic and business objectives. Meanwhile, corporate assets will also be accumulated in value, and provide CAL a solid foundation for its long-term viability. CAL has recently adopted a metric - Human Capital Return on Investment (HCROI) as a benchmark tool. In addition to estimating the earnings from investing in human capital, the metric is also included in the company's long-term performance indicators.

	2015	2016	2017
Human Capital ROI (Note)	1.24	1.23	1.35

Note : Human Capital ROI = Income - [Operating expenditures -[Salary costs + Benefit costs]] / [Salary costs + Benefit costs].

Employee Development Program	Business Benefits	Quantitative Impact of Business Benefits	Proportion of Employee Participation in the Program
Emergency escape refreshment training for maintenance, ground services, cabin crews and flight operations.	 Elevate the safety awareness and enhance the security awareness. Be familiar with the operating procedures. Be familiar with the emergency reaction procedures. 	 Number of flights in 2017: 88,136 GDI direct lost in 2017 due to human factors: US\$118,817 	 Proportion to total employees: 56.80% Maintenance: 2,602 Cabin crews: 3,133 Ground services: 394 Flight operations: 1,053
Regular service related training for cabin crews and ground service employees to strengthen the service concept and skills.	 Recall the passion of service. Enhance the service techniques. Strengthen the professional ability to handle and solve problems. Reduce customer complaints and elevate the service quality. 	 Enhance the service quality and reduce compensation issues derived from customers to increase customers' willingness to choose on CAL again. The customer satisfaction of ground service in 2017: 87.2 The customer satisfaction of cabin crews:86.8. 	 Proportion to total employees: 41.31% Cabin crews: 3,476 Ground services: 1,748
Training for pilots based on regulations and fleet plans to ensure safety	 Enhance flight safety. Comply with regulations and get familiar with flight operations. 	 High-level risk of unsafe events due to pilot human factors: 0 	Proportion to total employees: 8.33%Pilots: 1,053

Note: To reduce GDI (Ground Damage Incident) of aircraft, CAL organizes periodical trainings for front-line employees.



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Industry-Academia Collaboration

CAL has promoted campus talent cultivation programs since 2013 by taking advantage of its abundant practical experience and comprehensive aviation-related training facilities and courses. In order to cultivate talents. CAL has cooperated with colleges and universities nationwide to provide internship programs that last for six months to one year with various of fields, including maintenance, ground services, cargo loading, information technology, and educational technology. CAL also offers interns scholarships and allowances and arranges training courses for them. Interns are required to finish the training courses before participation. In 2017, CAL was awarded the Top 20 Youngsters' Favorite Brands by Cheers magazine. For many students, CAL is also one of the ideal companies for internship. With industry-academia collaboration, CAL hopes to be helpful to students' career planning by providing them an opportunity to learn the operations and working conditions of an airline company. CAL also expects to recruit outstanding talents through industryacademia collaboration. In 2017, a total of 149 students participated in the industry-academia collaboration programs and summer internship programs.



Summer Internship Visit to the Maintenance Park in 2017

Industry-academia Collaboration in 2017

Summer

Internship



National Chiao Tung University, National Chung Cheng University, National Kaohsiung Marine University, National Kaohsiung First University of Science and Technology, National Chin-Yi University of Technology, National Taiwan University of Science and Technology, National Taiwan Ocean University, Tzu Chi University, Soochow University, Chang Jung Christian University, Aletheia University, Tamkang University, Feng Chia University, Shih Chien University, Fu Jen Catholic University, and Ming Chuan University.



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2-2-4 Employee Rights GRI 102-41, 201-3, 401-2, 401-3, 402-1, 405-2

In 2017, there were no major disputes between CAL and the labor union, such as strikes. However, in order to protect employees' rights and interests, the labor union continued to address many requests to optimize working conditions and raise and benefits. After the amendments of the Labor Standards Act, CAL will communicate with the labor union to reach an agreement that supports mutual benefits.

Employee Care

Salary and Benefits

CAL firmly believes that employees are the most valuable assets and that it is important to accommodate both employee benefits and shareholders' equity. For these reasons, CAL provides competitive salaries and benefits for employees. The salary and benefit package of each employee will not differ due to one's gender, race, religion, political affiliation or marital status. Whenever the minimum wage of a particular location in the world being raised, we promptly review our salary standards and make necessary adjustments.

The annual promotion, air travel expenses and allowances for ground services were provided in 2017. Since October 2017, CAL has started to review the salary structure and benefit level in each outstation and adjusted the salary by 3% in average. Employees who are required to work overtime due to the nature of their work receive reasonable overtime pay in accordance with the regulations. No employees are forced to work overtime against their will.

Male/Female Salary Ratios of CAL Group in 2017

		Base Salary	Bonus
	Business operations	1.19	1.32
	Flight and cabin crews	2.64	1.85
	Maintenance personnel	1.17	1.18
	Others	1.21	1.24

	Base Salary	Bonus
Business operations	1.02	1.03
Flight and cabin crews	1.17	1.62
Maintenance personnel	1.02	1.41
Others	1.08	1.27

		Base Salary	Bonus
-	Business operations	1.41	1.07
A.	Flight and cabin crews	3.45	2.48
S)/	Maintenance personnel	N/A	N/A
	Others	0.93	0.79

Note 1: Flight and cabin crews included pilots and cabin crews; others included executives higher than the ranking of vice president, auditors, accountants, information technology personnel and other employees that are not within the aforesaid categories.

Note 2: The maintenance personnel of Tigerair Taiwan consisted of male employees only.

Note 3: Flight and cabin crews included pilots and cabin crews. Male pilots were the majority and their wages and allowance were five times higher than cabin crews. Therefore, the salary ratio in the flight and cabin crews was much higher than that in other categories.



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Pension Scheme

CAL values employees' rights and interests. CAL reports regarding the pension reserve fund to the Labor Pension Reserve Supervisory Committee on a quarterly basis. Prior to the end of the year, CAL estimates the amount of pension for the following year in accordance with the regulation. In terms of the rate of allocation, the rate for the latest labor retirement plan is 6%. The rate under the former labor retirement plan was 15%, which reached the statutory upper limit, and this amount has been fully reserved in accordance with Article 56, Paragraph 2 of the Labor Standards Act to ensure that employees can receive the retirement benefits that they are to get.

Friendly Workplace

CAL cares deeply about the balance between 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 2017, we organized seven employee care activities, including board games, exercises and the seminar entitled Talking to Children - Love, Homosexuality, and Bullying, to promote the benefits of exercising for stress relief and share parental experience, and around 200 employees participated. In addition, employees were invited to have rice balls at the Winter Solstice Festival and had a good time together. We encourage employees to pursue a healthy and sustainable lifestyle of balance between mental and physical health.

Salary, Benefits and Pension Reserve Fund of CAL Group

Unit: Million TWD

		2015	2016	2017		
	Salary	12,223M	15,813M	15,760M		
	Benefits	243M	207M	216M		
	Pension reserve fund	1,839M	4,959M	5,710M		
ø	Salaries	515M	631M	699M		
	Benefits	7.5M	7.8M	6.3M		
	Pension reserve fund	214M	191M	243M		
	Salary	246M	436M	646M		
S	Benefits	N/A Note: The Employee Welfare Committee of Tigerair Taiwan will be established in 2 2015 to 2017, there was no benefit.				
	Pension reserve fund	0.27M	1.58M	1.42M		



Seminar: Talking to Children



Exercise Session



Note:Benefits offered by CAL/Mandarin Airlines include travel subsidies, allowances for the elderly, scholarships, Labor Day bonus, and spring party and anniversary expenses.

Winter Solstice Festival Event

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Unpaid Leave

CAL understands that employees are sometimes unable to continue working due to extenuating personal or family-related matters. Therefore, CAL has set an extended unpaid leave policy which allows employees to take care of their families while retaining their positions in CAL, meanwhile realizes our commitment to fostering a friendly workplace. Furthermore, CAL supports the government's policy of regarding employers to provide comprehensive childcare leave. To encourage qualified employees to apply for unpaid leave, CAL guarantees that applicants will not be evaluated under an grade "A" for that year. Male employees are also entitled to apply for this benefit, including applying for 5-day paternity leave with full pay before and after the childbirth. In addition, if the child is born during a regular or public holiday or the employee's business trip, the balance of the paternity leave will be valid within 15 days thereafter. According to CAL leave policies, we offer more benefits than those stated in the Gender Equality in Employment Act. By analyzing the cases of unpaid leave taken by employees in recent years, we found that the majority of employees who did not return to their duties, or returned to their duties but worked less than a year were mainly because of the need of caring for family members or due to changes in career objectives.

Statistics of Maternity Leave in CAL Group in 2017				m	A A A A A A A A A A A A A A A A A A A		undersite a		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
Numbers of employees eligible for parental leave in 2017 (A)	540	422	962	33	26	59	11	28	39
Actual Numbers of employees applying for parental leave in 2017 (B)	343	18	361	9	0	9	5	1	6
Rate for employees applyingfor parental leave in 2017 (B/A)	63.52%	4.27%	37.53%	27.27%	0.00%	15.25%	45.45%	3.57%	15.38%
Numbers of employees being expected to return in 2017 after parental leave in 2016 (C)	350	18	368	19	0	19	0	0	0
Numbers of employees applied for back to duties in 2017 (D)	301	18	319	18	0	18	0	0	0
Return rate in 2017 (D/C)	86.00%	100.00%	86.68%	94.74%	0.00%	94.74%	0.00%	0.00%	0.00%
Total number of employees returned after parental leave in 2016 (E)	261	17	278	6	0	6	1	0	1
Number of employees completed one full year of service after returning from parental leave in 2016 (F)	182	12	194	5	0	5	1	0	1
Rater on return after parental leave in 2017 (F/E)	69.73%	70.59%	69.78%	83.33%	0.00%	83.33%	100.00%	0.00%	100.00%

Note (A):Date of birth from January 1, 2014 to December 31, 2017.



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Benefits for CAL Employees





Retiree Association

Assisted retirees and employees with establishing a global China Airlines retiree association as well as the "China Airlines Retiree Portal" website.

Employee Benefit

- Allowances for employees' birthday, marriage, childbirth, children scholarship, and travel.
- Allowances on Labor day, Senior day
- Subsidies for disasters and bereavement
- Emergency loan



Annual Leave Scheme

Offered more than the requirement set by the Labor Standards Act.

Childcare Benefits

Preferential childcare contracts with 12 daycare centers throughout Taiwan to help employees solve problems with childcare arrangements.





Commuting

Apart from regular commuter shuttles at fixed sites, there are also shuttle services for shift workers, cabin crews -0-0and disabled employees stretching from Keelung, Taipei City and New Taipei City to Taoyuan and Zhongli.

Concession Tickets

Employees, their spouses, parents and children enjoy free and discount CAL tickets to more than 50 global destinations around the world. These can also be used with code-share concession tickets from other airlines to travel all across the world

Employee Stock Ownership Trust

Participation is voluntary. Employees that agree to join the employee stock ownership trust are deducted a fixed amount from their monthly salary based on their pay grade.

Resignation Program



years of service and employees in the specialist track with at least 10 years of service and reaching the age of 54.

Unpaid Leave



Caring for dependents Can be applied when an employee's spouse or direct relatives are seriously ill or when necessary.



Illness Can be applied when an employee is seriously ill.



Advanced study All employees can apply with no restrictions regarding of school and program.


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Employee Communication

Each and every employee matters to CAL. We maintain multiple avenues of communication with our employees, such as regularly scheduled labor-management meetings, which allow us to express our goodwill and actively respond to the concerns of employees, and we also strive for improvements. 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 the significant changes in operations that affect employees, CAL will provide notice in order to comply with the labor regulations and also promptly communicate with the labor union and employees. Information regarding major issues about CAL and the latest news about employee rights are available on CAL's corporate website or e-mailed to all employees. In the event that an employee expresses concern about certain company regulations or practices, the Company will seek to clarify the issue and communicate with employees more frequently.

Versatile Communication Channels



Labor-management Meetings

Company-wide meetings

Meetings are held monthly for CAL to communicate with employee representatives from all CAL Employees Union Branches.

Divisional meetings

Including the meetings for Flight Operations Division, Cabin Crew Division and Ground Service Division are held monthly; the meetings for Engineering & Maintenance Organization and Kaohsiung Branch Office are held every two months. Meetings for other divisions are held on a regular basis.



Supervisor Mailbox

CAL encourages employees to express opinions and advice through their supervisor mailbox.



"Speak Out Your Thoughts"

CAL encourages employees to express opinions and advice on "Speak Out Your Thoughts" on corporate intranet web portal.



Employee Care Mailbox

CAL sets the dedicated mailbox for employees' complaints (wecare@china-airlines.com).



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Labor Unions

At present, CAL cooperates with several labor unions including China Airlines Employees Union (CAEU), Taoyuan Flight Attendant Unions and other Unions, and remains committed to maintaining open communications in order to negotiate reasonable agreements. We show the same respect to all unions and devote considerable resources in accordance with law. In particular, the CAEU is a member of the Chinese Federation of Labor in Taiwan. There are six branches under CAEU according to the members' duty and working areas:

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

In 2017, there were 10,704 CAL employees joined in CAEU, representing 99.60% participation rate, meanwhile there were 752 Mandarin airlines employees joined in Mandarin Union, representing 88.16% participation rate. In 2002, CAL made a collective agreement with CAEU - the first of collective agreement in Taiwan's airline industry. The agreement, which currently remains in force, stated clauses regarding union activities, labor-management meetings and dispute resolution, employment and termination, working hours, leave and vacation, salary, allowances and bonuses, personnel transfers, rewards, and disciplinary actions, benefits, training, and occupational safety and health issues. The purpose is to protect and enhance employees' rights. CAL is going to renew the collective agreement with CAEU in 2018 to maintain a stable relationship between management and labor.

CAL cooperates with CAEU as partners and periodically communicate with each other through various of channels. In addition to holding monthly regular meetings between the head office and CAEU, front-line units and their union representatives hold labor-management conference every month to discuss the proposals from members. Meeting minutes are taken in all of these meetings and then being submitted to the respective supervisory units. Meeting minutes taken at labor-management meetings held at CAL head office are published and available for all employees on CAL's corporate website. Moreover, CAL tracks the status of follow-up actions for proposals made in every labor-management meeting and then reports its findings at each subsequent meeting. CAL is dedicated to maintaining harmonious labor-management relations through open channels of communication and efficient modes of operation.

Maintaining harmonious labor-management relationship is important to Tigerair Taiwan. Tigerair Taiwan shows an open-minded attitude to make sure that all employees have the opportunities to fully express their opinions. In addition to the employees' mailbox and Chairman's mailbox, monthly meetings for flight operations and flight safety, technical seminars, and labor-management meetings are held on a regular basis. Issues discussed in the labor-management meetings will be tracked. Meeting minutes will be reported to management level and published available for all employees in the public folder to ensure smooth communication between labor and management.

Union Participation Rate of CAL and Mandarin Airlines

		2015	2016	2017
	Number of participants	10,247	10,755	10,704
	Participation rate	98.13%	99.50%	99.60%
	Number of participants	376	645	752
**	Participation rate	59.12%	88.36%	88.16%

Note 1: Participants refers to the number of people in the year; hourly-basis employees, interns, contract employees and the management level are not included.

Note 2: Tigerair Taiwan does not have a labor union currently.

Note 3: Mandarin Airlines does not have labor union in China.



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Employee Engagement

We view employees as our most valuable assets. This is why we set a variety of channels to communicate, and listen carefully to our employees' suggestions. Through the biyearly satisfaction survey, we understand more about employees' views and needs. It provides important information for us to provide our employees a stable work environment, increase efficiency, and achieve a positive and sustainable corporate culture.

CAL conducted the "Walking with CI" employee engagement survey from late March to early April in 2017. The anonymous questionnaire was conducted by an external consulting firm covering six major categories, including Employee Engagement, Salary and Benefits, Job Potentials, Work Environment, Management Culture, and Corporate Culture, from highest to lowest satisfaction. We also analyzed the results based on gender. The result of our analysis showed that there was no significant difference between genders. The analysis report was sent to the supervisor of the unit with lower satisfaction to help him/her understand potential problems and make improvement plans.

Employee Engagement	 Encouraged employees to reduce the rate of leave application by stipulating that those with full attendance for three years and cabin managers are entitled to change shifts with no limitation. Published the monthly important notices, praise outstanding ground service employees and share improvement recommendations made by ground service employees.
Salary and Benefits	 Raised allowances for ground employees and travel expenses for aircrews in May 2017. Arranged lunch delivery service in the maintenance park since January 3, 2018. Adopted the leave scheduling system for ground service employees to decrease difficulties to find deputies, and started from January 2017.
Job Potentials	 Internal recruitment is the first priority for available positions. Information regarding available positions will be published in the internal recruitment system. In 2017, 18 internal recruitments were organized. A total of 56 vacancies were released from 11 Divisions and recruited 43 employees, with an achievement rate of 76.79%. Held three career experience camps with 92 participants. Set up an advanced training system for cabin managers. Hired outstanding interns from industry-academia programs as full-time hourly-paid employees. Planned a review and development system for maintenance personnel in October 2017.
Work Environment	 Updated and improved equipment at offices, workplaces, and public areas to create a friendly workplace. Set up motorcycle parking space with roof in the engine factory in July 2017. Replaced safety equipment(helmets) during October 2017 to March 1, 2018. Renovated T2 staff lounge with a breastfeeding room to provide a comfortable environment during breaktime.
Management Culture	 Organized training courses, such as Employee Care and Interaction, Cross-generation Communication Skills and Problem Analyzing and Solving, for supervisors to improve their ability to communicate and solve problems and enhance trust between CAL and employees. Held labor-management meetings on a regular basis to listen to employees' opinions. From 2017 to January 2018, the Maintenance Division organized 17 discussions between the director and employees; in addition, the director had interviews with supervisors at all levels of Engineering & Maintenance Organization (EMO), potential employees, and punished employees (4 sessions) to share the concept of management and show careness.
Corporate Culture	 Flight safety and discipline are the fundamentals of CAL. In 2017, a series of activities were organized, such as interview, safe story, "Risk & Me" quiz contest and safety video, to improve safety and discipline. The Flight Operations Division promoted discipline and passion for service in cabin manager meetings to improve the quality of service.



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Labor Disputes

Background

- On June 23, 2017, Taoyuan Flight Attendants Union and other transport unions organized the Inspection of Working Hours in front of the Transportation Industry to protest against sweaty labor. They criticized about hypothetical issues, damaged CAL's reputation, and misled the public not to take CAL flights; in addition, some members wore CAL uniforms and splashed red painting on the uniforms in an action drama, which seriously damaged CAL's image.
- On October 30, 2017, CAEU held a press conference at National Taiwan University Alumni Club to criticize CAL about monitoring its postings on Facebook and dismissed and illegally transferred its cadre members. CAEU demanded CAL to stop such suppression.

CAL's Actions / Clarification

- Winning the trust of passengers requires long-term efforts made by all employees of CAL. CAL always respects the labor union's activities, but does not allow anyone to discredit CAL's reputation for flight safety, because it will cause panic and further affect the CAL's operations. All parties in the company, including the employer and employees, should be bound by the code of conduct and labor regulations. The labor-management dialogue should be based on facts rather than on unreal accusations or infringement upon the rights and interests of others. The event caused damage of the uniforms which CAL was proud of and discredited CAL's reputation for flight safety in an exaggeratory, false manner. CAL insists to protect its corporate governance and image to the end.
- CAL investigated the event according to evidence regardless the fact that they are union members. Employees' should speak and act not against to the internal code of conduct and flight safety and labor regulations. What the labor union accused was not true. CAL will announce about the fact being hidden by the union to public.





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2-2-5 Healthy and Safe Workplace GRI 403-1, 403-2

In accordance with the Labor Standards Act, CAL has established an Occupational Safety and Health Committee. The committee is tasked with the objective of preventing occupational hazards and protecting the safety and health of all employees by reviewing, coordinating, and making recommendations pertaining to safety and health related matters. The President acts as the chairperson. One deputy chairperson and one executive secretary are appointed.

Members consist of Division managers, occupational health and safety employees, engineers, and medical personnel from related units as well as labor representatives appointed by labor unions. A meeting is held once every three months to review and analyze the CAL occupational incidents and compile relevant statistics. All incidents are tracked and reported to the management so that relevant health management solutions can be subsequently developed. In 2017, a total of 12 safety and health proposals were reviewed and discussed, and 11 of which were completed and 1 are still ongoing. Meeting minutes were published on the EIP website. There were 107 occupational safety reports, 107 of which were improved and completed, with the achievement rate of 100.00%.

Five Major Objectives of CAL's Occupational Safety and Health Initiatives



Proportion of Labor Representatives in Occupational Health and Safety Committee CAL, Mandarin Airlines and Tigerair Taiwan Occupational Health and Safety Committee in 2017

		2015	2016	2017
	Proportion of labor representatives in Taipei Branch (%)	33.33	36.36	36.36
<u></u>	Proportion of labor representatives in Taoyuan (%)	35.71	37.04	38.45
	Proportion of labor representatives in Kaohsiung Branch (%)	38.00	38.00	38.00
	Proportion of labor representatives in EMO (%)	34.78	34.78	34.78
ø	Proportion of Labor Representatives	-	-	33.33
S	Proportion of Labor Representatives	-	-	38.46

Note : Proportion of labor representatives: [Labor representatives of Occupational Health and SafetyCommittee/Total members of Occupational Health and Safety Committee]*100%.



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Staying Up-to-Date with International Standards Through Dual Certification for Occupational Health and Safety

To improve safety and health management by systematic measures in accordance with international trends of labor development, CAL has established a independent safety and health management system, and continues to improve our safety and health facilities to carry out independent management. At the same time, we have enhanced our workplace risk management and control to meet international standards. We have successfully been certified with the OHSAS 18001 and CNS 15506 occupational safety and health management systems, allowing us to effectively control risks associated with occupational hazards based on the PDCA model and preventive actions. By improving our occupational safety and health management performance, we are able to establish a safe, healthy, and comfortable working environment for all employees and enhance our competitiveness in the industry.

Implementing Risk Control to Reduce Occupational Hazards

In 2017, the Disabling Injury Frequency Rate (FR) was 4.07; the Disabling Injury Severity Rate (SR) was 54; the absence rate was 1.32%; the Frequency-Severity Indicator (FSI) was 0.46. After analysis, most occupational hazards were caused by unsafe conduct of employees. The FR and SR of CAL were lower than the air transport industry's average (FR: 4.95; SR: 67) in 2015. CAL has continuously implemented the occupational safety policy. In 2017, there were no occupational hazards of contractors at CAL's workplaces.

Years			2015					2016					2017		
Unit	Taoyuan	EM0	TPE	КНН	CAL	Taoyuan	EM0	TPE	КНН	CAL	Taoyuan	EMO	TPE	КНН	CAL
Number of annual disabling injuries	52	4	1	8	65	56	8	0	5	69	63	8	0	17	88
Absence days of annual disabling injuries	915	71	3	60	1049	741	125	0	15	881	752	252	0	176	1180
FR	3.93	0.8	1.08	7.24	3.21	3.95	1.59	0	4.33	3.21	4.36	1.52	0	14.74	4.07
SR	69	14	3	54	51	52	25	0	13	51	52	48	0	152	54
FSI	0.52	0.11	0.05	0.62	0.40	0.45	0.19	0.00	0.23	0.40	0.47	0.27	0.00	1.49	0.46

Note 1 : Calculated based on 8 hours per day per person

- Note 2 : Disabling Injury Frequency Rate(FR)= (Number of annual disabling injuries ÷ Annual working hours) × 1,000,000
- Note 3 : Disabling Injury Severity Rate(SR)={Absence days of annual disabling injuries ÷ Annual working hours} × 1,000,000

Note 4 : Frequency-Severity Indicator(FSI)= ((FR×SR)÷1,000)^0.5

- Note 5 : According to the 2015 announcement of the Ministry of Labor, the air transport industry's average : FR=4.95, SR=67, FSI=0.58
- Note 6 : Continue to review the FSI to understand the operational performance of each unit regarding the preventions and improvements of occupational hazards.

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

Note 8 : This statistic does not include commuter traffic accidents

Note 9 : EMO-Engineering&Maintenance Organization, TPE-Taipei Branch Office, KHH-Kaohsiung Branch Office, CAL-China Airlines



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Occupational Hazards Statistics of CAL, Mandarin Airlines and Tigerair Taiwan in 2017

			Male	Female	All Employees	Taoyuan	Engineering & Maintenance Organization	
			1.61	6.19	4.07	4.36	1.52	
	Disabling injury frequency rate		0.60	6.05	6.65	-	-	
		S	0.00	2.77	1.60	-	-	
			22.00	89.00	54.00	52.00	48.00	
	Disabling injury severity rate	x	0.60	541.74	542.35	-	-	
		S	0.00	16.62	9.59	-	-	
			0.00	0.00	0.00	0.00	0.00	
	Occupational disease rate	8	0.00	0.00	0.00	-	-	
		S	0.00	0.00	0.00	-	-	
			0.54%	2.20%	1.32%	1.64%	0.48%	
	Absence rate	ø	0.39%	1.40%	0.92%	-	-	
		S	0.00%	0.01%	0.01%	-	-	
			0.00	0.00	0.00	0.00	0.00	
	Incidents resulting in work-related fatalities	0	0.00	0.00	0.00	-	-	
		S	0.00	0.00	0.00	-	-	

Note 1: Disabling injury frequency rate = (Number of annual disabling injuries ÷ Annual working hours) × 1,000,000

Note 2: Disabling Injury Severity Rate = (Absence days of annual disabling injuries ÷ Annual working hours) × 1,000,000

Note 3: Absence rate = (Absence days ÷ Annual working day) × 100%

What's Next?

Taichung

0.00

0.00

0.00

0.65%

0.00

Taipei

0.00

0.00

0.00

1.01%

0.00

Kaohsiung

14.74

152.00

_

-

1.45%

0.00

_

_

0.00

_

1. Recruitment

Due to business expansion in 2018, CAL will recruit professionals in information and marketing as well as flight crews to meet the future growth of the fleets and operations. Moreover, to achieve our commitments to perform responsibility, CAL will continue to promote cooperative endeavors with academic institutions and employ persons with disabilities.

2. Diversification

Over the past three years, female employees accounted for 48.00% of CAL's total employees. In 2018, the target is set at 48.00%. In terms of CAL's female managers, the proportion increased year by year. In 2018, the goal is to increase by 0.30%.

3. Employee Training

Based on corporate strategies, CAL will continue to provide 160 types of professional training courses covering a wide range of topics, including flight operations, passenger services, and aircraft maintenance. In 2018, CAL aims to provide practical and effective trainings with focuses on accountability, management, and discipline.



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Training courses will be implemented through guideline establishment, case study, and follow-ups. Training courses for management functions are planned, including regulations of fundamental and mid-level managements, competent supervisors, and accountability, and interview skills. Courses for specialized employees including procurement employees, instructors, and HR, are also planned; in addition, 15 courses on general training for all employees will be provided, including aviation management, ethics and professionalism, and career experience camps.

4. Employee Benefits

- (1) According to recent amendments to the Labor Standards Act, employees who have worked with the Company for 6 months or more are eligible to receive annual leave. Additional annual leaves are also available for employees based on their accumulated years of service with CAL.
- (2) All employees are eligible for 123 days of leave in each, and beginning in 2017, seven extra days of leave will be added as an additional benefit.
- (3) Contracted employees will receive wage and benefit increase, and CAL has reduced the requirements for transferring contracted to permanent employment.
- (4) CAL is committed to helping employees enhance their professional capabilities and skills. Employees who acquire more license and certification programs are eligible to receive additional allowances.
- (5) CAL makes sufficient contributions to the pension reserve fund for employees to the maximum statutory limit.
- (6) CAL enhances the concessional flight tickets website for employees to access more easily.

5. Strengthening Safety and Health Education and Incorporating Safety and Health in Corporate Culture

Corporate sustainable development should include the concept of safety and health. Occupational safety and health can be achieved only when the top management takes it seriously. CAL aims to enhance employees' safety awareness, so that they will learn knowledge of safety in a proactively way, apply the concept of occupational safety and health to work thoroughly, and enhance their skills to perform safety during wok.

- (1) Promote safety and health concept and perform training: CAL will promote safety and education concept to all divisions. Each employee is required to take training courses for at least 3 hours every three years; trainings may be organized for promoted and transferred supervisors if needed. The members of the Occupational Safety and Health Committee are required to take safety and health training courses for at least 3 hours every three years to develop a correct attitude toward occupational safety and health; in addition, CAL will share knowledge of safety and health and organize training courses required for new employees, transferred employees, safety and health managers, and special operators to perform work and prevent occupational hazards.
- (2) Expand the scale of employees' participation and enhance safety and health culture: CAL will promote the ethics regarding occupational safety. The hazard identification system will be set up to encourage employees' participation. All units will be guided to perform risk assessment and improvements to build up core value regarding safety and health.
- (3) Enhance the safety and health management system and audits to reduce the occurrence of occupational hazards.
- (4) CAL expects to introduce ISO45001:2018 International Occupational Safety and Health Management System during 2019 to 2021. CAL will incorporate ISO45001:2018 concept into our existing management structure. By identifying, assessing, and proactively managing risks, CAL aims to set up appropriate safety and management infrastructure and training systems to implement risk management effectively.



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2nd time Annual Supplier Conference

CAL is Taiwan's first airline to hold the second annual supplier conference



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time included ground handling service in the management scope

CAL includes service procurement in the scope of management for the first time



1 st airline promoted the sustainability audit CAL is Taiwan's first airline to promote the sustainability audit



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Importance of Material Issues



Supply Chain Risk Brand Image Management Management

The disruption of transportation will result in huge losses for airlines. In view of this, one of the key directions for CAL's sustainable operation is to manage the supply chain covered upstream and downstream that reduces tangible or intangible losses, such as financial impacts or mistrust from the community. In addition, CAL endeavors to strengthen the sustainable value of the entire industry chain through its industry influence, further achieving the goal of mutual prosperity with partners.

Commitment and Long-term Goals

Commitment

To achieve the sustainable development with its partners, CAL commits itself to improving the entire procurement mechanism and the risk related to occupational safety through supplier management and training, so as to make the value of supply chain up for stakeholders.

• Long-term Goals



Assist to reduce the risk of occupational safety associated with suppliers and improve workplace safety through supply chain management.

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

Promote sustainability projects in collaboration with suppliers through implementing mechanisms such as supply chain training, assistance for capacity-building and improvement, green procurement, and continue to survey the sustainability risk.

Unit in Charge

Corporate Sustainability Committee-Supply Chain Task Force.

Management Mechanism

- 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

KDI		2018		
KPI	Objectives Performance Achievement		Achievement	Objectives
Convene annual supplier conference	One session	One session was held in Taipei in November	100%	One session
Conduct suppliers' sustainability risk survey	Response rate 65%	Response rate 72%	100%	Response rate over 70%
Implement procurement staff training	Two sessions Two sessions were attended in April and December separately		100%	Two sessions
Critical supplier sustainability score	70.00	85.27	100%	75.00

Grievance Mechanism

Procurement

- General Products Administration Division / E-Mail: tpeuolochina-airlines.com
- Aircraft 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





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2-3-1 CAL Value Chain GRI 102-9

Compared with other industries, the airline industry is very unique because of safety concern. As of 2017, the China Airlines Group (hereinafter "the Group") has established 34 joined ventures, spreading across business sectors including air transport, ground services, tourism, aerospace technology, aviation transport support, logistics and warehousing. By integrating the strengths from each party, the Group expects to improve its overall quality of service and competitiveness.





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2-3-2 Sustainable Supply Chain Management GRI 204-1, 308-2, 407-1, 414-2

Suppliers are indispensable partners for CAL to forge toward the sustainable development. Viewing sustainable supply chain management as an important factor in improving corporate competitiveness, CAL has implemented sustainable supply chain management since 2014.

Compared with other industries, the airline industry always places safety first, making the management of the overall industry more complex. In view of this, the Supply Chain Task Force covering general affairs, jet fuel, aircraft materials, inflight catering, and service procurement was set up to be in charge of sustainable supply chain management which includes formulation of policy statement and code of conduct in accordance with the international standards such as the Global Reporting Initiative (GRI), ISO 26000, the United Nations Global Compact (UNGC), and the International Labour Organization (ILO), identification of potential risks of supply chain sustainability, implementation of sustainability audit, corrective action plans, and report the implementation performance to the Corporate Sustainability Committee every quarter.



CAL Sustainable Supply Chain Management Policy Statement



CAL Supplier Code

of Conduct

Strategies of CAL's Sustainable Supply Chain Management



CAL Management Process of Supply Chain Sustainability





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To elevate the effectiveness of management, CAL reviewed the implement performance of supply chain management in 2017. With an aim of strengthening management mechanisms, compared to 2016, CAL included service procurement and Tier-2 suppliers for expanding the scope of management, adjusted Sustainable Supply Chain Management Policy Statement and redefined critical suppliers, modified the sustainability assessment questionnaire (SAQ) of suppliers and promoted a sound sustainability audit program, as well as improving engagement effectiveness through convening annual supplier conferences.

Performance of Sustainable Supply Chain Management in 2017

1	Expand the scope of management Include service procurement Tier-2 suppliers 	 General goods (293 suppliers in 2017) Jet fuel (28 suppliers in 2017) Aircraft parts (631 suppliers in 2017) In-flight catering (7 groups including 29 stations in 2017) Service procurement (80 stations in 2017)
2	Optimize management mechanisms Adjust the policy statement Review the definition of critical suppliers 	 Regulation compliance, fair transactions & ethics, environment, human rights, and information security were included in the policy statement. The amount of procurement and irreplaceability are the basics of critical suppliers for better control of risks of supply chain sustainability and management effectiveness.
3	Control risks of supply chain sustainability • Modify the SAQ • Promote the sustainability audit program	 The survey was optimized by adding the international trend of sustainability for the characteristics of five procurement categories to consolidate the scope and foundation of the survey. The audit program for supply chain sustainability was promoted, including documents and procedures for on-site audit, to facilitate the supplier capacity-building mechanism subsequently.

2017 Progress

1. Control Risks of Supply Chain Sustainability

Controlling risks of suppliers is one of the sources for CAL to strengthen its sustainable competitiveness. CAL has launched a risk survey of supply chain sustainability since 2015, which covers three dimensions of economy, environment, and society, the SAQ from the survey is based on international initiatives and evaluations, such as GRI Standards, ILO, UNGC, DJSI (Dow Jones Sustainability Index), CDP, and the Universal Declaration of Human Rights.

To improve the accuracy of results of the SAQ, CAL reviewed the evaluation and grading of risks of supply chain sustainability in 2017 based on the past experience and feedback provided by suppliers and adjusted the definition of critical suppliers and contents of the survey (covering regulation compliance, environment, society and quality/ information security) according to the characteristics of different types of suppliers; in addition, CAL also included tier-2 suppliers in the scope of management to comprehensively control risk.

CAL also established audit regulations as well as checklist and carried out the audit and capacitybuilding for high-risk suppliers based on the result of the SAQ for reducing potential risks and existing impacts.



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In 2017, the survey was sent to 100 suppliers (Majority is critical suppliers) which is accounted for 80.62% of the total amount of procurement, with a response rate over 72%. On the whole, the sustainability performance of CAL supply chain is 85.27 on average. The average score of four dimensions (Governance, Environment, Society and General) is more than 80 which shows most of CAL suppliers have internalized sustainability concept in their management mechanism. However, there are four supplier assessed as high risk suppliers. As for the high risk suppliers, CAL forwarded results of the survey via e-mail and also carried out the on-site audit for the purpose of strengthening the performance of sustainable operation with suppliers. Expecting to promote a supply chain sustainability through its influence, CAL referred to information on supply chain management provided by tier-1 critical suppliers (such as sustainability report), held the annual conference, and implement SAQ, staff training, on-site audit to fully understand the current status of supply chain management of non-critical suppliers. In the future, CAL will continue to identify the number of tier-2 suppliers through the risk survey of supply chain sustainability, so as to achieve the goal of supply chain sustainability.

Supplier Sustainability Risk Survey Process



Overall sustainability performance of suppliers

- The risk survey score of supply chain sustainability in 2017 is 85.27.
- 100% critical suppliers meet the regulation requirements of the labor condition.
- In the survey for the regulations related to environment, occupational safety

or international labor condition, the percentage of establishing environmental mechanisms is the highest (over 90%) and only 61.54% suppliers obtained the certification of the environmental management system. Suppliers who have introduced the occupational health and safety system are the least, merely 58.33%.

2017 Risk Survey of Supply Chain Sustainability (Score)



Reasons for high risk in each dimension

• Governance (4.17%)

No actions and mechanisms for CAL supplier code of conduct, and no training related to ethics and compliance.

• Environment (19.44%)

No mechanisms related to the greenhouse gas inventory or carbon reduction, and management and goals for the energy and resource reduction or waste.

• Society (6.94%)

No occupational health and safety system, and relevant operation mechanisms. Partial suppliers comparatively lack the regulations related to labor and human rights.

• General (5.56%)

No quality system and relevant training mechanisms

Improvement action

CAL positively engages with suppliers by promoting onsite audit, collecting the management information of tier-2 suppliers and even including tier-2 suppliers in the management scope. According to the survey result of 2017, while managing tier-2 suppliers, CAL focuses on business ethics and quality, and labor condition and human rights sequentially. The environmental regulation is less focus according to the environmental issues.

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2. Helping Suppliers to Reduce Risks

Holding Annual Supplier Conferences

On November 15, 2017, CAL convened the second annual supplier conference, which was attended by 32 domestic suppliers from five procurement categories, to reach a consensus on supply chain sustainability with suppliers and received a remarkable result.

During the conference, CAL not only revealed the implementation of sustainable supply chain management, but also invited experts to share the momentum of sustainable development in the airline industry, industry-leading experience in sustainability management, and the trend of supply chain sustainability, hoping that suppliers would better understand the importance of sustainable supply chain management which CAL valued greatly. CAL also collected suppliers' feedback through the discussion session for subsequent promotion and strategic improvements; meanwhile, CAL explained the adjustment and update of supply chain management mechanisms in hopes of making risk identification more in line with the actual cooperation with suppliers and building a sustainable value chain and a sustainable Taiwanese brand in the service industry.

Providing Sustainability Training

To enhance the procurement staff's knowledge of sustainable procurement, CAL actively provides sustainability training for the procurement staff. In 2017, members of the Supply Chain Task Force attended sustainability courses organized by external sustainability institutions to gain better understanding of the trend and current status of international supply chain management. In the same year, CAL also invited experts to train the procurement staff for the sustainability audit. Those experts explained policies and mechanisms of sustainable supply chain management, introduced how the sustainability audit was promoted, and run through the case study from the benchmarking companies to build up the fundamentals of the sustainability audit. Moreover, in response to the update of ISO 14001:2015, CAL held three training sessions on environmental issues for suppliers to continuously build the capacity of suppliers and affiliates for environmental sustainability for the purpose of achieving mutual prosperity with partners.

Building a Green Supply Chain

To promote green procurement, CAL has been dedicated to the purchase of products with green marks certified by EPA, Taiwan and collaborates with suppliers throughout the process of designing its cabin service products to develop eco products or help qualified suppliers to obtain EPA-certified green marks; these efforts are made to allow suppliers and their supply chains to have the green ability.







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3. Results of Supply Chain Sustainability

Green Procurement

CAL is dedicated to promoting green procurement. Our tenth A350 aircraft left for Taiwan from Toulouse-Blagnac Airport, France which participated in the biofuel project with Airbus and Air TOTAL to fuel Sustainable Aviation/Alternative Fuels (SAF) which passed the certification of sustainability (CoS). Furthermore, in the process of procurement, CAL takes EPA-certified green marks into account; CAL also collaborates with suppliers throughout the process of designing its cabin service products to develop environmentally-friendly products. To strengthen suppliers' and their supply chains' ability to produce environmentally friendly products, CAL also assists qualified suppliers in obtaining EPA-certified green marks. In 2016, the total amount of procurement was higher due to replacement of general supplies. As general supplies have a service life of one year or more, the total amount of procurement declined slightly in 2017.



Local Procurement

Fostering the development of related industries in Taiwan has always been CAL's corporate social responsibility. Except for certain aircraft equipment, parts, and some business procurement that are subject to the requirements of international standards, CAL has tried its best to procure from local suppliers to promote the growth of local economy. The increase in the amount of procurement in 2017 was due to the longer term of the contract regarding general affairs or the transformation from international suppliers to domestic suppliers because of getting the domestic dealership. In the future, CAL will continue to implement the policy of local procurement.

Amount of Local Procurement (TWD 10,000)

Number of Local Suppliers





Note 1: The Administration Division and maintenance park, are included; procurement conducted independently by the fleet, the In-flight Service Supply Division and the Ground Services Division are excluded. Note 2: Aircraft materials were not included; they were not for selection as they were subject to special certification.

What's Next?

- 1. Provide sustainability training for the procurement staff.
- 2. Convene the annual supplier conference.
- 3. Enforce the risk audit of supply chain sustainability and develop incentive programs for suppliers.



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1 st highest score in environmental policy and management/reporting of DJSI Company Sustainability Assessment

CAL was selected in DJSI Emerging Markets Index and ranked the industry's first place in environmental policy and management/reporting.



1 st environmental management coverage in Taiwan's aviation industry

CAL completed the transfer of ISO 14001:2015 to have the most complete coverage of environmental management in Taiwan's aviation industry.



1 st in the world's airline group that received the international Carbon Footprint Certificate and Taiwan CFP Label

The route between Songshan-Kinmen passed the third-party ISO 14067 certification and received the carbon label granted by the Environmental Protection Administration (Taiwan).



st in Taiwan's airline to use Sustainable Aviation/ Alternative Fuels

CAL fueled 10% aviation biofuel in the delivery of A350.





Diamond-level

The headquarters building was certified Diamond-level Green Building by the Ministry of the Interior.



One & Only

Taiwanese airline to sign the Buckingham Palace Declaration

CAL was first and only airline in Taiwan to sign Buckingham Palace Declaration against wildlife trafficking.



One & Only Taiwanese airline to participate in PGGM

Since 2012, CAL has installed IAGOS instrument to collect atmosphere data from 6,757 flights as of 2017. CAL was Taiwan's only one airline that participated in the PGGM project cooperated by EU IAGOS.



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Environmental Risk Brand Image Sustainability Management

In recent years, frequent disasters took place globally due to climate change. Environmental events such as air pollution, wastewater, waste, noise, etc. lead to travel and freight market under great risk. The aviation industry has also been affected. As a leading airline in Taiwan, CAL endeavors to provide quality products and services, while fulfilling the responsibility and obligation of environmental protection, in hopes of offering passengers a better flight experience.

Commitment and Long-term Goals

Commitment

To optimize the capacity for environmental protection, CAL has actively participated in environmental organizations and initiatives at home and abroad in addition to complying with environmental laws, regulations pertaining to civil aviation, and enhancing risk management mechanism.

CAL always takes the lead to reduce environmental pollution and make good use of limited resources.

• Long-term Goals



- Introduce an aircraft cleaning method to conserve water.
- Implement the management of fuel usage and energy conservation, aiming to raise fuel efficiency in flight operations by an average of 1.5% each year before 2020.
- Promote the use of renewable energy in order to protect our environment and develop a low-carbon economy.
- Continue to promote green management for freight and passenger services, refine the nopaper policy in cabin services, and implement the management of a green supply chain.
- Organize the establishment of low carbon facilities and work environments, and continue to take climate change into consideration when developing fleet management strategies and emergency measures.
 - Implement greenhouse gas (GHG) reduction management to achieve the carbon reduction.
- Implement the CAL conservation policy and emphasize employee cognition.
- Sign the conservation declaration against illegal wildlife trafficking. Support and implement the IATA task force plan.
- Promote the environmental protection to customers and optimize the cargo management process.

Unit in Charge

Corporate Sustainability Committee—Environment Task Force (Environmental Committee)

Management Mechanism

- The meeting of Board of Directors and the Risk Management Committee, every quarter.
- The meeting of Corporate Sustainability Committee, at least twice every year.
- The meeting of Corporate Environmental Committee (Environment Task Force), every quarter.
- Environment Task Force reports to Corporate Sustainability Committee, every quarter.

Grievance Mechanism

- Passenger Branch Office Website : <u>http://t.cn/RBASnmY</u>
- CSR Corporate Development Office / E-Mail : csr@china-airlines.com







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14 BELOW WATER

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15 UFE ON LAND

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CHINA AIRLINES 🏀

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Objectives and Plans

Took					
Task	Objectives	Performance	Achievement	2018 Objectives	
Perfect environmental and	Plan the environmental risk assessment tools for outstation	Established the environmental risk self-assessment form for outstation	100%	Plan and implement the mechanism for managing the environmental risk assessment for outstation	
environmental and energy management operation	Perform the new edition of ISO 14001:2015 and expand the verification scope of ISO 50001:2001	Consolidated context of the organization and extended the life cycle perspective to in-flight services in conformity with ISO 14001:2015	100%	 Implement and consolidate environmental management Plan the environmental management performance database 	
	 Plan and complete 59 projects for environmental management Reduce 106,035 tons CO₂e 	 Completed 60 projects. Cargo Service (CGO) Environmental Management Committee added a paper-saving project. Reduced 164,343 tons CO₂e 	154%	 Complete 55 projects including fuel saving, water saving, energy saving, paper saving, waste reduction, and green procurement Reduce 152,076 tons CO₂e 	
	Increase fuel efficiency to 0.2212 tons / 1,000 RTK	0.2429 tons / 1,000 RTK (up 4.75% compared to 2016)	90%	0.2179 tons / 1,000 RTK	
Strengthen carbon management	Reduce Scope 1 greenhouse gas (GHG) emissions in ground operation by 4,640 tons CO_2e	4,950 tons CO ₂ e	93%	Reduce Scope 1 GHG emissions in ground operation to 4,574 tons $\rm CO_2e$	
	Reduce Scope 2 GHG emissions in ground operation by 2,190 tons CO ₂ e	Reduced 1,219 tons CO_2e	93%	Reduce Scope 2 GHG emissions in ground operation to 18,297 tons CO_2e	
	Implement the low-carbon park and label	The headquarters building received the Diamond-level green building label	100%	Promote to obtain the green building label for the flight crew training building	
	Provide carbon management coaching for key Groups and suppliers	 Completed the GHG inventory of key Groups and suppliers Assisted China Pacific Catering Services to complete the trial operation 	100%	 Perform the supplier environmental risk assessment Advance management capacity 	
Build capacity for value chain environmental management	Implement the trial operation of carbon label for domestic routes	 Received the global aviation industry's first ISO 14067 Carbon Footprint Declaration of Reasonable Assurance Received the carbon label granted by the Environmental Protection Administration Updated information on carbon footprint in passenger and freight routes 	100%	Implement green fares and voluntary carbon offsets	
Promote environmental awareness	 Publish articles or knowledge of environmental protection Organize annual training programs on environmental protection Promote cross-industry cooperation 	 Published seven articles about environmental protection Organized three training programs on waste reduction and conservation of global biodiversity from August to December Promoted cooperation with United Microelectronics Corporation and CPC Corporation regarding sustainable environmental management Organized on-site courses on environmental management for new employees at the headquarters 	100%	 Plan and promote company-wide communication of environmental protection Organize the annual training program on environmental protection Organize at least two seminars on environmental protection 	



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2-4-1 Governance of Environmental Sustainability

Improving the Policy and Structure of Environmental Governance

To address risks and opportunities for corporate environmental sustainability, CAL published the "Environmental and Energy Management Ideas" in 2017, the underlying guide to the Group's environmental management with the focus on legal compliance, conservation of resources, improvement in ecological benefits, and fulfillment of social responsibilities. In 2011, CAL published the <u>Environmental and Energy Policy Statement</u>, which was modified in July of 2017 according the new edition of ISO 14001: 2015, jointly signed by the Chairman and the President to serve as the basis for the Group's environmental sustainability. CAL also reviewed and implemented the said policy based on trends of environmental protection at home and abroad. For detailed information, please visit our <u>CSR website - Environmental Governance.</u>

To implement the policy, CAL established the Corporate Environmental Committee in 2011. The President is the highest 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 risk management pertaining to in-flight, maintenance and freight services as well as the administration and operation of the headquarters and offices. The head of the major business department acts as the management representative, who is responsible to report the performance of environmental and energy management to the highest management every quarter and to report environmental risks and opportunities and corresponding controls and plans to the Board of Directors in routine meetings convened by the Corporate Sustainability Committee and the Board of Directors and its committees. For material issues, functional task forces, including the Carbon Management Task Force and the Sustainable Aviation/Alternative Fuels Task Force, were also set up to discuss the trends of fuels, GHG emissions, plan countermeasures, and review the performance and results in regular meetings.





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Sustainable Aviation / Alternative Fuels Task Force Flight Operations Finance Division Division Corporate System Operation **Development Office Control Division** • Analyze financial impact and technical feasibility Monitor and review results Strategy Development • Analyze policies and trends of technological development at home and abroad and plan the development strategies • Establish channels of communication and cooperation with equipment and fuel suppliers • Establish strategic partnership Note : Established in April 2017, the Sustainable Aviation/Alternative Fuels Task Force is responsible to

discuss laws and regulations, airworthiness of aircraft, technology, and procedures for supporting ground handling agencies and develop corresponding strategies.



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Implementing Environmental and Energy Management Systems

To extend environmental protection to daily operations, CAL reviews management experience of different industries at home and abroad and has introduced the ISO Management System in 2009 based on its risks and resources. Currently, CAL has considered context of the organization and the life cycle perspective in conformity with ISO 14001:2015 and has included each aspect of operation in the environmental risk management, including operation management, services and maintenance, making itself as Taiwan's first transport service provider that has the most complete control of risks and the world's second airline that passes both ISO 14001 and ISO 50001 certification.

Standards for CAL's Environmental Management Systems

2009	2012 (Note)	2013
Standards ISO 14064-1:2006 Greenhouse Gas Inventory Management System Scope • Global aviation fuel • Ground operations in Taiwan, including CAL Park, maintenance park, Taipei Branch Office (B1, 1F, 2F, 9F), Songshan Branch Office, and Kaohsiung Branch Office.	Standards ISO 14001:2015 Environmental Management System Scope • Aircraft maintenance • Aviation-related administration • Air freight transport • In-flight service since 2017	Standards ISO 50001:2011 Energy Management System Scope • Aircraft/engine maintenance • Flight operations management

Note : In 2017, CAL introduced and completed the transition of ISO 14001:2015.

2-4-2 Strategies for Environmental and Carbon Management

In the face of demanding environmental regulations and increasing awareness of low-carbon consumption, CAL has endeavored to develop and implement a variety of strategies based on environmental and energy management ideals and policy statement. With four major tasks, CAL have developed action plans based on the business philosophy of stable operation, prevention, common prosperity, leading the overall industry and value chain to improve sustainable value. By introducing ISO14001:2015 Environmental Management System, CAL is aware of risks and opportunities arising from issues of stakeholders' concern and context of the organization based on the life cycle perspective.

CAL identifies risks and opportunities arising from the environment and climate, such as compliance, physical or environmental changes, reputation and market, through stakeholder engagement and participation in initiatives and organizations at home and abroad. In addition, CAL has learned extensive and macro experience in operations through government-industry exchange, cross-industry cooperation, and expert interviews and incorporate such experience in the management strategies.

Participating in Environmental Organizations and Initiatives

Environmental and climate issues are at a global level. Taking advantage of the high degree of international cooperation in the aviation industry, CAL has participated in environmental organizations and initiatives at home and abroad to create opportunities for international and cross-industry cooperation on environmental and climate issues, in hopes of making the environment better. For more information, please refer to



Fulfilling Strategies for Environmental and Carbon Management

🔊 CHINA AIRLINES	Environmental and Energy Ideals	Complying with environmental laws & regulations	Conserving the Earth's resource	Improving eco-efficiency	Fulfilling social responsibility
Contents O Preface 1 Sustainability Management Overview	Environmental and Energy Policy	Enforcing compliance obligations to fulfill the company's responsibilities in environmental protection and energy conservation	Establishing environmental and energy management systems, including performance indicators, to verify compliance with established policies	 Promoting environmental and energy conservation education to foster employees' eco- awareness Implementing green supply chain management to raise overall eco-efficiency 	 Creating a low-carbon operating environment to establish continual improvement of environmental protection and energy efficiency Supporting green design and procurement to promote sustainable development
2 Value Creation 2-1 Trust 2-2 Human Resources 2-3 Cooperation 2-4 Environment 2-5 Society 3 Sustainability Governance	Strategy	 Establish channels of collecting international trends and stakeholders' needs. Supervise and regularly evaluate changes in environmental issues and the effect of countermeasures. Participate in international cooperation and ensure smooth communication in the supply chain. 	 Set short-term, medium-term, and long-term objectives of environmental management and carbon reduction. Plan and implement KPIs for environmental protection and carbon reduction to improve performance. Incorporate green procurement in the policy to reduce waste of resources from the source. 	 Hold coordination meetings to review performance and achievement of objectives on a regular basis. Accelerate the fleet update and use of Sustainable Aviation/Alternative Fuels to improve fuel efficiency and performance of fleets. Work with experts to develop and introduce the latest technologies and skills. Analyze past environmental events and future trends to minimize environmental impacts and maximize opportunities. 	 Facilitate communication with stakeholders (such as airports) to maintain good partnership. Promote environmental education and incorporate the concept of environmental protection in operations. Improve sustainable value of the supply chain through corporate influence.
Appendix	Task	Perfect environmental and energy management operation	Strengthen carbon management	Build capacity on value chain of environmental management	Promote environmental awareness
	Action Plan	 Regularly check statutory requirements and new commitments and evaluate compliance. Update the corporate environmental management system (ISO 14001:2015) in line with international standards. Set annual environmental objectives and action plans based on the nature of business (in-flight, flight, and freight services and office activities) as well as resource-saving objectives. Update national and international environmental laws, develop countermeasures, and follow up and review the performance of environmental and energy management (carbon, noise, and air pollution) in meetings held by the Environmental Committee quarterly. Prioritize green label supplies and promote green accounting by reporting items, quantity, and amounts of green procurement on a regular basis. Continuously participate in DJSI and CDP. 	 Set and implement short-term, medium-term, and long-term objectives of GHG reduction. Since 2017, CAL has started to use Sustainable Aviation/Alternative Fuels to the new aircraft leaving. CAL has managed carbon rights based on the change in carbon prices under the EU Emissions Trading System (EU ETS). 	 Since 2014, the CAL Group's corporates have been invited to attend seminars and courses on environmental protection to improve the overall capacity for environmental management every year. Continuously communicate the practice and requirements for CAL's environmental management in contractor conferences, supplier conferences, and regular meetings. 	 Starting from 2018, CAL plans to offer green fares (carbon offsets) to communicate the concept of environmental protection with customers. CAL plans and organizes seminars on environmental education, held related contests every year and sent communicates news about environmental protection via e-mail from time to time.



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

According to the statistics released by the United Nations (UN), CO_2 emissions in the aviation industry account for 2% of total CO_2 emissions worldwide. As the aviation industry continues to grow, CO_2 emissions in the aviation industry are estimated to reach 3% of total CO_2 emissions worldwide by 2050. In view of this, the International Air Transport Association (IATA) sets three sequential goals and a four-pillar strategy (technology, operation, infrastructure and economic measures) for the global aviation industry in 2009. Considering the aforesaid goals, strategies and cross-industry benchmark technology for carbon reduction, CAL sets the following targets for flight and ground operations (refer to the table as below) based on corporate finance and the business plan as well as technical

CAL Objective of Carbon Reduction



2017 Achievement (Note)

The fuel efficiency in 2017 was 0.2429 tons 1,000 RTK, compared with the objective 0.2212 tons/1,000 RTK, the achievement rate of which was 90%.

Note: For detailed performance of carbon reduction, please refer to

feasibility; in addition, CAL analyzed risks of business entities and transformation, improved decision-making models, and evaluated the Science-Based Target (SBT) for carbon reduction in accordance with the guidelines established by the Task Force on Climate-Related Financial Disclosures (TCFD), RCP2.6 (Representative Concentration Pathways) conducted by the Intergovernmental Panel on Climate Change (IPCC) and the 2°C scenario (2DS) set by the sector decarbonization approach (SDA). Internal and external decision-making platforms were also used to review targets and pathways for carbon reduction as well as related results. CAL also proposed updating carbon-reduction targets for the aviation industry to the Environment Committee of the IATA.



2017 Achievement (Note)

The carbon emission in 2017 was 24,748 tons $\rm CO_2e$, compared with the objective 23,200 tons $\rm CO_2e$, the achievement rate of which was 93%



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2-4-3 Environmental Risk and Opportunity Management GRI 201-2

CAL collected national and international trends of environmental protection, stakeholders' expectations, changes in regulations, and extreme climate risks and analyzed their positive and negative impacts on corporate operations; through communication with business operation, environmental and risk management committees, CAL developed and implemented strategies and action plans to eliminate or reduce environmental and climate risk factors as far as possible.

Risk Opportunity Analysis and Management

lssue	Risk and Financial Impact	Opportunity and Financial Benefits	Management Method
International regulations pertaining to environmental protection and carbon management (such as International Civil Aviation Organization (ICAO) Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) and EU ETS)	 ICAO CORSIA, EU ETS and China's ETS have implemented measures for carbon management, leading to the increase in compliance costs (material management, declaration, external verification, and offset responsibility). Governments have levied taxes for environmental protection (such as noise, air pollution, and waste), leading to the increase in operating costs. According to the requirements of the United Nations Framework Convention on Climate Change (UNFCCC) and the National Determined Contributions (NDC), authorities in charge of environmental protection have regulated the declaration and control of carbon emissions for the transportation sector (including air transport), leading to the increase in administrative costs. Countries have implemented stricter punishments for environmental violations, leading to the increase in financial risks. 	 Continue to improve fuel efficiency and reduce costs of energy purchase, offsets, and compliance according to international protocols and regulations pertaining to carbon reduction. Extra earnings derived from sale of carbon rights. Establish the automated carbon emission management system to reduce the administrative costs of data verification and declaration. 	 Continue to introduce risk identification and management tools and enhance employee training to improve management efficiency. Continue to update fleets and equipment and plan and implement measures for carbon reduction. Follow trends of fluctuations in the carbon market and manage carbon rights to increase the source of income. Continue to communicate with the public sectors and international organizations about the particularity of t aviation industry and existing plans for carbon reduction maintain corporate competitiveness and market stability
Risks of flight safety derived from increased frequency of extreme weather (such as typhoon, heavy rainfall, and snowstorm)	 Abnormal climate, such as floods, strong winds, rain, and fog, causes changes or cancellation of flights, blockage of ground access, and obstacles to freight transport, leading to the increase in operating costs (transfer and passenger arrangements). Extreme climate affects the supply of raw materials and market prosperity, leading to the decrease in passenger load and revenue. 	 Enhance the capability of emergency responses to improve quality of service and reputation. In case of changes or cancellation of flights due to floods, strong winds, rain or fog, handling customers' needs properly will benefit royalty and customer retention. 	 Expand and strengthen operating procedures and contingency plans and enhance operator training improve coordination and operating efficiency across to organization. Introduce weather professionals to increase the accurace of weather forecasts and advance flight scheduling. Improve coordination and partnership in the supply chain management to ensure safe freight and passeng transport.



Ŭ						
	lssue	Risk and Financial Impact	Opportunity and Financial Benefits	Management Method		
Contents	Effect of the rise in average temperature and uneven rainfall	 The rise in average temperature causes energy consumption and costs to increase. 	 Plan renewable energy to reduce the dependence on fossil fuels and electricity and derivative costs. 	 Set annual goals of carbon reduction and take energy- saving measures to reduce unnecessary wasted 		
0 Preface	intensity on the headquarters	• Due to the change in rainfall pattern, droughts happen frequently and last longer, affecting water supply, quality of service, health and safety, and food safety and leading to increase costs.	• Develop or introduce water-saving measures in	 Plan renewable energy facilities in CAL Park and the maintenance park, such as solar power plants and elevator power regeneration systems and evaluate th certification. 		
1 Sustainability Management Overview	and branch offices		 manufacturing processes, such as reducing water consumption and its cost. Market the said technology to increase the Group's . 			
2 Value Creation 2-1 Trust 2-2 Human Resources			 income. Improve service procedures and tools (such as new menu) and develop new ecological attractions to increase the Group's income and competitiveness. 	 Improve measures for water saving, water storage, and rainfall harvest. Introduce the cleaning plan, Ecoshine, and obtain the agent right of regional market. 		
2-3 Cooperation 2-4 Environment				Strengthen the management and quality of potable water.Improve service procedures and innovate business model.		
2-5 Society	Other indirect social/ economic impacts	• The increase in vector mosquitoes and infectious diseases and the decrease in attraction of eco-tours (due	• The change in customer behavior increases the demand for low-carbon air transport.	 Launch Al Mobile, an online booking system, to increase convenience and reduce carbon emissions. 		
3 Sustainability Governance		 to changes in the ecosystem) cause tourism and freight transport to decrease. The awareness of carbon reduction increases, leading to the decrease in air transport. Climate change weakens social economy and reduces tourism, leading to the decrease in air transport. 	• The image of environmental protection helps improve consumers' recognition and corporate competitiveness	 Improve fleets and aircraft equipment and introduce Eco services and green fares to promote green/low-carbo opportunities. 		
Appendix				 Develop a variety of new products/services (such as direct flights) to improve performance and meet market needs. Understand low-carbon economy and transport issues and market models to create opportunities and competitiveness 		
	Corporate reputation and low- carbon image	 Consumers are increasingly aware of environmental protection and carbon reduction, affecting the corporate reputation, and brand value to decrease income. The increasing awareness of carbon reduction changes the demand for air transport. 	 Consumers are increasingly aware of environmental protection and carbon reduction, affecting the corporate reputation and brand value. Facilitate communication with stakeholders about CAL's concept and practice of environmental protection to pursue recognition and support. Support and conform to the government's environmental policies and enhance industrial cooperation to improve corporate competitiveness. 	 Strengthen communication with stakeholders and participate in scientific research and evaluation of environmental sustainability to improve the corporate image of environmental sustainability. Strengthen employee training on environmental protection and energy conservation and organize relate activities to improve employees' awareness of environmentat protection. Enhance cooperation with low-carbon product suppliers at home and abroad to improve the supply chain sustainability. 		



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2-4-4 Achievements in Environmental Sustainability

Environmental protection is an important cornerstone for corporate sustainable development. For this reason, CAL endeavors to fulfill the environmental and energy policy by improving the ecological efficiency of business operations and controlling environmental risks and opportunities in the aviation industry. In 2017, CAL focused on the following tasks: perfecting environmental and energy management operation, strengthening carbon management, building capacity for value chain of environmental management, and promoting environmental awareness. It appointed the Corporate Environmental Committee, its five environmental management committees, and functional task forces to convene meetings regularly or from time to time for the purpose of improving environmental performance and ecological efficiency. For more information on environmental performance, please refer to Appendix Environmental Performance.

Task 1 — Perfecting environmental and energy management operation

In 2017, CAL conducted to the transition operation of ISO 14001:2015 in line with international trends of environmental management and sustainable governance. One executive seminar, three workshops, and four seminars on transition instructions and several technical discussions were organized to complete the third-party verification. The life cycle perspective, stakeholder engagement, and risks and opportunities were integrated into the environmental management mechanism. CAL also added requirements for the measures to handle risks and opportunities by planning the risk assessment at outstations, so as to face any operating risk and pursue any opportunity for environmental sustainability in an active manner.

Diamond-level green building and new elevator power regeneration system

Established in 2010, CAL Park was planned with an energy-saving concept covering water, air-conditioning, and lighting conservation as well as base optimization, low-e glass and sun visor. The design conforms to the four indicators of Taiwan's green building evaluation system, namely Ecology, Energy saving, Waste reduction, and Health (EEWH) and CAL Park was granted the Green Building Candidate Certificate. During operation, resource management and equipment of CAL Park have been improved.

In Q4 2017, the elevator power regeneration system was introduced. Together with existing energy-saving measures, the system saved 8,400 kWh in the single quarter and saved 22,000 kWh throughout 2017, equivalent to power consumed by air conditioners with grade 1 for 77,000 hours.

To further fulfill the corporate social responsibility, CAL Park's Environmental Committee initiated the low-carbon certification program in 2017 based on stakeholders' expectations. In the first stage, the administration building at the headquarters was certified Diamond-level Green Building by the Ministry of the Interior on September 4, 2017. In 2018, CAL will continuously plan renewable energy facilities and receive the green building label for the flight crew training center.



Key achievements



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Resource Management

Use of Energy

In 2017, the electricity usage at each site went in a downward with total consumption of 37,344kWh, a decrease of 4.99% compared to 2016. Since November 2017, CAL has taken the lead to add 10% Sustainable Aviation/ Alternative Fuels to the after tenth A350-900 aircraft.

Energy Consumption Information



Note 1: "Energy consumption" calculates mainly electricity usage and the fuel usage of ground vehicles and aircraft. Electricity usage and ground vehicle fuel usage in the following areas: the parks (China Airlines Park, Taipei Branch Office, Songshan Branch Office), maintenance factories (Hangar 2, Hangar 3, engine repair/maintenance), and the Kaohsiung Branch Office are calculated. All CAL aircraft are counted as part of the calculation of aircraft fuel consumption.

- Note 2: The areas where electricity purchases are calculated include: parks (China Airlines Park, Taipei Branch Office, Songshan Branch Office), maintenance factories (Hangar 2, Hangar 3, engine repair/maintenance), and the Kaohsiung Branch Office.
- Note 3: Electricity contains 54,920MWh from the construction of Novotel Taipei Taoyuan International Airport II in CAL Park.



Use of Water Resources GRI 303-1

In 2017, CAL consumed 141,257 tons of water, an increase of 3.60% compared to 2016, mainly due to the construction of Novotel Taipei Taoyuan International Airport II and the increase in working days and employees in CAL Park. Since May 2016, CAL has introduced the environmentally friendly cleaning program, Ecoshine, to the ground cleaning process for 24 aircraft, which reduced resistance and fuel consumption during flight and also reduced water consumption by 98%.

In 2017, the program was applied to 55 aircraft to save 883 tons of water in total, 3.6 times more compared to that in 2016. Being aware of the gradual increase in water consumption, CAL has set the water-saving target to be 1.5% in 2018.

Water Resources Information



---- Water consumption (1000 tons)

Note: In 2017, two elevator power generation systems were installed in the Flight Crew Training Center with high utility of elevators. Electricity was recycled and reused through the anti-motoring effect and the internal grid. The systems were launched in November. By the end of December, 297 kWh of electricity was recycled for two elevators.

Note: The scope of water consumption covers the following areas: CAL Park, maintenance factories and Songshan Branch Office.



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Pollution Prevention

Air Pollution GRI 305-7

In gas emitted by aircraft engines, not merely does GHG cause Earth's climate to change, but also other pollutants such as NOx have great impact on local air quality. Since 2014, CAL has introduced 777-300ER and A350-900 to replace A340-300 and part of 747-400.

CAL Group SOx and NOx Emissions Information



(CI) (AE / IT) 20 200 15 15 150 16 160 13 130 13 110 110 12 120 80 8 4 40 Π 2014 2015 2016 2017 • Emission efficiency (10⁻⁹ Ton / RTK)

Mandarin Airlines has planned to introduce nine ATR72-600 aircraft. In 2017, three ATR aircraft were introduced. Two aircraft are expected to be introduced from 2018 to 2020. By introducing these next-generation fleets, CAL improved fuel efficiency and reduced NOx emitted at take-off and landing.







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Freight Aircraft-NOx



30 29 29 2014 2015 2016 2017 • Emission efficiency (10⁻⁹ Ton / RTK)

Noise Management

Aviation noise pollution includes aircraft noise and the airport noise it causes in turn. For example, the roar of the engines during take-off, the noise while climbing, from discharging gases at cruising altitude, from engine fans while landing, and the reflected horizontal echoes made by the buildings alongside the runway. As noiseless engines are currently in the process of development, CAL will take the following actions to reduce the impact of noise on local communities and front-line employees without prejudice to 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 from Chapter 3 and 4 of ICAO Annex 16].
- 2. Implement flight operations following the Noise Abatement Procedures posted by each airport.
- 3. Encourage flight crews 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.
- 5. Collect related information from around the world through international exchange platforms such as IATA to continue to carry out noise reduction operations.

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

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

Note 3: LTO refers to the number of flights landing and taking off.

2015

Emission efficiency (10⁻⁹ Ton / RTK)

2016

2017

2014

Note 4: Mandarin Airlines and Tigerair Taiwan had no freight aircraft.



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Wastewater Management GRI 306-1

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 three stage treatment respectively before discharging to the sewage treatment system at Taiwan Taoyuan International Airport.

Well-qualified employees are trained. We regularly examine water temperature's hydrogen ion, conductivity, grease, and hexavalent chromium to make sure the water quality meet statutory requirements; wastewater and sewage treatment facilities are also installed to apply qualified effluent to car wash, landscaping, and watering. In 2017, CAL saved 1,890 tons of water in total and achieved the wastewater/sewage reutilization rate of 2.7% (quantity recycled/total water consumed).

Water Resources Information



Waste Management GRI 306-2

CAL manages waste according to three main principles: reduce, reuse, and recycle. CAL's goal is to recover 100% of waste as resources and increase the waste reuse rate each year.

In 2017, CAL added other two principles (refuse and repair) to fulfill waste reduction based on the principle of 5R. According to the study conducted by the IATA, a total of 5.4 million tons cabin waste was produced in the aviation industry throughout 2016, resulting in US\$875 million waste. Considering air transport is the core business of the airline industry, CAL has actively attended meetings organized by the IATA Cabin Waste Task Force. In 2017, CAL collected the total weight of waste and waste recycled as the basis for future management strategies.

Waste Information

ltem	Ground Operations	In-flight Services
Total waste weight (kg)	711,266	3,417,870
Waste recycled (kg)	298,934	1,068,483
Recycling rate (%)	42.03%	31.26%

Note 1: The scope of ground operations covers CAL Park, maintenance park (excluding hazardous industrial waste and cadmium-containing batteries produced in the maintenance process), Kaohsiung Branch Office, and VIP rooms at four airports (Taoyuan, Songshan, Kaohsiung, and Tainan).

Note 1: Everyday sewage is monitored according to the government's environmental protection regulations, collected and sent through the sewage systems to the sewage treatment plants at the Taiwan Taoyuan International Airport, Taipei City, and Kaohsiung City to be processed.

Note 2: The source of water is from Taiwan Water Corporation.

Note 2: The scope of in-flight services covers return flights.



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ltem (kg)		Operation Request	2014	2015	2016	2017	
	General industrial waste/ everyday wasteGeneral maintenance/ everyday life useAppoint certified waste cleaning companies to clear away waste, and keep documentation on the treatment; report to the governme routinely according to the law (physical/burning/heat treatments).					419,689	456,997
Ground Operations	Hazardous industrial waste	Emergency power requirements in aircraft and on the ground	Appoint certified waste cleaning companies to clear away waste, and keep documentation on the treatment; report to the government routinely according to the law (chemical/solid landfill).	17,673	12,728	13,430	16,758
	Cadmium-containing batteries	Maintenance of aircraft and engines	Appoint certified waste cleaning companies to clear away waste to outside and report to the government routinely according to the law.	1,110	1,445	1,920	1,782
In-flight Services	General industrial waste/ daily waste	In-flight catering and supplies	Appoint certified waste cleaning companies to clear away and destroy kitchen waste in accordance with international quarantine regulations; daily waste is collected and sorted and then sent to the incinerators at airports for incineration.			-	3,417,870
Total		1		406,731	394,835	435,039	3,893,407

- Note 1: The statistics for 2014-2016 come from the maintenance park, CAL Park, Songshan Branch Office, and Taipei Branch Office.
- Note 2: The statistics for waste produced from ground operations in 2017 add cover Kaohsiung Branch Office and VIP rooms at four airports (Taoyuan, Songshan, Kaohsiung, and Tainan). To truly reflect aviation services, the total cabin waste returning to Taoyuan is also included in the statistics.
- Note 3: Waste produced from Kaohsiung Branch Office, VIP rooms and cabin services is general office waste and daily waste without hazardous industrial waste.

Environmental Expenditure

According to the Autonomous Regulations on Developing Taoyuan City as a Low-Carbon-Emission and Green City that became effective in 2017, CAL calculated category I, II, and III green products, including power regeneration systems, inverter cooling tower, inverter air conditioning, photocopy paper, and LED light bulbs, totaling 108 items. To treat environmental pollution properly, CAL invests in green facilities every year to implement maintenance and operation projects and also pays fees on waste disposal and noise prevention. Compared to 2016, environmental expenditure in 2017 was higher due to the replacement for sinks at two wastewater treatment plants. The total environmental expenditure in 2017 was TWD226,299,000.

CAL Investment in Green Facilities and Green Procurement (TWD1,000)

ltem	2014	2015	2016	2017	Total
Green facilities and maintenance and operation projects (Note 1)	5,331	16,798	13,993	22,769	58,891
Green procurement (Note 2)	9,634	7,294	13,385	11,730	42,043
Waste disposal	2,608	2,417	4,164	3,315	12,504
Noise prevention	176,869	181,704	185,864	188,485	732,922
Total investment amount	194,442	208,213	217,406	226,299	846,360

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).



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Task 2 – Strengthening Carbon Management GRI 302-1, 302-2, 302-4, 302-5, 305-1, 305-2, 305-3, 305-5

In 2012, CAL signed the OnePointSM, low-carbon solution agreement, with GE Group to develop a strategy for improving fuel efficiency through its patented decision-making software and technology, aiming to increase the annual fuel efficiency by 1.5% on average by 2020. Considering the increasing demand in the aviation market, since 2016, CAL has initiated new-generation passenger transport system, CICOS+, to best balance business income and fuel consumption. With precise market analysis and seat scheduling, the system improved both passenger load and passenger satisfaction. Starting from 2017, CAL has developed a plan for freight transport scheduling and freight load optimization, leading to the increase in total fuel consumption by 30,883 tons (1.39%) compared to 2016, but revenue ton kilometer (RTK) increased 562,280,000 ton-kms (6.44%) compared to 2016. The overall fuel efficiency was 0.2429 tons/1,000 RTK, it did not meet the target set for 2017 (0.2212 tons/1,000 RTK), but the increase of 4.75% compared to 2016.

CAL Group's GHG Information (tons CO₂e)



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

Note 2: GHG emissions assessment agency: BSI (2011-2013, 2015-2016), DNV (2014, 2017).

Note 3: The calculation range of Scope 3 is according to the 15 categories of GHG protocol, covering products purchased, capital goods, and fuel and energy activities not included in Scope 1 and Scope 2, transportation and distribution, waste treatment, employee commuting, lease assets, and investments. The emission of energy activities, lease assets, and employee commuting (1,627,649 tons CO₂e) in 2017 passed external verification.





• SCOPE 3





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Aviation Fuel Efficiency GRI 302-3, 305-4

Fuel Efficiency Information									<i>A</i>				
								<u>8</u>					
ltem	2009	2014	2015	2016	2017	2017 Compared to 2016	2017 Compared to 2009	2015	2016	2017	2015	2016	201
Fuel consumption (ton)	1,927,803	2,176,178	2,189, 971	2,225,231	2,256,114	+30,883	+328,311	93,149	83,124	82,075	35,451	73,931	90,006
CO ₂ emissions (ton)	6,099,820	6,885,712	6,929,355	7,009,478	7,106,760	+97,282	+1,034,180	294,735	263,016	259,694	112,171	233,927	284,790
Transport volume (1,000 RTK)	7,721,089	8,444,065	8,625,831	8,727,407	9,289,687	+562,280	+1,568,598	180,588,442	148,746,615	152,280,881	131,718,937	237,326,458	319,553,940
Fuel efficiency (Fuel/RTK)	0.2497	0.2577	0.2539	0.2550	0.2429	-0.0121	-0.0068	0.5158	0.5588	0.5390	0.2691	0.3115	0.281
Carbon emissions intensity (ton CO ₂ /RTK)	0.7865	0.8118	0.7997	0.8032	0.7650	-0.0382	-0.0215	1.6321	1.7682	1.7054	0.8516	0.9857	0.8912

Note 1: The lower the fuel efficiency and the carbon emissions intensity, the better the performance. Note 2: Emission intensity (ton CO₂e/1,000 RTK) = GHG emissions/Total capacity ton-kilometer

Use of Biofuels

CAL's tenth A350-900 aircraft left from Toulouse-Blagnac Airport, France on November 30th, 2017. It participated in the biofuel project with Airbus and Air TOTAL by fueling Sustainable Aviation/Alternative Fuels (SAF), making CAL be Taiwan's first airline that used SAF.

Passing the certification of sustainability (CoS), SAF reduces GHG emissions (i.e. CO_2 emissions by 20,000 kg per one-way trip) and impacts on the environment. With existing energy-saving performance, A350-900 reduces CO_2 emissions by 30% or more compared to existing aircraft models.







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Task 3 — Building Capacity for value Chain Environmental Management

To achieve the objectives of sustainable development, CAL endeavors to improve its capacity for sustainable environmental management and leads suppliers toward sustainability. In 2017, CAL continued to collect the results of the annual GHG inventory conducted by key Corporate Group and suppliers and incorporated the life cycle perspective under ISO 14001:2015 in communication with suppliers about policies of environmental protection and energy conservation. CAL also invited the Corporate Group and key suppliers to attend training programs on the requirements and approaches of ISO 14001:2015; in addition, CAL completed the environmental risk assessment for suppliers and performed the first pilot run in China Pacific Catering Services. Based on the concept of seed education, CAL will strengthen suppliers' capacity for environmental management in the future. In 2016, CAL conformed to the Product Category Rule (PCR) set up by the carbon label program of the Environmental Protection Administration (Taiwan). In 2017, CAL helped Mandarin Airlines complete the carbon footprint calculation and received certification of the demonstrative route from Songshan to Kinmen in accordance with the carbon footprint guidelines established by the Environmental Protection Administration (Taiwan) and the said PCR. CAL Group is the world's first airline that receives both ISO 14067 and the carbon label granted by the Environmental Protection Administration (Taiwan).

Carbon Footprint and Carbon Label

To achieve the objectives of sustainable development, CAL endeavors to improve its capacity for sustainable environmental management and leads suppliers toward sustainability. In 2017, CAL continued to collect the results of the annual GHG inventory conducted by key Corporate Group and suppliers and incorporated the life cycle perspective under ISO 14001:2015 in communication with suppliers about policies of environmental protection and energy conservation. CAL also invited the Corporate Group and key suppliers to attend training programs on the requirements and approaches of ISO 14001:2015; in addition, CAL completed the environmental risk assessment for suppliers and performed the first pilot run in China Pacific Catering Services. Based on the concept of seed education, CAL will strengthen suppliers' capacity for environmental management in the future.

In 2016, CAL conformed to the Product Category Rule (PCR) set up by the carbon label program of the Environmental Protection Administration (Taiwan). In 2017, CAL helped Mandarin Airlines complete the carbon footprint calculation and received certification of the demonstrative route from Songshan to Kinmen _(Note) in accordance with the carbon footprint guidelines established by the Environmental Protection Administration (Taiwan) and the said PCR. CAL Group is the world's first airline that receives both ISO 14067 and the carbon label granted by the Environmental Protection Administration (Taiwan).

Note: Mandarin Airlines calculated the carbon footprint of all domestic routes. Considering only two airports could be done due to the program schedule and resources, the carbon footprint of the route from Songshan to Kinmen was calculated first.





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Task 4 - Promoting Environmental Awareness

To implement the environmental and energy policy, CAL organizes the environmental training system every year to elevate employees' awareness of environmental protection. Training programs are organized online or offline in Taiwan. To consolidate a sustainable brand image, CAL communicates the corporate concept and performance of environmental protection with stakeholders through social media and in-flight magazines.

ltem	Build a culture of environmental protection					
	Environmental training for all employees					
Operation	Improve employees' identification and awareness of environmental sustainability and help develop good conduct and business habits, laying the foundation of environmental and energy management across the Group.					
2017 Progress	• Environmental education activities Three environmental education activities (online film festival, seminar, and story sharing) were organized with aims of reducing waste and supporting global biodiversity conservation.					
	The number of participants was 584. Article contributions and contests pertaining to environmental education were organized in Q1 2018.					



Environmental Protection Seminar

2017 Progress • Knowledge education

(1) Environmental protection for all employees

Seven articles and 13 reports were published in 2017. CAL also communicated with new employees regarding the corporate policies and approaches to environmental protection and energy conservation in the course, CAL and I.

(2) Executive seminars

Expert speeches or cross-industry cooperation/visits were organized to pursue the executives' support and commitment to environmental sustainability. In 2017, one speech was organized. CAL invited the vice president of Foundation of Taiwan Industry Service to introduce the highlights of ISO 14001:2015 and executives' role and responsibility. Two sessions of cross-industry cooperation were also organized to learn other companies' experience in promoting environmental sustainability.



Cross-industry Cooperation with United Microelectronics Corporation

(3) Outstation training

To fully implement the environmental and energy management, CAL released the updated environmental and energy policy statement in 2017. The principles of environmental governance for China Airlines' subsidiaries were also released to communicate the priorities in environmental protection and energy conservation at outstations.


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1 Sustainability Management Overview

	Item	Build a culture of environmental protection			
2 Value Creation 2-1 Trust		Professional environmental training			
2-2 Human Resources 2-3 Cooperation	Operation	The professional training program on GHG inventory was organized for employees in charge of environmental or energy management across CAL and its affiliates. The training covers strategies for GHG management, national laws and regulations pertaining to GHG and energy management, and trends/quantification methods and verification of carbon reduction measures; in addition, employees were appointed to attend external training and seminars as needed to ensure that the corporate management system was in conformity			
2-4 Environment		with laws and regulations, standards, and trends at home and abroad.			
2-5 Society	2017 Progress	One Group training and three Group workshops on GHG inventory were held to improve the operators' knowledge of the environmental and energy management system of ISO14001 and GHG inventory.			
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ltem	Shape an image of environmental protection Promote the awareness of green consumption					
Operation	Continue to promote environmentally- friendly consumer behavior, such as using consumables repeatedly and closing windows in summer	Create green logos to promote green consumption	Continue to adopt local ingredients for in- flight catering to reduce carbon emissions. Menus are printed by recycled paper and soy ink. Menus from business class are marked environmental slogans.	Being aware of the coming era of e-commerce and its value for customer penetration, CAL has taken advantage of existing channels of communication with freight customers and in-flight magazines; in addition, CAL also discloses the concept and performance of environmental protection and energy conservation via social media.		
2017 Progress	 Reduced waste and its derivative handling costs Closed windows in summer to reduce the costs of the Auxiliary Power Unit (APU) and airport energy consumed 	Starting from July 2017, environmentally- friendly products in the duty-free and home-delivery sales catalog have been marked "Eco-friendly".	Starting from July 2017, the last page of the menu for long-haul routes has been marked with environmental slogans.	 CAL selected 12 environment and ecology themed videos to play on the plane. Released 8 articles and reported via social media. 		



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Expansion of PGGM

CAL acts to support international environmental events. CAL participated in the Pacific Greenhouse Gases Measurement (PGGM) led by National Central University (Taiwan) and co-organized by the Environmental Protection Administration, Executive Yuan (Taiwan), and EU's IAGOS-ERI. PGGM has been planned since December 2007. From May to June 2012, the instrument was installed in A340-300 B-18806 aircraft, which began its first flight on June 26. CAL was the first airline in Asia that participated in the GHG measurement with IAGOS. CAL was also the world's first airline that collected trans-pacific high-altitude gas data via IAGOS instrument to help National Central University (Taiwan) and IAGOS perform air monitoring.

Due to excellent performance, CAL was invited by IAGOS and the PGGM team to expand the scale of the vehicle. In September 2015, CAL decided to provide another two A330-300 aircraft for the installation of IAGOS instrument. The instrument was installed on B-18317 aircraft and B-18316 aircraft in June 2016 and July 2017 respectively. From July 2012 to December 2017, CAL collected high-altitude gas data from 6,757 flights, including 480 trans-Pacific flights (357 flights between Taipei and Vancouver, 113 flights between Taipei and Hawaii and 10 flights between Taipei and Fairbanks). CAL's outstanding performance has been recognized by the government of Taiwan (R.O.C.), the EU governments, National Central University (Taiwan), and European Union External Action and was selected in the highlights of the Republic of China (Taiwan) Yearbook.





Key

achievements

What's Next?

Short-term (2018)

- 1. Plan and implement the management mechanism for environmental risk assessment at outstations.
- 2. Promote green fares and the voluntary carbon offset program.
- 3. Continue to implement the establishment and certification of low-carbon parks.
- Implement the environmental risk assessment for suppliers and advance management capacity.
- 5. Build the internal capacity for Carbon Offset and Reduction Scheme for International Aviation (CORSIA)

Long-term (2019~2021)

- 1. Review the objectives of carbon reduction in inflight services and ground operations to reduce carbon footprint produced from operations.
- 2. Integrate and improve management mechanisms for monitoring, declaring, and inspecting carbon emissions and offsets at global level to achieve the zero carbon growth in flight operations by 2020.
- 3. Improve the mechanism for disclosing climate and environmental risks.
- 4. Improve water resource risk management and enhance the capacity for resource efficiency.
- 5. Advance the environmental risk management mechanism for suppliers.



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Society







500 elderlies Held 3 events that more than 500 elderlies participated in 2017.



2,300 students

From 2014 until now, CAL's Love All Around team visited more than 11 cities in Taiwan and helped approximately 2,300 students.



29,000 students

Textbook Sponsorship Program for 64 schools throughout Taiwan to help approximately 29,000 students.

800 professionals

From 2013 until now, cooperated with colleges and universities to train around 800 aviation professionals.

One & Only Taiwanese airline

Tigerair Taiwan was granted Award for Special Contribution to Taiwan Tourism by Japan category by the Tourism Bureau, M.O.T.C. (Taiwan) and won Reader's Digest Trusted Platinum Brand Awards Award in lowcost carrier category



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Importance of Material Issues



Risk Brand Image Management

Social support is the key to success. Hence, under the core philosophy of "Taken from society / Give back to society ", CAL continues to pay attention and contribute to the society, hoping to create love in society and fulfill its corporate responsibility in Taiwan.

Commitment and Long-term Goals

• Commitment

CAL commits itself to continuously investing resources in social welfare as a citizen of the community to reduce social issues and make society better.

• Long-term Goals



CAL aims to popularize higher education for students, including those in remote and underdeveloped areas, to have an opportunity to receive international education; in addition, CAL also endeavors to increase the visibility of local brands worldwide, further promoting tourism in Taiwan.

Unit in Charge

Corporate Sustainability Committee-Society Task Force.

Management Mechanism

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

Objectives and Plans

KDI				
KPI	Objectives	Performance	Achievement	2018 Objectives
Coverage of regional education	20,000 students from elementary schools, junior and senior high schools, and remote areas	31,020 students	155%	Continue elevating education quality in remote and underdeveloped areas
Number of discounted ticket bought by domestic and international students	2,500 domestic and international students	2,775 domestic and international students	111%	Keep promoting the international development of high education, and increase the international education chances for domestic students
Visibility of local brands	Promote international engagement chances of local enterprises for 3 times through sponsored flight tickets	Sponsored 3 international forums through flight tickets for 35 international scholars	100%	Rise international engagement of Taiwan local brands to promote tourism in Taiwan

Grievance Mechanism

- Investor Relations and Media Contacts Investors Service Website: <u>http://t.cn/RBAKtvk</u>
- Charitable Activities Corporate Communications Office / E-Mail: <u>tpepp@china-airlines.com</u>



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2-5-1 Social Sustainability Strategy

As a corporate citizen and the leader in the airline industry in Taiwan, CAL has committed itself to fulfilling its corporate responsibility for the community based on the belief of contributing to the society and creating social value. In 2017, under the idea of giving back to the society and the mission of creating society value, according to one of CAL Sustainability Strategy "Brand Awareness", through "Improve the International Development of High Education" and "Elevate the Visibility of Local Brands of Taiwan" based on Social Sustainability Strategy, CAL hopes to enhance the overall quality of national education and raise the Taiwan's visibility in the world, more importantly, to create a positive cycle of social investment and corporate development. CAL will achieve sustainability with the society.

2-5-2 Assuming Social Responsibility

As a corporate citizen in Taiwan, CAL bears a responsibility not only to stimulate the economic development, but also to enforce its commitment to social sustainability by utilizing its core strengths and capabilities.

		2017 Performance		
Theme	Item	Participants including delivery / beneficiaries	Amount Invested (TWD)	
Humanitarian relief	to Myannia		559,076	
Caring for the disadvantaged	Disadvantaged students, communities and seniors	813	396,061	

CAL Social Sustainability Strategy One of CAL Sustainability O Strategy Direction of promotion Improve the International Development of High Education Enhance the overall quality of national education Raise the Taiwan's visibility in the world

Humanitarian Relief

In 2017, CAL continued to deliver relief supplies to Myanmar where Influenza A (H1N1) broke out and Texas, United States, where Hurricane Harvey struck, utilizing its resources to save people in need of relief from hunger and ensure illness.

Caring for the Disadvantaged

As a corporate citizen in Taiwan, the Group has endeavored to promote social development by caring for the disadvantaged and fulfill social equality through its resources and specialty, in hopes of helping more people pursue happiness and achievement at work.

Disadvantaged Students and Communities

CAL's Love All Around team consists of volunteers caring for the socially disadvantaged. The volunteers use their available time to host events at remote rural schools in Taiwan during their vocation. Since 2014, they have visited 11 counties/cities, 20 townships, and offered their support to approximately 2,306 students; bringing hope to every corner in Taiwan.



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Love All Around – Care for Children with Autism

Mandarin Airlines employees donated their second-hand apparel, toys, and furniture to the charity auction event organized by Environmental Protection Department, Taipei City Government (Taiwan). As of 2014, Mandarin Airlines has donated approximately TWD 100,000 per year to the disadvantaged. In 2017, Mandarin Airlines made a donation to Nantou County Life Restoration Association (Taiwan) and Pingtung Emergency Relief Association (Taiwan); in addition, the one-day bus tour from the charity event was provided by Mandarin Airlines in order to bring happiness and make cherish memories for the children with development delays.



Fabulous Performance by Children with Developmental Delays



Certificate of Appreciation from Nantou County Life Restoration Association (Taiwan)

Through the CAL anniversary carnival in December, CAL Group invited 24 students from Feng Nian Elementary School, Taitung County, to participate in this carnival and perform music on the CAL anniversary carnival by taking the flight of Mandarin Airlines. Before returning to Taitung, employees from Mandarin Airlines took the students to tour the Songshan Airport Observation Deck (Taiwan).





Chairman of CAL Group Receives the Certificate of Appreciation

Students from Feng Nian Elementary School Have Wonderful Flight Experience with Principal



One-day Tour in Penghu of Taiwan



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The Disadvantaged Seniors

In 2017, CAL organized the "7th Year-end Hot Pot Banquet" for 80 disadvantaged elders from Chang Ching Senior Care Center (Taiwan) and Dayuan Senior Care Center (Taiwan), and offered meals and blankets to make them feel at home. In the same year, CAL and Huashan Social Welfare Foundation organized 2 events for 400 seniors, showing that CAL constantly serves in a people-oriented manner based on the spirit of provision for seniors. By organizing these events, CAL expects to arouse more sympathy and attention to the elderly from the society.



Year-end Love Sharing Event for the Seniors

Dragon Boat Festival in 2017 - Volunteer and Senior

Victims in Taitung of Taiwan

Mandarin Airlines donated all revenue from the "Dawn of Happiness Flight" (Around TWD 800,000) to the victims of typhoon in Hungyeh Village, Yanping Township and Tjukuvulj Village, Dawu Township, Taitung County, helping them rehabilitate their communities.



Hungyeh Baseball team and the children from Dawu Village show their appreciations



Village Heads from Hungyeh Village and Tjukuvulj Village expressed the gratitude from Appreciation Certification

2-5-3 Supporting Social Development

CAL has endeavored to promote social welfare and support social development. In the process of social development, education plays a pivotal role. For many years, CAL Group has been a promoter in education, sport and environmental protection, in hopes of promoting social equality.

Theme	lterr	2017 Performance		
	Item	Participants /Beneficiaries	Amount Invested (TWD)	
Education	Volunteer teaching, knowledge-sharing platform at elementary schools, Jeremy Lin x House of Dreams Charity Day	29,647	1,194,817	
Sports activity	2017 Summer Universiade, pitcher Wei-Yin Chen, basketball player Jeremy Lin, extreme marathoner Tommy Chen, tennis player Chun-Hsin Tseng, tennis player Kai-Chen Chang, golf player Pei-Yun Chien, triathlete Shiao-Yu Li, volleyball player Pei-Hung Huang, and weightlifter Hsing-Chun Kuo.	1,178,124	29,507,543	
Environmental education	Coastal Cleanup	230	205,581	



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Education

Since 2010, CAL has made its efforts to cultivate the reading habits for Taiwanese children based on the spirit of contributing to communities. Because volunteer education is a long-term project, CAL has established the long-term partnership with various universities in Taiwan to bring the mutual benefit for both the industry and the academia since 2013.

Industry-academia Partnership

In support of the industry-academia partnership and talent cultivation policy from the Ministry of Education in Taiwan, CAL offers training courses related to aviation industry through maintenance professionals, aviation specialists, and campus education by sharing its wealth of practical experience and resources. In 2017, CAL trained 203 aviation specialists, 41 more compared to the previous year. In the future, CAL will continuously offer training courses on fundamental maintenance and provide highly-trained aviation specialists through industryacademia partnership.



Industry-academia Partnership Students Visiting the Crew Training Facility



Graduation Ceremony for Summer Industryacademia Partnership Programs

Volunteer Teaching

CAL has founded the CAL Volunteer Club since 2011 dedicated to helping socially vulnerable groups and instilling spiritual contentment in employees. Volunteers teach children aviation English and related knowledge during winter and summer vacations. In 2017, the CAL Volunteer Club organized 7 sessions in Jhu Wei Elementary School, Shi-hai Elementary School, San Fong Elementary School, Hai-hu Elementary School, and Guo Lin Elementary School in Dayuan District, Taoyuan and taught more than 1,000 students. Upholding the spirit of developing the young, the CAL Volunteer Club contributed society and communities with real action.



Volunteer Teaching Students How to Wear Life Vest and Oxygen Masks

Knowledge-sharing Platform at Elementary Schools

CAL has collaborated with the Global Views Educational Foundation to create the charitable project of a knowledge-sharing platform since 2014. CAL subscribed to the "Global Kids Junior Monthly" and around 28,566 students to 64 schools nationwide are benefited.

Note: Calculation formula of beneficiary students: Referring to the statistic of Ministry of Education (Taiwan), average students per elementary school x schools donated by CAL



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Jeremy Lin x House of Dreams Charity Day

"2017 China Airlines X Jeremy Lin X House of Dreams Charity Day " was held at the stadium in SanMin Junior High School in Neihu District, Taipei (Taiwan). Led by Chairman Nuan-hsuan Ho, 200 CAL employees worked with Jeremy Lin, the popular Chinese American NBA player, to host a basketball event for 50 teenagers led by Ian Liao, the priest from House of Dreams (Taiwan). In the event, Jeremy Lin encouraged the teenagers to face every setback based on the spirit of persistence and never giving up, using basketball terms like "assist" and "pass." This event has been held for a long time to support social welfare and the disadvantaged and pass on positive energy.

Taiwan's first flight camp designed for people dreaming of flying. The two-day camp covered ground operations,

cabin navigation, simulator operations, and actual flight operations with Diamond 40.



Jeremy Lin Encouraging Teenagers to Pursue Their Dreams



Group Photo of Teenagers with Chairman Ho and Jeremy Lin

Mandarin Airlines Flight Camp

Mandarin Airlines and Apex Flight Academy worked together to hold the Mandarin Airlines Flight Camp, which was

Group Photo of 16 Smile Ambassadors from Taipei Family Helper (Southern Taipei)



Mandarin Airlines Flight Camp Promotes Flight Training in Taiwan



The Camp Covers Ground Operations, Simulator Operations, and Actual Flight Operations

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Smile Camp for Dream

In August 2017, Tigerair Taiwan worked with KKday to host 16 smile ambassadors from Taipei Family Helper (Southern Taipei) to tour Universal Studios Japan. In the tour, children had a great time and were encouraged to communicate in the international common language, "smile." Children also learned to support and take care of each other as a team.



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Family Day for Appreciation

Tigerair Taiwan held the family day on October 14, 2017. To fulfill the spirit of contributing to the society, Tigerair Taiwan also invited teachers and students from Mekarang Elementary School in Hsinchu County to perform using Atayal's traditional musical instruments. In the event, Tigerair Taiwan also donated TWD100,000 to Mekarang Elementary School, in hopes of fully developing the strengths and talents of students in rural areas.



Chairman Hong-Chung Chang (Left) Awarding TWD 100,000 to Principal Yi-Chen Lee (Right)

Sports Activity

The ultimate goal of sports is to promote the wellbeing of nationals, and national health is of primary importance to well-being. As a corporate citizen in Taiwan, CAL supports Taiwanese athletes participating in international sports events through its expertise in air transport, taking practical actions to increase the visibility of Taiwanese athletes on the global stage. CAL has been designated the official airlines for various international tournaments. To assist Taipei City Government in hosting the 2017 Summer Universiade, CAL served as an active promoter by publishing image advertisements worldwide through in-flight magazines and promotion videos, making Taiwan and Taipei seen and recognized by the world. In 2017, CAL also sponsored various sports events and supported local teams and players (including pitcher Wei-Yin Chen, basketball player Jeremy Lin, extreme marathoner Tommy Chen, tennis player Chun-Hsin Tseng, tennis player Kai-Chen Chang, golf player Pei-Yun Chien, triathlete Shiao-Yu Li, volleyball player Pei-Hung Huang, and weightlifter Hsing-Chun Kuo). In the future, CAL will continuously support a variety of sports events.



CAL Cheerleaders Cheering for Taiwanese Athletes in 2017 Summer Universiade

Environmental Education

CAL views environmental protection as its responsibility! CAL has been dedicated to environmental advocacy proactively and encouraged employees to get personally involved in environmental protection, so as to set an example for others.

Coastal Cleanup

In response to the International Coastal Cleanup Day, the senior vice president led more than 250 CAL employees and dependents across the Group to clean up the Jhu-wei Fishing Harbor, taking practical actions to protect the planet and demonstrated determination to care for the community and the environment.



CAL Volunteers Responding to International Coastal Cleanup Day

Animal Conservation

In 2017, Tigerair Taiwan and Taipei Zoo worked together to emphasize the importance of the tiger conservation in the animal conservation program. To celebrate its third anniversary of flight, Tigerair Taiwan started to adopt leopard cats and Formosan clouded leopards. By doing this, Tigerair Taiwan expects to call on the public to value the conservation importance.



Tigerair Taiwan Animal Conservation Plan



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2-5-4 Creating a Sustainable Society

CAL has long committed itself to social welfare and social equality. Meanwhile, CAL expects to establish a positive cycle of resources investing in social development and its business, creating the value of sustainable society. For this purpose, CAL quantifies social investments with financial data to monitor their positive influence on its business, in hopes of achieving social sustainability.

Social Investment Evaluation

CAL actively contributes to the society through its services and expertise. Since 2015, CAL has applied the London Benchmarking Group (LBG) model to evaluate the effectiveness of charitable activities and guantify their influence on business. The LBG model integrates the measurement on financial and nonfinancial contributions to provide detailed guidance on the resource allocation and avoid duplicate investments. Through the LBG model, CAL is able to meet the expectations of stakeholders and create the shared value of social sustainability. For the contribution to social investments. CAL donated TWD 46,099,415 in 2017. Commercial initiatives, charitable events and community investments represented 93%, 3% and 4% of the social investments respectively. The social investments could be categorized into product donation, money donation, employee volunteer and management overheads, which represented 37%, 60%, 1% and 2% respectively. For the detailed information, refer to the right table.

Types of Social Involvement

-	Historical Amount (TWD)			2017	
Туре	2015	2016	2017	Content	Percentage (%)
Commercial initiatives	23,452,427	28,642,674	43,119,512	 Sponsored Taiwanese athletes in international events Supported public forums and cultural events 	93
Charitable events	16,839,415	13,497,703	1,250,200	 Sponsored educational events Provided domestic and international disaster relief 	3
Community investments	3,330,502	2,697,062	1,729,703	 Organized supportive events for the disadvantaged; taught English at elementary schools; donated the monthly magazine to elementary schools in Taoyuan City; hosted the China Airlines Employee Charity Day; and hosted the CAL Park tour and coastal cleanup. 	4

Input of Social Involvement

-	Histor	ical Amount (1	rwd)	2017	
Туре	2015	2016	2017	Content	Percentage (%)
Product donation	29,798,352	31,899,877	17,274,055	Donation of flight tickets and in-flight products	37
Money donation	10,644,000	11,244,500	27,716,057	Money input for each event	60
Employee volunteer	1,294,052	772,378	367,612	Volunteers for park tours, teaching, and coastal cleanup	1
Management overhead	1,885,940	914,684	741,691	Overheads for various activities	2



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Effectiveness of Social Involvement

Item	2015	2016	2017
Amount of social investments (TWD)	35,254,801	43,399,664	77,555,512
Number of beneficiaries	18,210	18,600	31,641
Number of media exposure	343/Number of Facebook fans: 478,763	111/Number of Facebook fans: 668,386	214/Number of Facebook fans: 814,733
Number of flight tickets sponsored	702	626	271

Environmental/Social Effectiveness

Indicator	Data	Amount (TWD)
Sponsorship and promotion of 2017 Summer Universiade	1,177,901 reaches	13,064,023
Other donations for art, sports and charitable events	Eden Social Welfare Foundation, BE HEROES Camp, Finding Exit for Love event, New Pride Stars of Taiwan – book raising event, Huashan Social Welfare Foundation, and Make a Wish Association	1,331,200
Hurricane Harvey in Texas, United States and Influenza A (H1N1) in Myanmar	Delivery of relief supplies	559,076 _(Note 1)
Coastal cleanup in Jhuwei, Taoyuan	Approximately 230 participants	205,581 _[Note 2]
Volunteer teaching	1,364 students at elementary schools	477,400 _[Note 3]
Charitable project of knowledge- sharing platform, Global Kids Junior Monthly, with Global Views	Approximately 28,566 students at elementary schools	590,400 _[Note 4]
CAL Headquarters visits	1,231 participants	410,000 _(Note 5)
2017 China Airlines x Jeremy Lin x House of Dreams Charity Day	Approximately 250 participants	450,000 _(Note 6)

Benefits to Business Operation

Indicator	Data	Amount (TWD)
Media exposure	Media reports: 214 Number of Facebook fans: 814,733	21,400,000 _(Note 7)
Number of flight tickets sponsored	271	17,274,055
Revenue from flight tickets sponsored	Flight tickets sponsored at a discount	21,793,777 _(Note 8)

Calculation of effectiveness of social involvement

- Note 1 : Shipping cost for Hurricane Harvey in Texas, US: TWD494,5000; shipping cost for Influenza A (H1N1) in Myanmar: TWD64,576, totaling 559,076
- Note 2 : Catering and transportation cost: TWD83,221; personnel cost (230 volunteers * TWD133 (basic hourly wage) * 4 hours) : TWD122,360
- Note 3 : Tuition: TWD350 / lesson (1.5 hours) for each participant*1,364 students = TWD477,400
- Note 4 : 164 magazines / month subscribed to* TWD300*12 months = TWD590,400
- Note 5 : 41 visits*TWD10,000 visiting fee = TWD410,000
- Note 6 : Event, catering, decoration, equipment, and transportation cost: TWD450,000
- Note 7 : The benefits of media exposure cannot be estimated and are thus calculated by advertisement placement: TWD100,000*214 advertisements = TWD 21,400,000
- Note 8 : TWD31,747,959 (total amount of flight tickets)-TWD9,954,182 (discount) = TWD 21,793,777
- Note 9: Because the abovementioned effectiveness of social involvement is hard to be quantified, the amount of cost is considered as effectiveness related to society.

What's Next?

- 1. CAL will increase opportunities for international education for students in remote and underdeveloped areas by sponsoring flight tickets and cooperating with universities.
- 2. CAL will improve the visibility of local brands and tourism in Taiwan through its strengths and resources.
- 3. Promote tourism in Taiwan worldwide by taking advantage of the CAL Group's network.



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Based on a sound and rigorous governance model, CAL employees work together to make this sustainability journey safe and comfortable.

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Corporate Governance

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2nd Time selected in DJSI Emerging Markets Index

One and only Taiwanese airline selected in this index and ranked as 3rd place of air line industry



FTSE4Good Emerging Index

Being selected in the FTSE4Good Emerging Index



Top 5 % of TWSE/TPEx listed companies

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



Taiwan HC100 Index

Being selected in the Taiwan High Compensation 100 Index



Taiwan EMP 99 Index

Being selected in the Taiwan Employment Creation 99 Index

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

Board of Directors GRI 102-18

The Board of Directors is the highest governing organization at CAL, it is responsible to supervise, evaluate, and resolve on material issues and guide management. Twelve directors (including three independent directors) having experience in management or expertise of international companies are elected in the shareholders' meeting in accordance with the Company Act. The composition of directors is diversified and talent-based. Two members of the Board are aged between 30 and 50, while the rest are all over 50 with an average age of 57. All directors have the expertise, experience, and competence required to perform their duties, including aviation, sea transport, transportation, finance and accounting, insurance, electricity, technology, academic and public works; they are equipped with international perspectives and capabilities of decision-making, leadership and crisis management sufficient to respond to economic, environmental and social changes. According to Article 192-1 of the Company Act, the election of directors is not subject to gender, age, nationality, and culture.

CAL convenes the Board meeting at least five times every year and may convene extraordinary meetings in case of emergencies. Directors are required to attend related training courses each year as required by the Directions for the Implementation of Continuing Education for Directors and Supervisors of TWSE Listed and TPEx Listed Companies to keep abreast of the latest trends and resources regarding corporate governance and stay competitive. For the effective implementation of the corporate governance system, the Chairman and the President are separately served to improve the professionalism and quality of corporate governance.

As of 2017, shareholders holding more than 5% of CAL's shares are as follows

Major Shareholders	Contributions to Taiwan	Percentage of Shares Held
China Aviation Development Foundation	Endeavor to the development of Taiwan's aviation business, national traffic construction, research, and event promotion.	34.13%
National Development Fund, Executive Yuan	Accelerate industrial innovation, economic transformation, and national development.	9.50%

Note : For experience/education background and concurrent posts of members of the Board, please refer to the 2017 annual report. For their expertise, field of experience, and compliance of independence, please refer to the 2017 CAL annual report.



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Functional Committees of the Board

The Board of Director has three functional committees: the Remuneration Committee, the Audit Committee, and the Risk Management Committee. These committees help the Board of Directors perform its duties, convene meetings, and exercise functional authority conferred by the Board of Directors and the law as well as review and discuss related issues in accordance with organizational

Functional Committees



Frequency of meeting At least once every quarter

Functions

Composed of all independent directors, the Audit Committee is responsible to help the Board of Directors perform its duties, including the fair presentation of CAL's financial statements, selection (dismissal), as well as supervision of the independence and performance of CPAs, implementation of internal controls, and compliance with corporate laws and regulations, and other statutory tasks.



Frequency of meeting At least twice every year

Functions

Taking into account the correlation between management and future risks and business performance, and help evaluate the overall remuneration and benefits of directors and executives on a regular basis.



Frequency of meeting Once every quarter

Functions

regulations approved by the Board of Directors.Corresponding conclusions

and recommendations are then submitted to the Board of Directors for final

resolutions to strengthen the effectiveness of corporate governance, making

functions of the Board of Directors more complete.

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.



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General Audit Office

To enforce corporate sustainability, the General Audit Office carries out audits of the corporate governance system regularly or from time to time 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 2017 are summarized below by category. All of the cases have been corrected and reported to the General Audit Office for approval.

The General Audit Office also establishes a whistle-blowing mechanism to report fraudulent activities and unethical conducts. If finding that an employee of CAL or 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, which causes loss of CAL's property or reputation, an employee or an external partner, such as supplier, is encouraged to report through the management mechanism or independent mailbox (auditor@china-airlines.com) published on the website (Stakeholder Contact-Business Conduct) and annual report (Corporate Governance Report-Corporate Governance).



Audited Cases in 2017

Type of Cases	Number of Cases Audited	Number of Comments	Number of Corrections
Head Office	13	89	89
Branch	49	291	291
Subsidiary	16	103	103
Transaction in Derivative Products	12		_
Procedures for Lending Funds and Making Endorsements / Guarantees	4	None, all complying with regulations	-
Subsidiary Supervision and Management	1		_
Information and Communication Security Inspection	1		-
Procedures for Meetings of Board of Directors / Audit Committee / Remuneration Committee	3		-
Procedures for Non-periodical Checks of Cash/Bills	6		_
Total	105		483



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

Internal Regulations and Code of Conduct

To establish a sound corporate governance system and build a corporate culture that values integrity, CAL has established the CAL Corporate Governance Principles, Board Directors' Code of Ethical Conduct, Executives Code of Ethical Conduct, China Airlines Ltd. Procedure for Handling Material Inside Information, Ethical Corporate Management Best Practices Principles, and 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 the functions, meeting regulations, and decision-making procedures of the Board of Directors (including avoidance of conflict of interests), respecting stakeholders' rights and interests, and enhancing information transparency.

Name	Regulating Object(s)	Objective
CAL Corporate Governance Principles	• CAL and subsidiaries	Establish a sound corporate governance system
Ethical Corporate Management Best Practice Principles	 Directors Managers Employees Appointees of CAL and those having substantial control 	Strengthen CAL's corporate culture that values integrity and improve the operating environment for sustainable development
Procedures for Ethical Management and Guidelines for Conduct	 Directors • Managers • Employees Appointees of CAL and Group companies and organizations and those having substantial control 	Implement the policy of business integrity, actively prevent fraudulent conduct, and regulate matters that should be taken care of by employees when performing business.
China Airlines Ltd. Procedure for Handling Material Inside Information	 Directors • Managers Employees of CAL and those knowing CAL's material inside information due to their identity, occupation or control 	Avoid improper disclosure of information and ensure the consistency and correctness of information published by CAL
Board Directors' Code of Ethical Conduct	• All directors	Regulate the ethics and conduct of directors in performing their duties in pursuit of CAL's maximum benefit and sustainable development
Executives Code of Ethical Conduct	 CAL's representative (Chairman) 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 the company) 	Guiding executives to follow the ethics and conduct and help stakeholders understand the code of ethics better.
Employee Code of Conduct	• All employees	Guide employees to follow the code of conduct in the workplace.
Supplier Code of Conduct	All suppliers and contractors	Achieve the goals of sustainable supply chain management to increase the sustainability of a large number of suppliers.



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To ensure that all employees comply with related laws and regulations, CAL amended the Employee Code of Conduct in 2016, where emphasis on treating each employee fairly and with respect was added; in addition, the Employee Code of Conduct requires employees to refrain from infringing on others' rights or becoming accomplices to such conduct and also incorporates "conflict of interests and avoidance, anti-trust and fair competition, anticorruption guidelines for communication and gifts, protection of assets and intellectual property rights." Moreover, regular training courses are provided for related employees.

In 2017, CAL organized the online training course on CAL's Code of Conduct covering anti-corruption in the first session, and 6,382 employees attended the session with 3,191 training hours in total. The second session has been scheduled in 2018. Suppliers are also required to sign and enforce the Supplier Code of Conduct.

Major Litigation and Controversies

Cause Background Class action suit in US passenger antitrust laws

Disputed Incident

In December 2007, the lawsuit was filed against major global passenger airlines that added passenger and fuel surcharges, and as a member of the AAPA, CAL was listed as joint-defendant. The case is now being heard by the District Court of California, San Francisco.

Beginning of the Incident December 2007

Current Status :

Considering the litigation cost and fighting for minimum loss for the Company, and the fact that other major Asian airlines have already reached settlements with the plaintiff, CAL settled the case in December 2017.





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GRI 102-15

Risk

Risk Management Mechanisms GRI 102-11

Risk Governance and Organizational Structure

CAL performance is substantially affected by both internal and external environments. CAL understands the importance of risk management and is aware of potential inter-correlations between different risks; therefore. In order to strengthen the competence of risk management in CAL, our Board of Directors has set up a Risk Committee to assist the Board in reviewing the formulation of various risk management strategies, implementation results and relevant response measures, as well as requiring all corresponding units to manage and control all major types of risks. In addition, risks involving safety and business operations are, by their nature, those risks that are cross-departmental and should be handled by CAL senior management.

Risk Structure





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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 intercorrelations between different risks in order to reduce the overall impact. The framework identifies traditional risks and risks of medium/long-term strategies. All risk impact and countermeasures are evaluated and purposed through the ERM four-step procedures, which are implemented, tracked and reviewed through the Risk Committee.





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3-2-2 Risk Identification and Responses

Taking into account the environment and characteristics of daily operation in the airline industry, CAL is placed on three major aspects of risk management: safety & security, business operations, and finance. The three major aspects of risk management are summarized below:

Safety and Security Risk Management

Safety is the foundation of airline business. Customer trust can only be earned by having an outstanding safety record The Corporate Safety Office reviews and evaluates internal and external operating risks with respect to flight operations, maintenance, cabin services and ground operations based on the Safety Management System (SMS) and through safety and security risk management procedures to propose improvement measures.

Business Operations Risks Management

The aviation industry is constantly faced with a capricious and volatile business environment Apart from major political and economic turmoil; unexpected internal and external incidents may also have a considerable impact on CAL's business operations. The Corporate Development Office conducts analysis on potential events which have a significant impact on CAL's operations with respect to national/international politics and economy, airline industry, and CAL's internal operation. The results of analysis and countermeasures are implemented to reduce the negative impact to "the Annual Business Plan".

Finance-related Risks Management

The unexpected local and international economic and financial event can affect CAL operating results. In particular, interest rates, currency exchange rates, inflation, and fuel represent the major costs for airlines. These costs are very sensitive to external factors and can become quite volatile. Therefore, Finance Division employs financial hedging instrument to confine the major costs mentioned above to preset limits and monitor financial risks on regular basis. The Division is also responsible for developing relevant strategies and measures to fulfill the objectives of finance-related risk management.



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Mitigation Measures for Material Issues on Human Rights in 2017 GRI 412-1

		Emplo	byees	Customers		
CAL Material Issue	Risk Description	Aircrew	Ground Employees	Passenger Transportation	Freight Transportation	
Right to Privacy	Data may be stolen or leaked due to improper management of business information, personal information of customers and employees.	Information Management Committee, an personal information, and procedures for information management task force and t will take effect on May 25, 2018. Each division had completed the risk ass	nd customers, CAL introduced the persona d formulated quality documents, including emergencies, to manage and maintain per he Data Protection Officer (DPO) in respons essment of personal information and form n/use/acquisition/change of customers' a disclosed on the CAL's official website.	procedures for collecting, pro ersonal information files. In add se to the EU General Data Protec nulated the Instructions on Priva	essing and the application ition, CAL set up the persor tion Regulation (GDPR), whi cy Protection and Informati on of privacy statement, a	
Right to Health	Hazards to health that may happen in workplaces, or is caused due to the use of product/services, such as occupational injuries/ diseases, passenger accidents, and food poisoning.	 CAL established the Occupational Safety ar for reviewing, negotiating and providing s prevent potential occupational injuries and health. Quarterly meetings were held to rev and follow up safety and health management Regarding risk management, CAL identi hazards and mitigated them by enhancin of protective equipment based on the lev objectives of the safety and management occupational hazards as an example: 1. Operation management: Reduced conta factors by replacing hazardous substan 2. Administration management: Separated working time management and shifts to 3. Health management: Arranged regular including biomonitoring in blood an prevention and treatment. 	uggestions on safety and health affairs to hazards and protect employees' safety and iew/analyze occupational hazards, propose it plans. fied and assessed risks of occupational g procedures, management and the use rel of risk. CAL sets and implements the it plan every year, taking the preventing act between workers and hazardous ces, enhancing procedures and design. d operators from hazards through or reduce contact.	CAL attaches great importan passengers. Flight safety is t CAL established safety policy accidents. CAL sets up an emergency passengers feel ill at the ch during the flight, our staff ca emergency medical centers fo All in-flight meals were pro- selected by CAL in accordance All catering suppliers conf certification.	he core of airline operatio y and actions to achieve ze y consulting system, wh heck-in counter, boarding n consult the physicians fro r medical advice. ovided by cateringsupplie e with the internal regulatio	

CHINA AIRLINES 🛞

			Suppliers				
Contents	CAL Material Issue	Risk Description	General Affairs Supplier	Jet Fuel Suppliers	In-flight Catering Suppliers	Aircraft Material Suppliers	Ground Handling Servic Suppliers
0 Preface 1 Sustainability Management Overview 2 Value Creation 3 Sustainability Governance Appendix • Mitigation Measures for Material Issues on Human	Right to Privacy	Data may be stolen or leaked due to improper management of business information and personal information of customers, employees.	suppliers were further revie according to the audit regula For general affair, jet fuel, a information will not be discl agents made all efforts to pro make sure that such informa	wed through the risk survey o tions. and aircraft material suppliers osed to any third party in any otect confidential information o tion is only available for airline	curity specified in CAL Sustain f supply chain sustainability. Th t, the non-disclosure agreemen way without the consent of the f airlines in accordance with the s. Any party shall not disclose c ernments, or authorities in charg	ne on-site audit was conducte nt was specified in the contract to other party. For the supplier to IATA's Standard Ground Hanc ontractual information to any t	ed to suppliers with high risks ct to make sure that a party's rs of ground handling service, dling Agreement (SGHA) and to third party without the consent
 Rights in 2017 Environmental Performance GRI Content Index Independent Assurance Reports 	Right to Health	Hazards to health that may happen in workplaces, or is caused due to the use of product/services, such as occupational injuries/diseases, passenger accidents, and food poisoning.	Critical suppliers were furth risks according to the audit r For general affairs suppliers	er reviewed through the risk s egulations. , the obligation of quality assur	ⁱ occupational safety and health urvey of supply chain sustainab ance was prescribed in the cont ppliers shall affix a warning sign	ility. The on-site audit was con ract, specifying that suppliers	nducted to suppliers with high shall guarantee the safety and

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🕵 CHINA AIRLINES 🤴			Emp	Employees		omers	
	CAL Material Issue	Risk Description	Aircrew Ground Employees		Passenger Transportation	Freight Transportation	
Contents	Freedom of	Life or work of suppliers, customers, or employees	CAL has set up a variety of communicat	ion channels, such as labor-management	CAL attaches great importanc	ce to customers' feedback. All	
0 Preface	Opinion and Express	are threatened when they do not have a safe and effective channel of communication to express	meetings, employee grievance mailbox	ailbox, and Team+ internal company	customers are welcome to g		
1 Sustainability Management Overview	Exp: 000	their opinions, and the channels of expressions are highly oppressed by lawsuits, intimidation and threats.	recommendations at any time.	yees to express their opinions or provide	CAL, including customer service hotline, mails, passenger's comment, Facebook, emails, online customer feedback system, and online satisfaction survey. CAL has set up the		
2 Value Creation			CAL treated all labor unions with respec neutral on the premise that each em protected; in addition, CAL communic	regulations governing the handling of customer feedbac All opinions are entered in the Customer Service Syste			
3 Sustainability Governance			-	in consideration of their occupational AL will maintain an equitable, cooperative,	(CSS) and replied with detailed explanations within the given period of time. Each division of CAL also refers to comments made by passengers.		
Appendix				n all labor unions, and are willing to carry with respect to labor issues. Currently,	made by passengers.		
 Mitigation Measures for Material Issues on Human Rights in 2017 			apart from monthly regular meetings he Employees Union (CAEU), a number of o	Id between the CAL and the China Airlines committees tasked with various functions gement and CAEU have been established.			
Environmental Performance							
GRI Content Index	Protection Working	In the company or value chain, the employer does not protect employees' working environment or	Aircrew's working schedules were allocate according or stricter to related	Working conditions of ground employees were according or superior to related	Not applicable		
Woi	Conditions	conditions according to the laws, such as insufficient time of rest, consecutive working hours in excess of statutory standards, salary lower than the minimum salary prescribed in the Labor Standards Act, and hazardous working environment.	regulations. A collective agreement was established to improve the working conditions of aircrew in June 2016. In May 2017, the per diem for aircrews were raised.	regulations. A collective agreement was also established. In June 2016, working conditions of ground employees were adjusted in May 2017, the allowances for ground employees were raised.			
	Forced Labor	In the company or value chain, the employer forces employees to work overtime illegally, is not willing to pay overtime, or underreports working hours.	, is prescribed in the Personnel Administration Manual. CAL paid for overtime				

CHINA AIRLINES 🛞			Suppliers					
ntents	CAL Material Issue	Risk Description	General Affairs Supplier	Jet Fuel Suppliers	In-flight Catering Suppliers	Aircraft Material Suppliers	Ground Handling Service Suppliers	
	Freedom of	Life or work of suppliers, customers, or	All suppliers were managed i	in accordance with the spirit o	of association freedom specified	in CAL Sustainable Supply C	hain Policy Statement. Critical	
	opinion and	employees are threatened when they do not have a safe and effective channel of			f supply chain sustainability. Th			
Management	expression	communication to express their opinions, and the channels of expressions are highly oppressed by lawsuits, intimidation and	ommunication to express their opinions, Contact on CAL's official website.					
		threats.						
Governance								
sures for ; on Human								
erformance x urance Reports	Protection of working conditions	In the company or value chain, the employer does not protect employees' working environment or conditions according to the laws, such as insufficient time of rest, consecutive working hours in excess of statutory standards, salary lower than the minimum salary prescribed in the Labor Standards Act, and hazardous working environment.	All suppliers were managed in accordance with the spirit of human and labor rights and conditions specified in CAL Sustainable Supply Chain Po Statement. Critical suppliers were further reviewed through the risk survey of supply chain sustainability. The on-site audit was conducted to suppl with high risks according to the audit regulations.					
	Forced Labor	In the company or value chain, the employer forces employees to work overtime illegally, is not willing to pay overtime, or underreports working hours.			1	,	cy Statement. Critical suppliers ers with high risks according to	



Environmental Performance

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Item		Unit	2014	2015	2016	2017	с	2017 compared to 2016	2017 Objectives	2017 Achievement	2018 Objectives
Scope 1 GHG	Aviation fuel	tons CO ₂ e	6,885,712	6,929,355	7,042,520	7,149,309					
emissions	Ground operations	tons CO ₂ e	5,398	5,064	4,663	5,004		+1.52%	6,998,781	97.78%	7,232,469
Scope 2 GHG emissions	Ground operations	tons CO ₂ e	20,844	20,158	20,752	19,744		-4.86%	18,932	95.71%	18,297
Scope 3 GHG emissions [Note 1]	Ground operations	tons CO ₂ e	-	303,273	2,070,003	1,627,649		-21.38%	Primary suppliers: GHG invention. Non-primary suppliers: Training and counseling.	100.00%	Proceed with GHG inventory and training and counseling.
Aviation fuel consumption	All Aircraft	tons	2,176,178	2,189,971	2,225,231	2,256,114	▼	+1.39%	Management by aviation fuel efficiency		y aviation fuel efficiency
	Passenger Aircraft	L/RPK*100	4.8341	4.7062	4.6625	4.4457		-4.65%	4.6356	104.10%	4.3790
Aviation fuel efficiency	Freight Aircraft	L/FRTK	0.2172	0.2211	0.2249	0.2213		-1.60%	0.2178	98.39%	0.2180
	All Aircraft [Note 2]	Ton/thousand RTK	0.2577	0.2539	0.2550	0.2429		-4.75%	0.2212	90.00%	0.2179
	Fossil fuels	MWh	28,439,370	28,584,310	29,045,588	29,484,167		+1.51%			
Energy consumption	Electricity purchased	MWh	40,002	39,382	39,304	37,344		-4.99%	29,030,564	98.44%	29,879,182
	Elevator power regeneration	kWh			-	297		-	Set system	100.00%	Fully work

Note 1: The calculation range of Scope 3 is according to the 15 categories of GHG protocol, covering products purchased, capital goods, and fuel and energy activities not included in Scope 1 and Scope 2, transportation and distribution, waste treatment, employee commuting, lease assets, and investments. The emission of energy activities, lease assets, and employee commuting [1,627,649 tons CO₂e] in 2017 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.



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2017 2018 2017 2017 Item Unit 2014 2015 2016 2017 compared Objectives Achievement Objectives to 2016 Water +3.60% 1,000 tons 149.52 135.72 136.35 141.26 133.00 91.53% 139.41 consumption Heavy metal -19.57% 11,274 9,577 10,667 8,579 Ton wastewater Water resources Organic 6,842 8,867 15,518 14,647 -5.61% Ton wastewater Wastewater Ton 1,527 1,420 1,592 1,890 +18.72% recycled Produced Kg 3,417,870 Quantify inventory 100.00% Airborne waste Kg 1,068,483 Quantify inventory 100.00% Recycled -General • Independent Assurance Reports 387,948 +8.89% industrial waste/ Kg 380,662 419,689 456,997 everyday waste Total waste of air and ground Hazardous 3,854,473 +24.78% Kg 17,673 12,728 13,430 16,758 388,000 77.44% industrial waste Ground waste Cadmium--7.19% Kg 1,110 1,445 1,920 1,782 containing batteries 298,934 Recycled Kg Quantify inventory 100.00% -Passenger g/RPK 0.0180 0.0178 0.0160 0.0150 -6.25% 0.0158 105.33% 0.0148 Aircraft NOx Freight Aircraft g/RTK 0.0284 0.0291 0.0302 0.0295 -2.32% 0.0287 97.21% 0.0291



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GRI Content Index GRI 102-55

GRI Standard	Disclos	sure	Page Number & Response	GRI Standar
GRI 101: Foundation	1			
General Disclo	sures			
	Organiz			
	102-1	Name of the organization	5	
	102-2	Activities, brands, products, and services	11	
	102-3	Location of headquarters	11	
	102-4	Location of operations	11	
	102-5	Ownership and legal form	122	
	102-6	Markets served	11	
	102-7	Scale of the organization	11	
	102-8	Information on employees and other workers	58	GRI 102: Gene Disclosures
GRI 102: General	102-9	Supply chain	82	
Disclosures	102-10	Significant changes to the organization and its supply chain	82	
	102-11	Precautionary Principle or approach	127	
	102-12	External initiatives	21	
	102-13	Membership of associations	21	
	Strateg			
	102-14	Statement from senior decision-maker	6	
	102-15	Key impacts, risks, and opportunities	127	
	Ethics a			
	102-16	Values, principles, standards, and norms of behavior	125	

Page Number **GRI Standard** Disclosure & Response 102-18 Governance structure 122 List of stakeholder groups 102-40 18 102-41 Collective bargaining agreements 68 Identifying and selecting stakeholders 18 102-42 Approach to stakeholder engagement 18 102-43 102-44 Key topics and concerns raised 18,44 Entities included in the consolidated financial 102-45 5 statements GRI 102: General Defining report content and topic Boundaries 15 102-46 15 102-47 List of material topics Restatements of information 102-48 No restatement 102-49 Changes in reporting No change 5 102-50 Reporting period Date of most recent report 5 102-51 5 102-52 Reporting cycle 5 102-53 Contact point for questions regarding the report Claims of reporting in accordance with the GRI 102-54 5 Standards 102-55 GRI content index 138 5 102-56 External assurance

Refered to latest version 2016



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GRI Standard	Disclos	Page Number & Response	
Material Topics			
	103-1	Explanation of the material topic and its Boundary	15, 35, 51, 81, 89 111, 125
GRI 103: Management Approach	103-2	The management approach and its components	35, 51, 81, 89, 111 125
	103-3	Evaluation of the management approach	35, 51, 81, 89, 111 125
	201-1	Direct economic value generated and distributed	118
CRI 201, Economia	201-2	Financial implications and other risks and opportunities due to climate change	96
GRI 201: Economic Performance	201-3	Defined benefit plan obligations and other retirement plans	68
	201-4	Financial assistance received from government	No major financia assistance
GRI 202 : Market Presence	202-2	Proportion of senior management hired from the local community	58
GRI 204 : Procurement Practices	204-1	Proportion of spending on local suppliers	83
GRI 205 : Anti-	205-2	Communication and training about anti-corruption policies and procedures	125
corruption	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
GRI 103:	103-1	Explanation of the material topic and its Boundary	15,81,89
Management	103-2	The management approach and its components	81, 89
Approach	103-3	Evaluation of the management approach	81, 89

GRI Standard	Disclos	Page Number & Response	
	302-1	Energy consumption within the organization	104
	302-2	Energy consumption outside of the organization	104
GRI 302: Energy	302-3	Energy intensity	105
	302-4	Reduction of energy consumption	104
	302-5	Reductions in energy requirements of products and services	104
GRI 303: Water	303-1	Water withdrawal by source	99
	305-1	Direct (Scope 1) GHG emissions	104
	305-2	Energy indirect (Scope 2) GHG emissions	104
	305-3	Other indirect (Scope 3) GHG emissions	104
GRI 305: Emissions	305-4	GHG emissions intensity	105
	305-5	Reduction of GHG emissions	104
	305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	100
	306-1	Water discharge by quality and destination	102
GRI 306: Effluents	306-2	Waste by type and disposal method	102
and Waste	306-3	Significant spills	No significant spills
GRI 307: Environmental Compliance	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	83



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GRI Standard	Disclos	Page Number & Response	
Social			
GRI 103:	103-1	Explanation of the material topic and its Boundary	15, 35, 51, 81, 125
Management	103-2	The management approach and its components	35, 51, 81, 125
Approach	103-3	Evaluation of the management approach	35, 51, 81, 125
	401-1	New employee hires and employee turnover	58
GRI 401:Employment	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	68
	401-3	Parental leave	68
GRI 402: Labor/ Management Relations	402-1	Minimum notice periods regarding operational changes	68
GRI 403:	403-1	Workers representation in formal joint management–worker health and safety committees	70
Occupational Health and Safety	403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	70
GRI 404: Training and Education	404-1	Average hours of training per year per employee	64
GRI 405: Diversity	405-1	Diversity of governance bodies and employees	58
and Equal Opportunity	405-2	Ratio of basic salary and remuneration of women to men	68
GRI 406: Non- discrimination	406-1	Incidents of discrimination and corrective actions taken	52
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	8
GRI 408: Child Labor	408-1	Operations and suppliers at significant risk for incidents of child labor	No such as things happened

GRI Standard	Disclosure		Page Number & Response
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	52, 132
	412-2	Employee training on human rights policies or procedures	125
	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	83
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



0 Preface

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Appendix

- Mitigation Measures for Material Issues on Human Rights in 2017
- Environmental Performance
- GRI Content Index
- Independent Assurance Reports

Independent Assurance Reports



SGS TAIWAN LTD.'S REPORT ON SUSTAINABILITY ACTIVITIES IN THE CHINA AIRLINES LTD.'S CORPORATE SOCIAL RESPONSIBILITY REPORT FOR 2017

NATURE AND SCOPE OF THE ASSURANCE/VERIFICATION

SGS Taiwan Ltd. (hereinafter referred to as SGS) was commissioned by China Airlines Ltd. (hereinafter referred to as CAL) to conduct an independent assurance of the Corporate Social Responsibility Report for 2017 (hereinafter referred to as CSR Report). The scope of the assurance, based on the SGS Sustainability Report Assurance methodology, included the text, and data in accompanying tables, contained in this report.

The information in the CAL's CSR Report of 2017 and its presentation are the responsibility of the management of CAL. SGS has not been involved in the preparation of any of the material included in CAL's CSR Report of 2017.

Our responsibility is to express an opinion on the text, data, graphs and statements within the scope of verification with the intention to inform all CAL's stakeholders.

The SGS protocols are based upon internationally recognized guidance, including the Principles contained within the Global Reporting Initiative Sustainability Reporting Standards (GRI Standards) 101: Foundation 2016 for accuracy and reliability and the guidance on levels of assurance contained within the AA1000 series of standards and guidance for Assurance Providers.

This report has been assured using our protocols for:

- evaluation of content veracity at a high level of scrutiny for CAL and moderate level of scrutiny for applicable aspect boundaries outside of the organization covered by this report;
- AA1000 Assurance Standard (2008) Type 2 evaluation of the report content and supporting management systems against the AA1000 Accountability Principles (2008); and
- evaluation of the report against the Global Reporting Initiative Sustainability Reporting Standards (2016)

The assurance comprised a combination of pre-assurance research, interviews with relevant employees, superintendents, CSR committee members and the senior management in Taiwan; documentation and record review and validation with external bodies and/or stakeholders where relevant. Financial data drawn directly from independently audited financial accounts has not been checked back to source as part of this assurance process.

STATEMENT OF INDEPENDENCE AND COMPETENCE

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The SGS Group of companies is the world leader in inspection, testing and verification, operating in more than 140 countries and providing services including management systems and service certification; quality, environmental, social and ethical auditing and training; environmental, social and sustainability report assurance. SGS affirm our independence from CAL, being free from bias and conflicts of interest with the organisation, its subsidiaries and stakeholders.

The assurance team was assembled based on their knowledge, experience and qualifications for this assignment, and comprised auditors registered with ISO 26000, ISO 20121, ISO 50001, SA8000, EICC, QMS, EMS, SMS, GPMS, CFP, WFP, GHG Verification and GHG Validation Lead Auditors and experience on the SRA Assurance service provisions.

VERIFICATION/ ASSURANCE OPINION

On the basis of the methodology described and the verification work performed, we are satisfied that the information and data contained within CAL's CSR Report of 2017 verified is accurate, reliable and provides a fair and balanced representation of CAL sustainability activities in 01/01/2017 to 12/31/2017.

The assurance team is of the opinion that the Report can be used by the Reporting Organisation's Stakeholders. We believe that the organisation has chosen an appropriate level of assurance for this stage in their reporting. In our opinion, the contents of the report meet the requirements of GRI Standards in accordance with Core Option and AA1000 Assurance Standard (2008) Type 2, High level assurance.

AA1000 ACCOUNTABILITY PRINCIPLES (2008) CONCLUSIONS, FINDINGS AND RECOMMENDATIONS

Inclusivity

CAL has demonstrated a great commitment to stakeholder inclusivity and stakeholder engagement. A variety of engagement efforts such as survey and communication to employees, customers, investors, suppliers, media, and other stakeholders are implemented to underpin the organization's understanding of stakeholder concerns. For future reporting, CAL may proactively consider having more direct multi-ways involvement of stakeholders during future engagement.

Materiality

CAL has established effective processes for determining issues that are material to the business. Formal review has identified stakeholders and those issues that are material to each group and the report addresses these at an appropriate level to reflect their importance and priority to these stakeholders.

Responsiveness

The report includes coverage given to stakeholder engagement and channels for stakeholder feedback. Future reporting would benefit from more in-depth disclosures of stakeholder feedback

GLOBAL REPORTING INITIATIVE REPORTING STANDARDS (2016) CONCLUSIONS, FINDINGS AND RECOMMENDATIONS

The report, CAL's CSR Report of 2017, is adequately in line with the GRI Standards in accordance with Core Option. The material aspects and their boundaries within and outside of the organization are properly defined in accordance with GRI's Reporting Principles for Defining Report Content. Disclosures of identified material aspects and boundaries, and stakeholder engagement, GRI 102-40 to GRI 102-47, are correctly located in content index and report. For future reporting, it is recommended to have more descriptions of CAL's involvement with the impacts for each material topic (103-1) and its evaluation of the effectiveness of the management approach (103-3) how the specific actions were taken to improve performance. In addition, disclosure on 404-3 and complete disclosures on material topics having boundaries within the organization are expected in next report.

Signed: For and on behalf of GS Taiwan Ltd David Huang, Director Taipei, Taiwan 17 April. 2018



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