# **China Airlines**

Flying a Course towards Sustainability







# Contents

Preface

About This Report	02
A Letter from Our Management	04
About China Airlines	06

Overview of CAL's Sustainable Development Strategies

Main Frame of Sustainable

Development

1-1	CAL Vision of Sustainable Development	10
1-2	Mode of Creation for CAL Sustainable Development	13
1-3	Sustainable Development Strategies	15

2-1	Stakeholder Engagement and Materiality Analysis	28
2-2	Trust	35
2-3	Human Resources	46
2-4	Cooperation	77
2-5	Environment	84
2-6	Society	106

**3** Sus

2

Foundations for Sustainability Development

3-1	Sustainability Governance	118
3-2	Corporate Governance	122

Appendix

Disclosure of Management Approach on Material Aspects for CAL	134
GRI G4 Index	138
Independent Assurance Reports	146

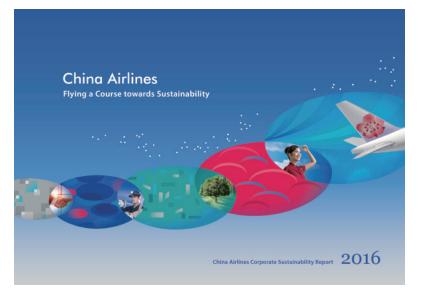


**O-2** A Letter from Our Management

# 0-1

# About This Report





The five overlapping ovals on the cover represent the five petals of the plum blossom—the symbol of China Airlines—which in turn represent the five following frameworks of China Airlines: the history, management core, sustainable strategy, operation principles, and stakeholder engagement. Together these frameworks form a complete plum blossom that is also the structure of this CSR report. We transformed these five frameworks into five kinds of geometric graphics, using them with our corporate color throughout the report to deliver the spirit of China Airlines and the idea of sustainability, providing a different visual experience to our stakeholders.

The overall visual direction is from left side to the right side. On the cover' s the rightmost oval, a China Airlines' aircraft is flying up, which symbolizes China Airlines continuously creating better value for our important stakeholders in order to become the global benchmark of corporate sustainability.

#### Square

The sustainable door of China Airlines, inviting the readers to open this report (including China Airlines' profile, external affirmation, and history).

## Circle

The sustainable management core of China Airlines (including the sustainable vision, mission, and the model for creating sustainable value).

# Number of entities

The results of engaging with stakeholders through the sustainable strategies (including 7 types of stakeholders and 5 sustainable strategies).

# Arc

The arc formed by stacked cornerstones represents the steady basic operating spirit of China Airlines (including corporate governance and risk management), and the accumulated weight indicates the responsibility that China Airlines is shouldering.

Arc line China Airlines responds to the expectations from the stakeholders and creates more wonderful moments through flying This report is the 4th edition of China Airlines' (hereinafter CAL) Corporate Sustainability Report. In 2014, as a leader in the industry, CAL released the first sustainability report. In compliance with the government regulation, we released the second edition in 2015. This report is published periodically on an annual basis in both English and Chinese, and reveals information about our performance in terms of corporate governance, society, and the environment. From the report, stakeholders can fully understand CAL's sustainability development, our achievements, as well as the future perspectives. Please visit CAL's official website to view and download our previous sustainability reports and learn about the new developments in our sustainability endeavors.

In order to increase transparency in sustainability information, CAL is determined to publish our Corporate Sustainability Report on a periodic basis, proactively communicating to our stakeholders about our responsibility and commitment, as well as our performance and future goals. The next Sustainability Report will be published on June 30, 2018.

### **Publication History**

First edition release date: August, 2014 Previous edition release date: June, 2016 Current edition release date: June, 2017 Next edition release date: June, 2018

# Reporting Principles & Standard Disclosures

This report is prepared in accordance with the GRI G4 Core Option Guideline.

### **Report Scope & Boundary**

The report revealed CAL' s information from January 1, 2016 to December 31, 2016. A number of materiality information was also reported up to March 31, 2017. Considering commercial correlation between CAL and its subsidiaries as well as the financial majority (China Airlines, Mandarin Airlines, and Tigerair Taiwan account for up to 97% of consolidated revenue), Mandarin Airlines and Tigerair Taiwan were also included.

## **Guarantee of Truthful Reporting**

**Internal audit**: All data and information revealed in this report were provided by various departments of CAL, proofread and examined by our Corporate Sustainability Committee, then submitted to the president for final approval, 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 G4 standards and to the high verification level of AA 1000 AS Type-II. The truth-fulness of this report is guaranteed. Please refer to the appendix for the certification document.

**Data quality:** Financial figures in this report were provided by the annual financial report audited by Deloitte; they were presented in New Taiwan Dollar (TWD). The data relating to ISO quality, environment and greenhouse gas emissions were verified by independent third-party entities.

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

#### Feedback

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

#### **Contact Information**

Strategic Development Department of Corporate Development Office **TEL:** 886-3-399-8530 **E-mail:** csr@china-airlines.com **Address:** No.1, Hangzhan South Rd, Dayuan District, Taoyuan City **Website:** <u>http://calec.china-airlines.com/csr/en/</u> <u>index.html</u>

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# A Letter from Our Management



To all stakeholders of China Airlines:

We want to express our gratitude for your support. You have accompanied us through a challenging and exciting year, during which our work has seen great results.

"China Airlines", a well-known brand, is celebrating its 57th anniversary this year. Sporting the "Plum Blossom" that is special to every Taiwanese citizen; China Airlines carries many people's memories and aspirations. At the very beginning, CAL only consisted of two seaplanes with a small team of air force veterans. After 57 years of history, CAL has developed nearly one hundred modernized aircraft in our fleet and also employs more than ten thousand qualified staff in every aspect of the aviation industry. In terms of network, we have developed from one route to more than a hundred destinations worldwide. From those historical memories, "China Airlines" does not just represent the name of CAL, but also the common pride of Taiwanese people.

In 2016, in order to continuously improve the quality of safety and maintenance, we signed MOU with Airbus, and received the certificate of IOSA with no new findings, obser-

vations, or safety compliance failures. Moreover, CAL group introduced water-saving Ecoshine moist cleaning method from UUDS for washing the exterior of aircraft and could save at least 98% for supporting the global water shortage issue. Except for the abovementioned performances related to sustainability, we also held the annual supplier conference, ranked among top 20% of the best companies in the Third Corporate Governance Evaluation and so forth. The NexGen cabin design has received various design awards; these accomplishments could not within reach without the endeavors from the management, staff and our stakeholders.

China Airlines is the first Taiwanese airline to publish the corporate sustainability report. CAL has continuously and proactively engaged in sustainable governance; we have also communicated with our stakeholders and the Sustainability Committee effectively. In addition, we were recognized in various sustainability awards in Taiwan and overseas. Our achievements in sustainability have received positive affirmation; CAL was awarded the Taiwan Corporate Sustainability Award for three consecutive years. In terms of international achievements, China Airlines participated in the corporate sustainability assessment for DJSI emerging markets and was included in a constituent stock in the Emerging Markets; the first in Taiwan and the only airline company in an emerging market to do so. RobecoSAM, the International sustainability rating institution, recently hairman published "The Sustainability Yearbook 2017", in which CAL was the first Taiwanese airline to receive a "Bronze Class" rating and the "Industry Mover" Award respectively; the set 11 honors represent our endeavors have been recognized by

international investors. We feel even more confident about our future in sustainability performance.

2017 is the fourth year in the governance of sustainability development. Facing the fluctuation in the airline industry, CAL confronts those challenges proactively. In the foreseeable future, we will continue to shape CAL' s sustainable brand image by creating a sustainable corporate culture to participate in the promotion and discussion of various sustainable issues. In September 2015, the United Nations passed 17 SDGs (Sustainable Development Goals). As a global citizen and a Taiwanese enterprise, and as a leading airline brand in Taiwan, China Airlines has incorporated these SDGs as our long-term corporate goals. With these goals, we can encourage our stakeholders to work with us on corporate, social, and environmental sustainability.

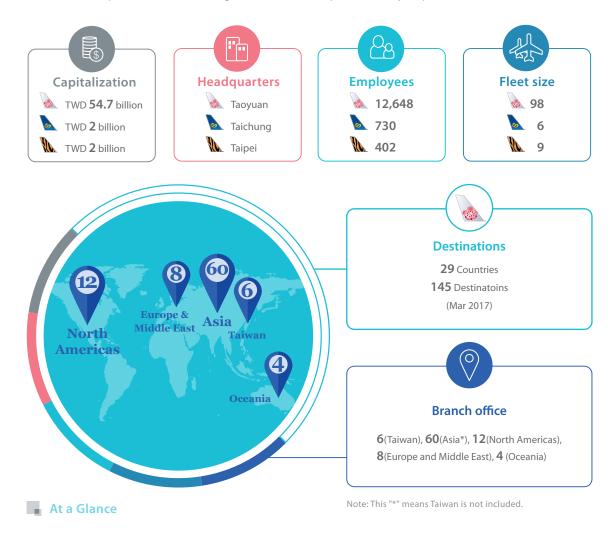
China Airlines excelled in a competitive business environment for many years. We want to express our gratitude toward our employees, partners, shareholders, and customers. We will always strive to be better to satisfy each passenger' s flight experience, and to become an environmentally friendly company. Together, we will transform China Airlines into a top choice airline in Taiwan!

President

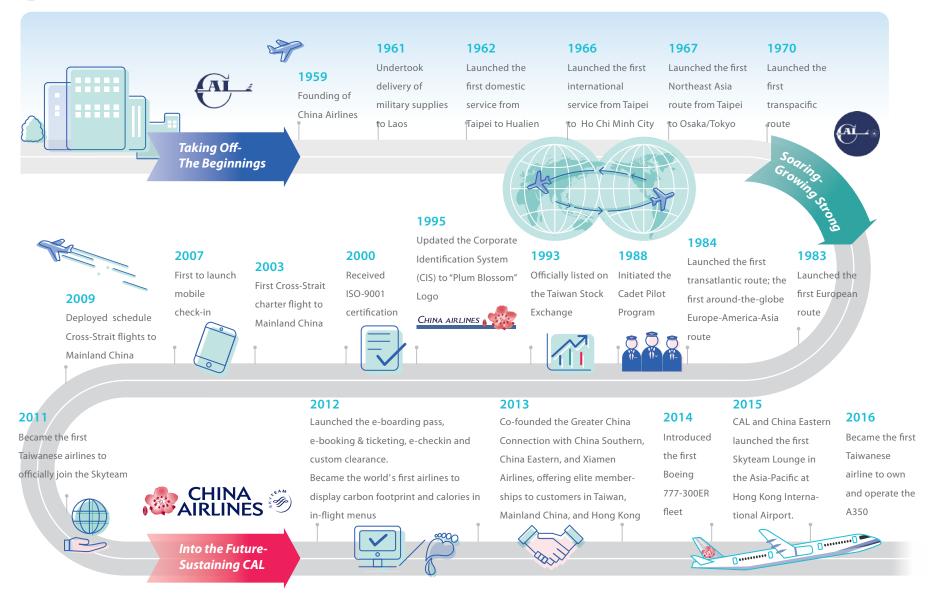
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# **O-3** About China Airlines

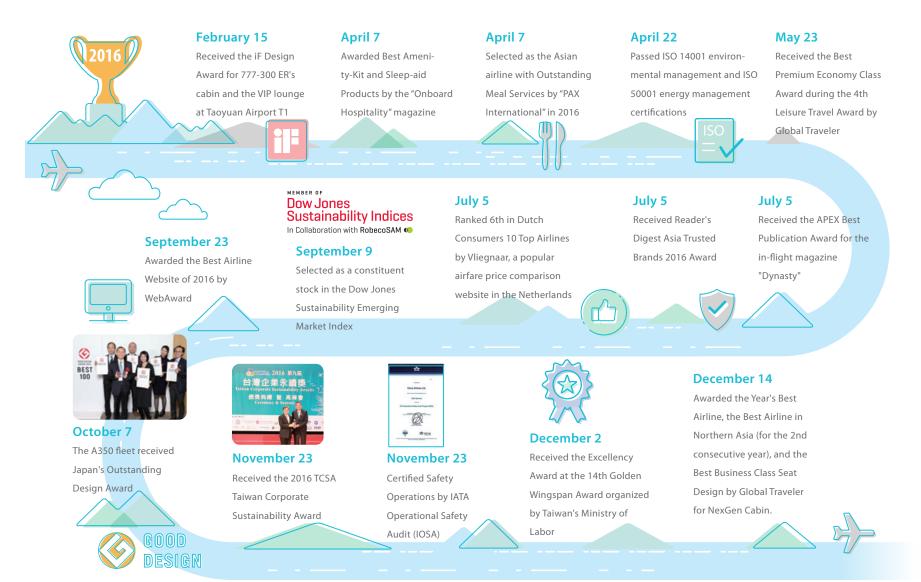
China Airlines is the largest and the most historical airline in Taiwan. CAL mainly provides international passengers and cargo air transportation service. CAL is based in Taiwan Taoyuan International Airport. In order to provide a more diverse range of services, we also have two subsidiary airlines: Mandarin Airlines and Tigerair Taiwan. China Airlines and Mandarin Airlines provide a full service business model, while Tigerair Taiwan offers a low-cost business model. With our multi-brand strategy, we share our resources and complement each other's strengths and weaknesses to provide a variety of options for our customers.



## China Airlines Milestone



## 2016 Awards & Achievements



# Overview of CAL's Sustainable Development Strategies

- **1-1** CAL Vision of Sustainable Development
- **1-2** Mode of Creation for CAL Sustainable
- **1-3** Sustainable Development Strategies

# 1-1

# CAL Vision of Sustainable Development

# 1-1-1 Corporate Operating Environment

Airline industry is an important pillar that provides support to the world's social and economic development; on the other hand, its impact to the environment can also be quite considerable. According to an analysis reported in 2016 by the Air Transport Action Group (ATAG), the airline and aviation related industries contributed about 3.5% of the global GDP and provided more than 60 million jobs; however, these industries are also responsible for over 700 million tons of carbon dioxide emissions each year. These figures suggest that the aviation industry has a very important role to play regarding global sustainable development and that its transition to a low-carbon future is absolutely vital.

# Development Analysis of the Global Airline Industry

According to statistics released by the International Air Transport Association (IATA), the Revenue Passenger Kilometer (RPK) increased by 5.9% and the Freight Tonne Kilometer (FTK) grew by 3.4% in 2016; with the air passenger market growing at a faster pace and continued growth is to be expected, whereas growth in the air cargo market is less optimistic due to the oversupply of overall transportation capacity. Looking at the growth trends by region, the air passenger market in each of the world's regions experienced growth in 2016. The Asia-Pacific region maintained a growth rate of 8.9%, which was second only to the Middle East market. This indicates that the continued growth and demand for developing Asia's air passenger market are on the rise.

However, the aviation industry has a set of peculiar characteristics known as the "ten highs", causing its operating performance to be highly unstable. For example, economic growth, national policies, diseases, wars, and natural disasters can all have a negative impact on the aviation industry; these are the reasons why airlines are advised to be extra cautious regarding their long-term viability.

\*Note. Ten highs: 1. High costs of investment with low returns 2. High risk (safety, sanitation, the environment, exchange rates, and health) 3. High efficiency/high quality services 4. High-carbon emissions and energy requirements 5. Highly diverse customer groups 6. High threshold for technologies 7. Highly competitive market 8. High levels of media attention and social focus 9. Highly regulated by government10. Highly related to international economic and political development

# Development Analysis of Taiwan's Airline Industry

In 2016, the overall passenger traffic volume in air transportation experienced growth, despite cross-Strait political and economic unrest, fluctuations in the Japanese Yen, and a number of terrorist attacks worldwide. According to Civil Aeronautics Administration (CAA) of the Ministry of Transportation and Communications (MOTC), over 63 million passengers were transported in 2016 among Taiwan air transport market; an 8.8% increase over 2015, which was also comparable to the growth rate in the entire Asia-Pacific region. In addition, Taiwan government is continuing to promote international tourism and enhancing economic and trade activities, which would be a great help to stimulate the overall demand for air travel in the near future. In a long-term perspective, Taiwan's population is on a declining trend toward an aging society. The change in the country's population structure will affect Taiwan's air transportation market. Adapting to the changes in this market will be an important factor in the sustainable development of Taiwan's airline industry.

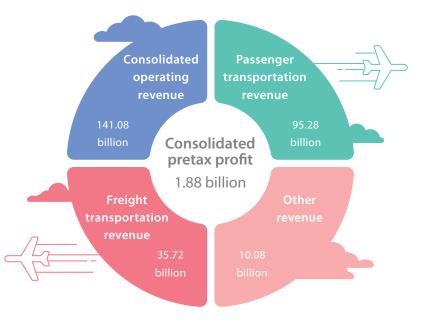
# Development Analysis of Air Passenger Transportation

In terms of passenger composition, according to statistics compiled by International Air Transport Association (IATA), the percentage of premium passengers has been on a downward trend over the past several years due to global economic turmoil and other factors. On the other hand, low-cost carrier (LCC) model of operating an airline business, which originated in North America in the 1970s, is now spreading rapidly to the rest of the world. LCCs have now captured more than half of the air passenger transportation market in Southeast Asia. Although the market share of LCCs in Taiwan is only 13%, but it grows in a high speed pace. With its innovative business model, low-cost airlines have created an advantage in lowering operation costs, which has exerted a considerable amount of impact on the overall airline industry as a whole. Furthermore, coupled with the shrinking proportion of premium passengers, the overall air fare level has been declining. Learning to adjust one's position properly amidst these changing circumstances is an important step for the airline industry.

In terms of passenger needs, traditional airlines providing full services and low-cost carriers offering limited services with lower air fare cater to different target customers. Therefore, passengers travelling on traditional airlines now have higher expectations to the services. To satisfy passenger needs, improving the experience and value for passengers will be a challenge that traditional airlines must deal with properly. With the widespread accessibility of the Internet and popularity of mobile devices, technology products and applications have become indispensable in our daily lives. As a result, the new generation of passengers has a very high demand for technology and self-service applications. Passengers who prefer low-cost airlines are more willing to forego certain services in favor of less expensive air fare, so only carriers with cost advantages will be able to compete successfully in this market.

# **CAL Group's Operation Achievements**

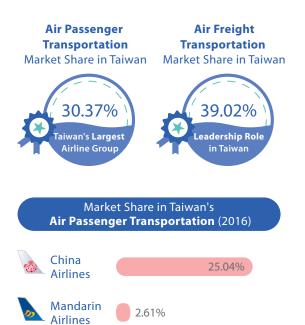
Although CAL has confronted a great number of challenges in air transportation market in 2016, including the first-ever cabin crew member strike in Taiwan, CAL management team and employees worked together to generate TWD 141.08 billion for consolidated operating revenue, which was composed of TWD 95.28 billion from passenger transportation, TWD 35.72 billion from freight transportation, and TWD 10.08 billion form others. The consolidated pretax profit for 2016 was 1.88 billion. CAL has maintained profit for three consecutive years.



Unit: TWD billion

	2013	2014	2015
Consolidated operating revenue	150.58	145.06	141.08
Consolidated pretax profit	0.36	7.13	1.88
Operating revenue	139.73	133.44	127.52
Operating cost	128.81	115.82	112.25
Operating expense	9.05	9.74	10.80
Income tax expense (benefit)	0.80	1.07	0.97
Total salary expense	11.19	14.19	14.18
Total employee benefit expense	14.86	19.12	19.72
Total pension cost	0.75	0.72	1.05

In terms of market share in Taiwan's air passenger transportation, according to figures provided by Civil Aeronautics Administration (CAA), China Airlines, Mandarin Airlines, and Tigerair Taiwan accounted for 25.04%, 2.61%, and 2.72%, respectively. With a combined market share of 30.37%, CAL Group maintained the title as Taiwan's largest airline group. As for the air freight market in 2016, CAL accounted for 39.02% of air freight market share in Taiwan, still maintaining the leadership role in Taiwan.



2.72%

30.37%

# 1-1-2 Vision of Sustainable Development

Vision represents a beacon of light for a company' s long-term development, and guides all employees to march ahead in the same direction. The purpose of fulfilling our vision of sustainability is not only to improve ourselves, but to uphold our ultimate belief which is to allow our Plum Blossom logo to become a model for sustainable corporations in Taiwan. Because of the high expectations we placed on ourselves, we also look forward to CAL' s continued growth after facing a series of difficult challenges and to become the preferred airline in Taiwan.



Our staffs are highly trained professionals who are convinced that their work is essential to the development of the company, the economy, the society, and also the sustainability of the environment; therefore, we work hard every day and look forward to working together to create greater values for all stakeholders.





#### Mission

Create more wonderful moments through flying

We are fully committed to provide a satisfactory flying experience for every passenger, and to become a sustainable enterprise that is friendly to the environment and promotes the economic development of the society.

Tigerair

Taiwan

combined

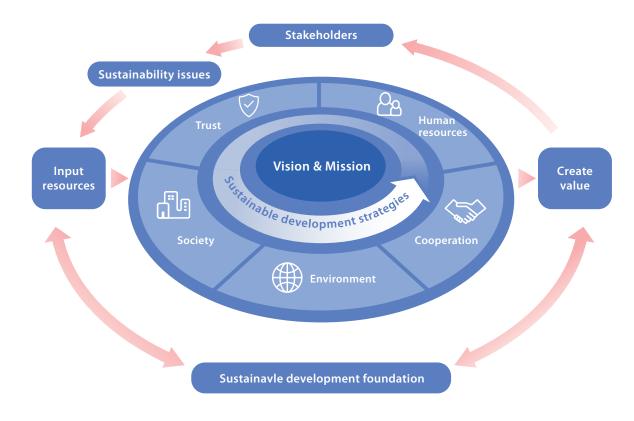
market share

# 1-2

# Mode of Creation for CAL Sustainable Development

# **1-2-1 Value Creation Model**

Vision, mission, and value are the key elements for realizing our future development. It is also essential to engage to our stakeholders, including customers, employees, investors, and the general public during the value creation process. As a leader in Taiwan's aviation industry, CAL aspires to always maintain the leadership position, but more importantly, we hope to continue to improve and surpass ourselves to become the model of sustainable development in aviation industry and the preferred airline for all stakeholders involved. In the overall context of sustainable development, we believe in the principle of managing "from the inside out"; with our corporate vision and mission at the core and infused with the corporate value to guide the planning of our sustainable development strategies. In addition, we strive to respond to all stakeholders' expectations, to continue to create value on their behalf, and to become a benchmark for sustainable enterprises on the basis of these sustainable development strategies.



# **1-2-2 Sustainable Development Goals**

In our value creation model, we not only expect our corporate sustainable development strategies to bring about the growth of CAL, but also hope that the creation of value can fulfill our promises to the stakeholders. Among the 17 Sustainable Development Goals (SDGs) spearheaded by the United Nations, 12 of which are closely linked to our sustainable growth. We consider SDGs to be the long-term objectives of our sustainable strategy practices, and these goals will help us achieve our sustainable development commitments more efficiently.



	2 ZERO HUNGE	3 GOOD HEALTH AND WELL-BEING	4 QUALITY EDUCATION	5 GENDER EQUALITY	6 CLEAN WATER AND SANITATION	7 AFFORDABLE AND CLEAN ENERGY	8 DECENT WORK AND ECONOMIC GROWTH	12 RESPONSIBLE CONSUMPTION AND PRODUCTION	13 Climate Action	14 LIFE BELOW WATER	15 IIFE ON LAND	<b>17</b> PARTNERSHIPS FOR THE GOALS
Trust		<ul> <li>✓</li> </ul>	✓				✓		✓			$\checkmark$
Human Resources			$\checkmark$	$\checkmark$			$\checkmark$					
Cooperation							$\checkmark$	✓				
Environment					✓	$\checkmark$		$\checkmark$	$\checkmark$	~	$\checkmark$	
Society	$\checkmark$	$\checkmark$										

# **1-3** Sustainable Development Strategies



# CAL vision and sustainable development strategy

How has CAL mapped out our sustainable development strategies to achieve the corporate vision of becoming the preferred airline in Taiwan?

Ming-wei Chang, Vice President, Corporate Development Office

We begin by focusing on the four key strategies of "fleet and network", "products and services", "brand awareness", and "group's business operations". By taking into consideration the resources available to the enterprise is limited, we continue to adjust our corporate resource allocation and attempt to create higher values for stakeholders, those values including "trust, human resources, cooperation, environment, and society". By creating values, we aim to fulfill our corporate vision of "becoming the preferred airlines in Taiwan", and upgrade ourselves to become the benchmark for Taiwan's sustainable enterprises.

# **1-3-1 Fleet and Network**

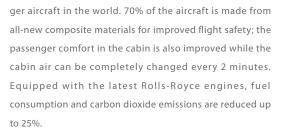
CAL is committed to creating an enjoyable fly experience for our passengers, and looking forward to becoming the best business partner in the air freight industry. Therefore, building up a world-class fleet with superior cabin space, and deploying a high-efficient airline network to serve every major market in the globe, are the core strategies for us in fulfilling our commitment to our customers.

## **World-class Fleet**

CAL is the first airline in Taiwan to operate the Airbus A350-900 passenger aircraft. A350 has been praised for being the "most high-tech, most energy-efficient, most eco-friendly, most spacious and least noisy" green passen-

#### China Airlines' Aircraft

		2015	2016	2017
No. of aircraft in the fle	et 🧲	90	98	90
	A350-900	0	4	10
Long-haul	777-300ER	8	10	10
wide-body aircraft	747-400	13	13	4
	A340-300	6	5	2
Regional <b>***</b>	A330-300	24	24	24
Regional narrow-body aircraft	737-800	18	21	19
Cargo aircraft 🛛 🏭 🗲	747-400F	21	21	21



It is expected that by the end of 2017, CAL' s A350-900 fleet will be expanded to 10 aircrafts, at which time the average fleet age for long-haul flights will be reduced to just 4.5 years. The overall fleet age has also been shortened every year since 2015, and passenger comfort and safety will also be greatly improved. Following the upgrade of the long-haul fleet, we plan to replace our narrow-body aircraft beginning in 2018. Energy-efficiency and cabin comfort would be our major criteria in choosing our next generation narrow-body fleet.







# **Superior Cabin Space**

In terms of cabin space, following our success and popular next generation design for Boeing 777-300ER, the Airbus A350-900 continues to take advantage of Taiwan's cultural creative power and incorporates the successful next generation design concept, with additional modern elements plus a sense of technology. We have created a stylish and lively atmosphere, allowing passengers to experience a comfortable journey that resembles checking into a boutique hotel at a height of 30,000 feet. Our new cabin design impressed everyone with its "wow" factor when first launched, and has since garnered both "2016 Best Business Class Cabin Design" and "2016 Best New Business Class" awards from TheDesignAir as well as won five awards from Japan's Good Design Award (GDA).









# Wide vision

Streamlined, extra-large windows allow 40% more luminance and natural light to shine through, creating a brighter ambience and a sense of openness.



#### Spacious compartments

Extra-large overhead compartments can accommodate 5 pieces of standard size carry-on luggage, which provide ample space for your personal belongings.

CHINA AIRLINES

## Spacious cabin

A350's cabin is more spacious when compared to a conventional aircraft, which provides passengers with a sense of freedom.



### Healthy flight

Cabin pressure is similar to that at 6,000 ft., which eases passengers' level of discomfort and reduce bloating.



## Quiet cabin

Noise outside the aircraft is reduced by 21 dB, which is 20% lower than that of conventional aircraft. Passengers' irritation level could be greatly improved.

#### **Pleasant journey**

.....

Advanced medical-grade air filters are deployed to change the air every 2 minutes, which greatly improves passenger comfort inside the cabin.



**Tranquil atmosphere** 

With 100% LED lighting and 16.7

million color combinations, the cabin

provides a virtually unlimited number

of ambient lighting scenarios to help reduce the effects of jet lag and create

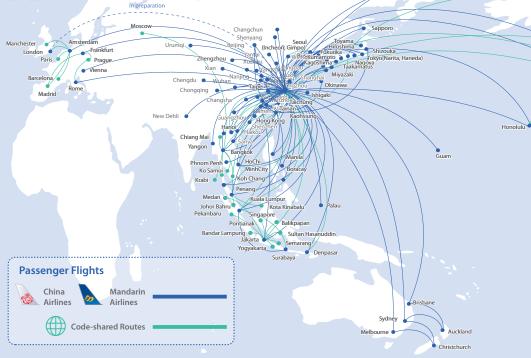
a relaxing flight experience.

Features of China Airlines' A350 Passenger Aircraft

# **Extensive Global Network**

CAL aspires to be the preferred airline in Taiwan and strives to accompany and serve each passenger traveling to and from Taiwan; therefore, while we are expanding our fleet at a steady pace, we have also partnered with a number of airlines around the world to provide extended services to our passengers on each of their journeys via an extensive, worldwide cooperative service network.

Currently, our network spans four continents and reaches 145 destinations across 29 countries. In 2016, we provided over 60,000 flights and transported more than 13 million passengers as well as 800,000 tons of cargo. With the introduction of A350-900, restructuring long-haul routes would be our next big move. We exclusively provide non-stop service to every destination in the European market from early 2017, and plan to resume London routes with non-stop flight from late 2017. Transpacific routes would also under evaluation to add service.

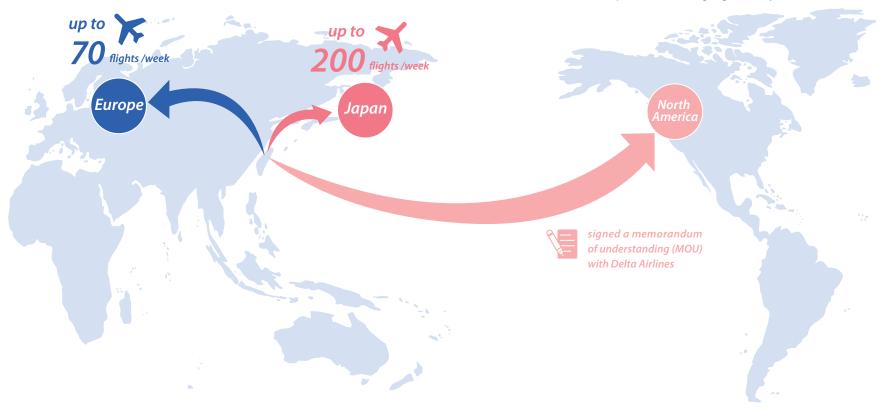




In addition to our self-operated routes, cooperation with partner airlines would be another big issue that we are working on recently. Through these efforts, we hope to expand our global network, improve overall business performance, and help to promote social and economic exchanges between Taiwan and the rest of the world. In Japan market, we codeshare with Japan Airlines on every Taiwan-Japan routes either operated by China Airlines or Japan Airlines, and the overall flights increased dramatically from 28 to over 200 weekly. In the European market, we codeshare with our SkyTeam strategic partner KLM and provide over 70 flights each week to 6 destinations. In the Transpacific market, we signed a memorandum of understanding (MOU) with Delta Airlines, with plans of deepening the cooperation between the two airlines going forward in the Transpacific market.



CAL and Japan Airlines MOU Signing Ceremony





# " Enjoy every moment while flying with us. ,,



# **1-3-2 Products and Services**

To provide products and services of the highest quality has always been what China Airlines is proud of. Confronted with rapid changes in the aviation industry, technology products and applications have now become an integral part of our everyday lives. We fully appreciate our customers' high expectations and we strive to innovate and improve our products and services on a continuous basis, so that our passengers can enjoy every moment while flying with us.

## **Heart-touching Products**

CAL is committed to meeting our customer expectations; we begin by mining data and analyzing customer needs. In 2016, we implemented the Tableau system, and a set of novel business intelligence analysis tools were deployed to effectively visualize and analyze consumers' consumption behavior, consumption trends and purchased products via an interactive mode of operation and with comprehensive analysis. This allows timely identification of product advantages and deficiencies and provides an opportunity to make precise adjustments to product and service offerings as well as marketing campaigns, the purpose of which is to create higher value for our customers.

In order to achieve these objectives and to allow our high quality products and services to translate into reasonable profits, we officially launched CICOS+ in 2016 as our next-generation of Passenger Service System (PSS). With this new system we are able to allocate and distribute seats more precisely based on market conditions and to update information instantaneously with respect to all distribution channels, as well as design more value-added products to meet our customers' needs, increase supplemental income and improve revenue stream.

## **Upgraded Services**

As a close companion for each passenger, CAL cherishes every encounter with our customers. For this reason, we have developed a quality policy with emphases on discipline and safety, respect for customers, green energy and friendly to the environment, and pursuit of excellence. We have also incorporated elements of the motto "work as a team to accomplish every journey" to help us make each part of the service great, so that our passengers and crew members will be able to enjoy each trip together.

We conduct full critical reviews of various services and processes and have developed a set of consistent service standards. We fully authorize cabin crew and require them to strictly abide by the cabin crew operation manual to deal with unlawful and unruly onboard passengers with proper acts, aiming to let them carry out their duties with dignity in a friendly working environment and do their best to offer an excellent and enjoyable flight experience for all passengers. With the launch of MRT service connecting Taoyuan International Airport and Taipei, we extended our services to Taipei Main Station, offering convenient pre-boarding and check-in services and providing a relaxing and stress-free flight experience to passengers. With respect to catering services, in order to improve the quality and quantity of meals provided to economy class passengers, in late 2016, we compiled a collection of well-received economy-class meals, built up a menu database, and offer to passengers to choose. We even resume hot meal service on the short flights to Hong Kong.

In addition, faced with the impact to Taiwan's aviation market from the unexpected termination of service by TransAsia Airways in 2016, CAL took on the responsibility for advancing the country's economic development by taking over, in a timely manner, service routes left void by TransAsia's departure. China Airlines' decisive and sincere efforts have since assuaged the society's anxiety and helped minimize the negative social and economic impacts of the incident.

#### More Extensive Use of Technologies in Our Services

With the increase in customer demand for technology-based services, recently, we have significantly enhanced our Internet and mobile service platforms. We carried out substantial upgrades of our passenger and cargo transportation websites in 2015 and 2016, respectively. The improved websites provide an online experience that is more user-friendly and convenient. The new design of the passenger website now conforms to World Wide Web Consortium's (W3C) Web Accessibility Initiative and is also compliant with the barrier-free web



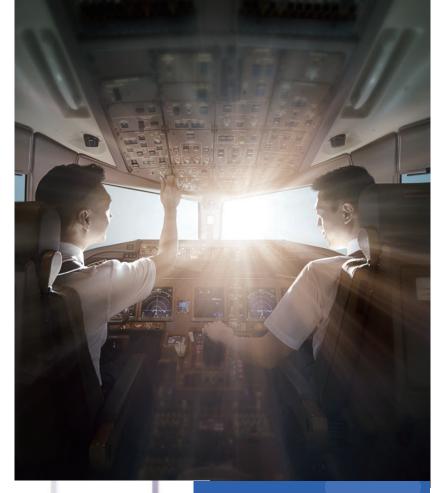
design guidelines of both Taiwan and the U.S. This allows visually impaired users to access the website's features and contents effortlessly. This brand new website design received the 2016 WMA Best Airline Website Award.

As mobile technology-enabled products and devices have become an integral part of our daily life, we appreciate the high demand for mobile services by our customers. In 2016, we launched an all-new mobile app that provides timely and useful flight information and services based on the user's personal travel itinerary. The convenient and prompt mobile check-in service saves queuing time and allows passengers to be kept abreast of the latest flight information so that they can have a more relaxing journey. We hope that we will maintain our leading position as the premier airline for the new generation of travelers.

## **Comprehensive Air Cargo Services**

CAL is a pioneer of Taiwan's air cargo transportation industry. We have been tracking changes in this market and have noticed that growth in conventional air cargo has slowed, and what is replacing this sector is the online e-commerce shopping market, as well as high-precision and high-value instruments, large machinery, biotech products and precious cultural artifacts. In order to manage this market, it is necessary to show our professionalism and care while providing cargo services. CAL continues to enhance the quality of our cargo transportation services. In 2016, CAL was honored to be selected as the carrier for transporting the Vatican's treasures and artifacts to Taiwan for an exhibition. We were also contracted by major corporations such as TSMC, UMC, ASML, and TESLA to transport their high-precision equipment and machinery; showcasing our advantages in providing air cargo services.







"Creating more wonderful moments through flying. "



# **1-3-3 Brand Awareness**

Sporting the "Plum Blossom" logo that is special to every Taiwanese citizen, China Airlines is a familiar brand who carries many people's memories and aspirations. As time goes by, however, consumers and their behavioral patterns are rapidly changing. We must continue to adapt and close the gap between customers and ourselves so that we can enhance the visibility and perception of our Plum Blossom.

"Creating more wonderful moments through flying" is the corporate mission of China Airlines. We are committed to enhancing passenger experience and corporate perception, as well as serving as a bridge to connect the world with steady but sure progress. As the pioneer in Taiwan's aviation industry, CAL links Taiwan with the rest of the world. With respect to the design of products and services, we have the responsibility and obligation to introduce Taiwan's best characteristics to other countries. We wish to exist as a trustworthy member of the family. We not only meet our citizens' needs to expand their horizons, but have also become the most trusted partner.

To provide an enjoyable journey on our flights, we focus and pay close attention to every detail. Our crew member handle every step from aircraft maintenance to providing in-flight services. We insist on doing our best even in places that are least visible to our passengers. Especially during emergency situations, we rely on each member of our crew to be steadfast at their posts and perform to the best of their abilities. With a focused effort, we aim to minimize risk factors and work together as a team to complete each journey successfully.

CAL encourages all employees to fulfill their duties and obligations to the fullest extent, and to care for the needs of consumers and our society with enthusiasm in order to develop passenger-oriented products and services. We firmly believe that apart from carrying out our primary responsibilities as an air transportation carrier, our long-term viability can only be achieved by fulfilling our corporate social responsibility and by growing steadily with our fellow citizens, so that we can improve our brand's awareness to become the preferred airline in Taiwan.

# 1-3-4 CAL Group Business

Air transportation is a highly professional industry involving many aspects. A safe and comfortable journey requires the efforts and cooperation of many participating individuals. In order to provide excellent value and great customer experiences, we are fully committed to improving every aspect of our service; therefore, we have established a number of subsidiaries within the Group to cover air transportation, ground handling, tourism, and aviation technology. The purpose is to improve the overall value chain by deepening the interaction and cooperation among these subsidiaries so that CAL can become the premier choice for consumers.

## **Air Transportation Business**

CAL Group's air transportation business includes China Airlines, Mandarin Airlines, and Tigerair Taiwan. China Airlines and Mandarin Airlines are full-service companies that offer a comprehensive range of services to passengers departing from Taiwan's major airports. Tigerair Taiwan, on the other hand, is a low-cost airline company; its primary focus is to operate in the short-haul market. The Airline provides streamlined air transportation services so that passengers can choose and pay only for the services they need; this business model helps the Group gain additional customers and develop a larger air transportation customer base, so that the aviation industry as a whole will be able to support even more potential economic activities in Taiwan. Going forward, Tigerair Taiwan will continue to invest in key routes, expand its charter flight services, strengthen its collaboration with travel agencies, and continue to expand the competitive advantages of the CAL Group. Together, we aim to contribute to Taiwan's economic progress and social development.

## **Ground Handling Business**

CAL Group is the parent company of ground handling entities such as China Pacific Catering Services, Taoyuan International Airport Services, and Hwa Hsia. China Pacific Catering Services specializes in supplying in-flight meals traveling to and from Taoyuan International Airport; its primary mission is to provide passengers with fine food selections. Taoyuan International Airport Services provides a full range of ground services for aircraft traveling to and from Taoyuan International Airport; it is a service supplier certified with IATA Safety Audit for Ground Operations (ISAGO). Their services ensure that each flight will be completed safely and with high standards. Hwa Hsia is responsible for carrying out interior cabin and exterior aircraft cleaning operations. In 2016, Hwa Hsia introduced the Ecoshine aircraft cleaning program from France's UUDS Group. The amount of water used in this process is only 1% of that required by existing cleaning methods. The use of green biodegradable cleansing agents also allows CAL' s aircraft to be cleaned both internally and externally in an environmentally friendly manner.





#### **Tourism Business**

CAL Hotel (Novotel Taipei Taoyuan International Airport) is a 100% owned subsidiary of CAL, and it is the only five-star airport hotel in Taiwan. The Hotel offers accommodation of the highest quality as well as exceptional dining experiences to airport tourists and visitors to the Taoyuan area. The average occupancy rate during 2016 was over 90%, making Novotel Taipei Taoyuan International Airport the most popular tourist hotel in the Taoyuan, Hsinchu, and Miaoli region. With the launch of the Taoyuan International Airport MRT and the planned completion of Taoyuan Airport's Terminal 3 in the near future, a new hotel building is currently under construction next to the existing hotel. A total of 158 guest rooms and a banquet hall will be added. When the new building is completed, CAL will offer a larger selection of services to Taiwan's growing tourism industry.

#### **Aviation Technology Business**

As an aviation group, CAL constantly tracks and reviews changes and developments in the aviation industry, as well as the level of contribution from each subsidiary to the Group as a whole. We continue to make adjustments to members within our Group in order to invest reasonable resources and to achieve maximum resource efficiency. CAL is fully aware that safety is the foundation of the aviation industry, and is extremely concerned about the quality of aircraft maintenance. With the number of civil aircraft in the Asia-Pacific region increasing rapidly during recent years, and with Taiwan's position as the region's air transportation hub, aircraft maintenance industry is expected to experience a period of growth in Taiwan.

CAL has signed memorandums of understanding (MOUs) with Airbus and NORDAM Aerospace Maintenance Group. Going forward, we hope to enter into joint ventures with these two companies to enhance our maintenance, engineering, and technical training operations and to establish internationally competitive maintenance capabilities. In the future, CAL will seek to secure and provide maintenance and repair services in Taiwan for A350 aircraft owned by other Asian airlines. The goal is to help our first foray into the aviation technology industry as a strategic step for our long-term viability and sustainable development.





CAL and NORDAM MOU Signing Ceremony



CAL and Airbus MOU Signing Ceremony



# Main Frame of Sustainable Development

- **2-1** Stakeholder Engagement and Materiality Analysis
- **2-2** Trust
- **2-3** Human Resources
- **2-4** Cooperation
- **2-5** Environment
- 2-6 Society





# 2-1

Stakeholder Engagement and Materiality Analysis CAL understands that communication and interaction with stakeholders is the first step toward sustainable development, which is why we view stakeholder engagement as the basis for developing our sustainability strategies. To implement our sustainability commitment, we collect internal and external feedback through a comprehensive stakeholder management process, and continue to conduct self-diagnosis to ensure that CAL is heading in the right direction.



# 2-1-1 Engagement of Stakeholders

In accordance with the five principles of the AA1000 SES-2011 Stakeholder Engagement Standards - dependability, responsibility, influence, concern, and diversified points of view - CAL has identified our major stakeholders and established different communication channels and platforms to target various types of stakeholders, to ensure that we are capable of providing adequate responses to the requests and expectations of all stakeholders. To receive more feedback, we have also set up the <u>Stakeholder Contact</u> on China Airlines' website.

<b>\$2.</b> E	mployees	<u></u>	ustomers	<b>2</b> \$ Ir	nvestors	<b>6</b>	overnment	Partners (Suppliers and Contractors)			Society	<u></u>	Media				
Communi- cation channel	Frequency	Communi- cation channel	Frequency	Communi- cation channel	Frequency	Communi- cation channel	Frequency	Communi- cation channel	Frequency	Communi- cation channel	Frequency	Communi- cation channel	Frequency				
Town Hall Meeting	Monthly	Customer satisfaction survey	Monthly	Annual general meeting	Yearly	Missive	As needed	Telephone	As needed	Hold charity events	As needed	Press releases	As needed				
Labor-meetings	Monthly	Global Sales Section meeting	Monthly	Shareholders hotline/mailbox	On demand	Visitation	As needed	E-mail	As needed	Participate in community activities	As needed	Press releases	As needed				
Employee suggestion box	On demand	Corporate official website, corporate Sustainability		Informal entity	As needed	Participate in projects	As needed	Coordination meetings	Seasonal	Press releases	As needed every month	Interviews	As needed				
China Airlines newsletter	On demand	website, Facebook, and e-mail	Monthly	seminar and interviews		Attend public hearings, seminars,		Business visits	Once every 1 to 2 months	Online mailbox	Daily, as needed	Take the initiative to					
China Airlines Retirees	On demand	Customer service hotline	On demand							conferences, and negotiation forums	gotiation					offer	As needed
		On-site visits	On demand	Key communi	cation	Participate in and support	As peopled	Key communi	ication	Key communication		industrial information					
Key commun	nication	Key communio			<b>purpose:</b> To report business results and maintain		As needed	availability, su	<b>purpose:</b> To understand the availability, sustainability		care for the d, improve						
Key communication purpose: To understand the thoughts and satisfaction rate of our employees Communication results: Employee satisfaction rate for 2016 is 6.88 (out of 10).		purpose: To u thoughts and s rate of our cust Communicatio 2016, the satisf our passengers 83.6% while th freight clients s	atisfaction tomers. on results: In faction rate of s averaged at of our averaged	excellent communication. Communication results: Continue to respond with results concerning company operations according to regulations and the needs of investors.		Key communication           purpose:         To understand,           communicate, and         cooperate in projects           g to         promoted by the law, and to		risks, and shipment details of our suppliers. <b>Communication results:</b> A general supplier meeting was held at the end of 2016.		relationships v community, ar transparent cc <b>Communicati</b> total of 18,990 have received 2016.	nd facilitate ommunication. <b>ion results:</b> A ) individuals	Key communication purpose: To collect issues that stakeholders are concerned about, and to facilitate transparent communication. Communication results: 111 press articles were					
		86.3%. The sati of our mainten stands at 4.44 (	ance factories			Selected as the top 20 of the excellent corporation award in the Third Corporate Governance Review.						released in 2016.					

# 2-1-2 Materiality Analysis

Materiality analysis is the basis of revealing sustainable information. Through the process of materiality analysis, we have converged sustainability issues from 38 to 26. After internal discussions, we have either merged or deleted issues that overlap, and reported them to CAL's Corporate Sustainability Committee, which organized the issues into seven major categories (as shown in the figure below) and review the revealing boundaries. Flight safety, passenger services, and risk management are the fundamentals of airline business; they are also the most important principles. Employees are the most valuable assets, and an excellent labor/management relationship is beneficial to improving a company's overall efficiency. Furthermore, CAL's brand image, environmental sustainability, and supply chain management are the basis of sustainable development for China Airlines.

Through sustainable value creation cycle China Airlines aims to establish a sustainable development strategy and formulates practical strategies and long term objectives for the top three materiality issues (see chart below). Other sustainability issues, though not discerned and included as part of the materiality issues, are still very important to China Airlines, which is why we continue to observe and understand the feedback our stakeholders may have concerning these issues. We consider making these concerns part of our related sustainable development strategies. In addition, interviews with managerial personnel were added to this report, in which managers discuss each materiality issue in person and respond to CAL's current strategies and actions.



**Impact on Company Operations** 

Materiality Matrix

# Material Issues X Sustainability Strategies X Boundaries of Entities

			Corresponding chapters/ sections		Boundaries							
Material issues	Sustainability	Corresponding to Sustainable		Corresponding to GRI G4 Material Aspects	Internal Entity*				External Enti	ty		
Material issues	issues covered	Development Strategies			China Airlines	Mandarin Airlines	Tigerair Taiwan	Govern- ment	Customers	Suppliers		
Flight safety	Flight safety	Trust	2-2 Trust	Flight safety <sup>1</sup>	$\checkmark$			$\checkmark$	<ul> <li>Image: A start of the start of</li></ul>			
				Market Presence	$\checkmark$				$\checkmark$			
				Employment	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$			
				Labor/Management Relations	✓			✓	~			
	Workplace safety and health, Labor/management relations, Employee welfare and salary, Recruitment and		2-3 Human resources	Occupational Health and Safety	✓	~	~	~				
				Training and Education	$\checkmark$	$\checkmark$	$\checkmark$		$\checkmark$			
				Diversity and Equal Opportunity	$\checkmark$							
Labor/management relations		Human resources		Equal Remuneration for Women and Men	~	~	~					
. c.a.ions	talent retention, Human rights,			Non-discrimination	$\checkmark$				$\checkmark$			
	Career development and educational training	t		Freedom of Association and Collective Bargaining	~	~		~				
				Child Labor	$\checkmark$			$\checkmark$				
				Forced or Compulsory Labor	~			~				
			Human Rights Assessment	~								
				Investments	$\checkmark$							
				Labor Practices Grievance Mechanisms	~			~				

			Corresponding chapters/ sections		Boundaries						
Material issues	Sustainability	Corresponding to Sustainable		Corresponding to GRI G4 Material Aspects	Internal Entity*			External Entity			
Material issues	issues covered	Development Strategies			China Airlines	Mandarin Airlines	Tigerair Taiwan	Govern- ment	Customers	Suppliers	
	Passenger services management,			Economic Performance	~						
	financial performance,	Trust		Anti-corruption	$\checkmark$			$\checkmark$	<ul> <li>Image: A start of the start of</li></ul>	$\checkmark$	
Customer service management	antitrust, privacy policies, sustainable		2-2 Trust	Anti-competitive Behavior	~			~	<ul> <li>✓</li> </ul>	$\checkmark$	
_	development strategies and			Compliance	$\checkmark$			$\checkmark$	$\checkmark$	$\checkmark$	
	organizations, ethical guidelines,			Customer Privacy	$\checkmark$			$\checkmark$	$\checkmark$		
	legal compliance			Public Policy	$\checkmark$			$\checkmark$			
Risk management	Risk assessment and management	Trust, Cooperation, Human resources, Environment, Society	3-2 Corporate governance	Risk Management <sup>1</sup>	~			~			
Brand image	Brand marketing	Trust, Cooperation, Human resources, Environment, Society	1-2 Sustainable value creation cycle	Brand Image <sup>1</sup>	~			~	~	~	

		Corresponding to Sustainable	Corresponding chapters/ sections	Corresponding to	Boundaries											
Material issues	Sustainability				Internal Entity*				External Enti	ty						
Material issues	issues covered	Development Strategies		GRI G4 Material Aspects	China Airlines	Mandarin Airlines	Tigerair Taiwan	Govern- ment	Customers	Suppliers						
			2-5 Environment	Products and Services	~				~	~						
	Environmental policies and management	y Environment ste ter		Energy	$\checkmark$											
Green clin Environmental sustainability mana	systems, Greenhouse gas and climate change,			Emissions	$\checkmark$	<ul> <li>Image: A start of the start of</li></ul>	$\checkmark$		~							
	Aircraft fuel efficiency, Energy management, Waste management, Water			Effluents and Waste	~			~								
	resources management, Discharging and									Compliance	$\checkmark$			~		$\checkmark$
	management of polluted water			Water	$\checkmark$			~								
				Environmental Grievance Mechanisms	~											
		Supply chain Cooperation management	2-4 Cooperation	Procurement Practices	~					~						
chain chain	chain			Supplier Assessment for Environment/La- bor Practice/Soci- ety/Human Right	✓					<ul> <li>✓</li> </ul>						

Note 1: Material aspects for China Airlines (non-GRI).

Note 2: \*The disclosure scope of this CSR report mainly focuses on China Airlines. Mandarin Airlines and Tigerair Taiwan only disclose related performance.



Implementation Strategies for the Top Three Material Issues

# 2-2

# Trust







Enhance safety awareness of each employee in order to provide safety air transporttation service.

Cultivate the expertise of employee

through local and international partnership by experience sharing

and training.





Examine and streamline working procedure with technical support to raise the value of staff performance.



Integrate weather-related risk analysis and contingency measures.



Identify CAL advantages through experience, capabilities and knowledge sharing with JV partners.

# 📕 КРІ





Certified by IOSA for 7 consecutive times, the latest outcome was outstanding with no new findings, observations, and safety compliance failures.



Signed MOU with Airbus to develop maintenance, engineering and training capabilities.



Cabin design is acknowledged by iF design award (Germany), the Red Dot Design Award (Germany), The Design Air award, the Good Design Award (Japan), the Golden Pin Design Award (Taiwan).



Largest market share of passenger and cargo business in Taiwan.



Reliability for Passenger flights exceeds 99%.

КРІ	2016 Objectives	2016 Performance	Achievement	2017 Objectives
Fatal and Hull loss	0	0	100%	0
Runway Excursions , RE	0	0	100%	0
Controlled Flight into Terrain , CFIT	0	0	100%	0
Loss of Control in Flight , LOC-I	0	0	100%	0

Flight safety is more than the recognition to be proud of, a record to be praised, or an impressive accomplishment—it is a tremendously serious promise we make to our passengers. Each boarding pass represents the promise we make to escort the passenger to the destination. Each flight is more than just a trip—it involves the possibility to happiness of all the passengers and their families. Flight safety is a kind of attitude: we see our passengers as family, and we will continue striving hard for our family.

Nuan-hsuan Ho Chairman



# Flight Safety

# What are the accomplishments of China Airlines in flight safety reinforcement during recent years?



The IATA Operational Safety Audit (IOSA) program is an internationally recognized and accepted evaluation system designed to assess the operational management and control systems of an airline. CAL was the first airline in Taiwan certified by IOSA in 2005 and had been re-certified 7 consecutive times by 2016. The latest outcome of audit was outstanding with no new findings, observations, or safety compliance failures.

> Ming-che Chuang Manager, Safety Department, Corporate Safety Office

# Customer Service Management



# How do cabin crews and ground staff respond to customer complaints? Are they fully empowered?

Cabin crews are encouraged to respond to all passengers with sincere yet appropriate manner. They are empowered to access to all resources in flight to fulfill customer needs under reasonable circumstances, or offer service compensation based on standard procedure. The Cabin managers just need to have it documented for related departments to follow up or improve.

> Manager, Cabin Crew Management Department, Cabin Crew Division

We serve and fulfill customer' s need with empathy. However, frontline staff may be quite intense due to various unexpected issues, the level of empowerment of CAL is designed specifically to different level of staff. It is our primary goal to fulfill customer need and solve all problem may be caused due to flight arrangement.

> Te-hsiu Chu Assistant Vice President, Ground Services Division

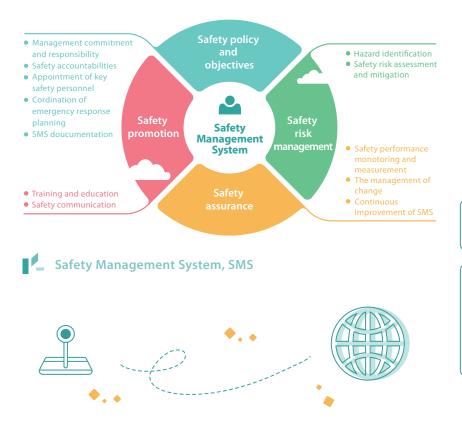
### What are CAL's procedures for flights under unusual weather?

Through big-data analysis and internal flight risk-management systems, CAL has identified that weather is one of the primary risk factor of airlines. Therefore, an Emergency response team is formed to solve weather-related issues in the Aviation Control Center. When weather forecast reports unusual occasions, a special team will be formed to simulate scenarios and minimize the operating risks, it is our mission to ensure that our passengers arrive safely at their destination.

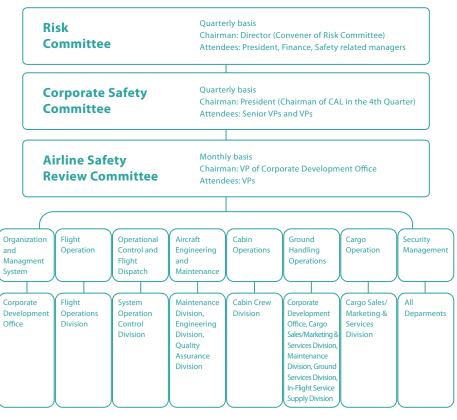


# 2-2-1 Flight Safety

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



In compliance with ICAO Safety Management Manual, CAL established Safety Management Manual (SMM) to specify safety policy. Moreover, CAL established Corporate Safety Committee (CSC) and Airline Safety Review Committee (ASRC) that were under the Risk Management Committee and formed by all related departments to create Corporate Safety Manual and setup specific goal of safety policy - Every staff including top management to frontline staffs shall be fully aware of their responsibilities. CAL arranges periodical meetings to examine KPI status, identify the trend of risk development, and review implementation/improvements and to make sure everything proceeds effectively.





In order to ensure flight safety, CAL organizes safety improvement projects every year for employees to renew and improve their safety training in order to elevate China Airlines' safety standards to the highest level.



# **Pilot Training and Management**

Risk factors are identified and prevented based on three perspectives - "Prediction", "Proactive", and "Passive". CAL adopts comprehensive training on internal and external environmental changes such as new stations, new routes, new aircraft, new systems and new procedures as well as systemic proficiency checks, Flight Operation Quality Assurance (FOQA) and regular evaluation of pilot instructors to cultivate pilots of the highest caliber and ensure flight safety.

\*FOQA reduces accidents and crashes by using flight information to improve flight safety. In other words, it mines routine flying logs and abnormality reports, analyzes the operating characteristics of active fleets then conducts an assessment to identify potential risks for correction.

### Strict training and fair test

Rigorous and impartial training is essential to maintain skills of pilots. To ensure the effectiveness of training, examination and management, CAL has set up three parallel and independent units under the Flight Operations Division to be responsible for pilot management. This organizational structure insulates check pilots against any outside influence during crew checks, ensuring that pilot training meets

the most rigorous requirements and objective standards at every stage. In 2016, CAL conducted over 57,298 hours of demanding training for 1,138 pilots each year costing up to TWD 530 million (Cost of Training in 2015 was 360 million). CAL started to prepare for Evidence-Based Training program introduction in 2016, the program suggests different training based on historical flights of each pilot. CAL is now preparing to apply for 5-step process for certification from CAA.

### **Professional training facilities**

CAL has introduced advanced full-motion simulator systems to improve flight safety; moreover, original manufacturer's aircraft performance and system parameters, airport databases and weather phenomena (clear, rain, snow, storm, low-visibility etc.) are also uploaded to prepare flight crew to cope with all kinds of abnormal situations and weather conditions. CAL's flight simulation equipment and training, ground and water escape training facilities/equipment have been certified by EASA as well as civil aviation in South Korea, Vietnam, Malaysia, Philippines and Hong Kong. The software and hardware can therefore be made available to other domestic and overseas airlines for training.



#### **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 improve training trend analytics and to effectively integrate all information including training courses, instructor management and training records, it can also be effective in improving the quality of training services and reducing personnel/operating costs. CAL has also introduced a new e-learning system. All of the courses in the existed system have now been migrated to the new system which not only supports Windows but also iOS and Android as well. This will help flight crews with mobile learning and improve satisfaction with e-learning.

### **Fatique management**

**Proactive Planning** 

Crew Feedba

CAL is more conservative than regulatory requirements when it comes to flight mission assignments. Based on the spirit of the SMS, we adopt proactive planning, crew feedback and prediction in the planning and management of crew rosters.

- Monthly review and discussion of crew schedules for the following month
- Plan for crew pre-mission/post-mission rest periods and configurations that exceed statutory requirements
- or 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 regional routes jointly with the fleet
- Use crew mission reports to determine if fatigue has set in then adjust missions, crew assignments or station as necessary
- Dispatcher must immediately adjust the assignment of crew members reporting of fatigue or discomfort
- Predictior • Adjust crew sizes on flights based on peak and off-peak season for travel
  - · New destinations are evaluated by fleet before deciding on crew dispatch conditions and crew sizes.

# **Flight Monitoring and Surveillance Control**

The Systems Operations Control Division set up by CAL operates around the clock to ensure the safety and tracks status of our flights. Developments that may cause impact on flights including climate change, weather conditions at regional airports, severe disasters are all closely monitored. Flights in the air are provided with real-time updates and emergency response plans because the safety of passengers is our first priority. A QTA (Quick Turnaround) will be applied to minimize the impact due to flight change. Furthermore, CAL is working with the Taoyuan Airport Authority to monitor our flights through closed circuit TV (CCTV) and airport surface detection equipment (ASDE).

# **Maintenance Quality**

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



### Maintenance capabilities

The Engineering and Maintenance Organization of CAL received aviation equipment repair station certification from 11 countries and regions, including the EU, United States and China. CAL has become the largest, modernized aircraft repair center in Taiwan with aircraft maintenance hangars that can accommodate 5 large wide-body aircraft under repair and with engine test cells that can withstand 120,000 lbs of thrust, thereby capable of inspecting and repairing various high-level aircrafts.

### **Collaboration with schools**

Technical personnel cultivation is the core to improving the quality of maintenance. Due to employee retirement and expansion in aircraft maintenance capabilities, CAL requires about 150 new maintenance staffs per year. In order to recruit more talented candidates, CAL had started to collaborate with Taiwan's colleges and universities since 2012, and had expanded to 11 cooperating schools until 2015. During the semester, students can learn at CAL repair station for practical knowledge and experience, and the sessions can be deemed as part of their maintenance training courses to shorten training time and integrate theory and practice.

### **China Airlines technical training center**

China Airlines established China Airlines Technical Training Center (CTC) in 2015 to expand technical training capabilities and to meet the rapidly growing maintenance operation demands for both the domestic and international markets. China Airlines CTC is the first institution in Taiwan that is certified to provide Aircraft Type Training (Category B1/B2/C), and License Conversion Training.



# **Drop Off on Wake Island**

On December 11, 2016 (at 11:20 Hawaii local time), while flying from Hawaii to Tokyo and then to Taiwan, Cl017 experienced an abnormal engine alert. In order to ensure the safety of the flight, the captain shut down one engine according to the safety protocol and landed at the Wake Island airport, which belongs to U.S. territory, and the plane stayed for 16 hours. Because there were no passenger reception services at the airport, food and baby supplies such as diapers and milk became serious issues. The cabin crew promptly communicated with the U.S. military to obtain drinking water. In an unfamiliar environment with limited supplies, the staff acted calmly and professionally and even the four puppies in the cargo had received proper care. Meanwhile, the company headquarters initiated an emergency response plan and dispatched another aircraft. All 143 passengers and 12 crew







members were picked up and arrived safely in Tokyo and Taiwan. During this incident, crew members made quick and correct decisions so that the Cl017 could land safely. It is an accomplishment of team effort from pilot, cabin crew, and emergency group in headquarter.



Safety is my first and only mission during flight in China Airlines! Making each flight safe and comfortable for our passengers is what's most important to me!

Copilot

### Always learn new information, know well about the procedures, and share experiences with colleagues!



When emergencies occurred, I had to react right away by following standard procedures, discuss about the alternatives with the team in headquarter, and assist pilot if needed.

### Service Staff

It is our mission to provide passengers a safe and comfortable journey under all circumstances!

# 2-2-2 Customer Service

### **Protecting Customers' Rights**

### **Protecting customer privacy**

CAL has established an Information Security Policy, which addresses the collection, usage, and acquisition of customer information. For additional information concerning personal information protection and amendments to the safety declaration, please refer to our <u>official</u> <u>website</u>. CAL is dedicated to protecting our customers' personal information. In 2016, we did not receive any complaints about privacy violation. In the future, we will continue to maintain this high standard of privacy protection.

### **Food safety**

We not only prioritize the taste of our food services, but also focus on food sanitation and safety. In order to ensure food safety, we require our catering service providers to comply with international safety and health standards for aviation meals.

### **Onboard drinking water safety**

In addition to in-flight meals and snacks, CAL also values the quality of drinking water provided during the flight. Our water quality far exceeds environmental protection and bottling facility sanitation regulations. CAL' s rigorous water quality control standards are reflected in the Onboard Drinking Water Management Protocol.

- The safety of drinking water is included in the preliminary of new destinations.
- We set high safety standards for our drinking water suppliers, and perform inspections annually.
- We conduct safety checks on drinking water for all of our foreign destinations.
- We apply a strict drinking water facilities maintenance plan in accordance with the regulations set by facility manufacturers.

### **Customer Relations Management**

Customer feedback is extremely important to CAL; therefore, convenient communication platforms are established based on various customer demands. Customers can use our hotline, regular mail, or onboard Suggestion Form to offer us their opinion. Furthermore, we created a Facebook customer service page, customer service email box, and online customer

feedback system to serve customers who feel more comfortable with online communication. All customer feedback received are entered and stored in our Customer Service System (CSS). Within 3 work days, investigation results are sent back to the customer with detailed explanations.

#### Traditional Communication Channels



#### Customer service hotline:

Customers can call our hotline to offer feedback at our branch offices.

# $\times$

# Regular mail:

Customers can mail their suggestions to our branch offices.

### Suggestion form:



While onboard, 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**



#### Customer service on Facebook:

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

#### Customer service email box:



.com

Customers can send emails to customer service through the Company' official website. Instead of calling, they can simply use the email forms to "change a reservation" or "confirm itinerary".

### Customer feedback:

Customers can give us feedback through the online feedback system.

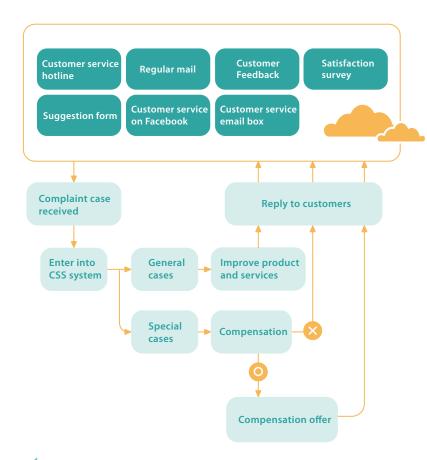


#### **Customer satisfaction survey:**

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



Contact Us

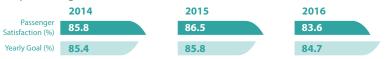


# Customer Relation Management Flow

CAL is fully aware that we can only impress our customers by providing satisfactory services. To understand what our customers expect, we proactively collect customer opinions through various channels, includes Onboard Passenger Satisfaction Survey System, Dynasty Package Survey Form, Cargo Service Satisfaction Survey, and many other electronic surveys. In 2016, we collected 212,849 valid 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, we establish quality goals, and methods of achieving these goals to increase customer satisfaction on all fronts.

# **Passenger Satisfaction**

During 2016, due to employee compensation disputes, CAL experienced the first cabin crew strike in Taiwan's commercial aviation history. Although every effort was made to ameliorate the situation, many passengers' travel plans were disrupted. The CAL's reputation also suffered a negative impact. After the incident, we reviewed and changed our annual passenger satisfaction goal. The long-awaited A350 product line was launched and the luggage weight limit was also increased to 30 kilograms to regain customer trust. However, the incident has proved more impactful than anticipated; our passenger satisfaction level did not reach the yearly goal. Regarding this incident, CAL has considered its causes and devised improvement plans. In the future, we will continue to increase the value of our products. We look forward to parting with the past and regain the trust of our customers.



# **Freight Service Customer Satisfaction**

In 2016, the CAL's freight service customer satisfaction score has seen a decline. The main cause was the decrease of available cargo capacity to the US due to issues related to human resources. In order to perfect our labor relations and better manage flight crew's stress and fatigue levels, all crew members are given more rest; this is why our cargo capacity was unable to satisfy customer expectations. The CAL has continued to recruit pilots and cadet pilots in order to guarantee smooth operation.



# Engineering and Maintenance Factory Customer Satisfaction

CAL's professional maintenance capacities have achieved an yearly customer satisfaction rate exceeding our goal. (Note: Max. score is 5 points.)



Regarding customer feedback, we continue to carefully study the numbers and reasons behind them. CAL is always thinking about how to be better, how to provide better services, how to make our customers smile, and how to make CAL the preferred airline in Taiwan.

# A Thank You Letter from a Customer: Taking China Airlines Become a Wonderful Moments in My Life...by Karen

#### "Going Home is My Top Priority"

I would like to share about how much CI staff at Sydney had helped me!

Last year, I returned to Taiwan twice with my husband. In June, we went home in order to visit my grandma who is almost a hundred years old. She is the main reason why I am so related to Taiwan. I remembered how we rushed to grandma's and how happy she was when we arrived. Unfortunately, grandma passed away unexpectedly and quietly in her sleep at the fourth day of our visit. Though I felt devastated, I knew that I was very relieved to be able to see her for the last time. After we attended the memorial ceremony, we had to return to Australia first because her funeral was to be held at the end of June but we couldn't stay in Taiwan for that long due to work.

I wanted to return to Taiwan for her funeral, however, I can not get any available ticket from any of the airlines, including China Airlines, Singapore Airlines, Cathay Pacific, and Qantas. I went to several travel agencies for help, but I was told that there were no tickets available, or ticket prices were double or triple of average price because the end of June is usually the peak season. I was heartbroken and called China Airlines' Sydney office. After understanding that I needed to return for my grandmother's funeral, they comforted me and assured me they would do everything to help. A few hours later, I got a call from them, responding that they had two seats for me from Sydney to Taipei. That means finally I can go back home with my husband, even if it was only for a day due to my tight working schedule.

Everything becomes so clear when telling this story again...

Thanks you China Airlines Australia...for offering the help so that I could accompany my grandmother with the last journey of her life.



# 2016 Progress

### **1. Certifications**

### **Certified by IOSA**

Received IOSA certification for 7 consecutive times with no new findings, observations, with no new findings, observations, or safety compliance failures.



### SMS certification

Certified by Civil Aeronautics Administration of 4th-stage audit of Safety Management System.

### 2. Enhance safety culture – Safety and justice culture

### Management by walking around

We encourage managers to visit the frontline staff to show caring about employees, and to understand whether the gap between SOP and daily operation existed and required to be revised. In 2016, 74% of manuals were revised after being evaluated whether it was in compliance with regulation and safety requirements.

### Enhance proactive conception about safety

The Vice President of the Corporate Safety Division visited operation divisions to

communicate with junior level management about their KPIs regarding safety, and collect practical information for future safety enhancement program.

### Strengthening risk management

Apply safety management system of next generation and form the training of risk management to provide employees clear concept about how to relate the risk management process to daily operation. 465 personnel completed the training in 2016.



### 3. Improve the company's on-time performance

### **On-time performance**

According to statistics provided by the Civil Aeronautics Administration, the quarterly 30-minutes on-time performance of China Airlines were 98%, 94.24%, 94.76%, and 94.10%, respectively. In order to provide passengers with better services, we adopt a stricter 15-minute on-time performance to evaluate our performance. In 2016, China Airlines 15-minute on time performance were 74.16%. For 2017, our goal of 15-minute on-time performance will be 78%.

\*The statistic 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 from CAL is the complete route including the departure passenger aircraft (including charter flights and extra flights) delayed over 15 minutes due to factors attributable to the industry and factors not attributable to the industry.

### Reliabilities

Reliabilities for passenger flights exceeded 99% in 2016.

### Enhancing the flight supervision and surveillance system

We provide each branch with real-time aircraft and ground parking status as well as accurate flight information through CAL-developed surveillance system, this provision improves the Company's punctuality and service quality.

### 4. Promote mobile and digital operations

### **Electronic documentation**

CAL gradually replaces paper documents by electronic ones. Electronic documents are used for flight documents, maintenance documents, freight service procedure for dangerous goods, as well as data entry. Electronic documents can be updated in real time; they can also be checked automatically to reduce human error.

### Electronic AWB (Airway Bill)

In 2016, China Airlines continue encouraging the application of Electronic AWB, the penetration of China Airlines was 63.9%. CAL is the airlines with top penetration in Taiwan.

# What's Next

### 1. Keep promoting culture of safety

Besides management by walking around, risk management events with presents, safety KPIs management, periodic safety performance appraisals, and advocating safety awareness, we will keep promoting CAL's safe management and operation.

### 2. Enhance evidence-based training

Initiate the training program for teachers of Evidence-based Training to improve the quality of our training programs.

# 3. China Airlines signed MOU with Airbus to develop its maintenance, engineering and training capabilities

### 4. Certified by AS9110 certification

(Aerospace Requirements for Maintenance Organizations)

### 5. Increase customer satisfaction

If the satisfaction level of our passengers and freight services do not meet expectations, we will evaluate and improve our services based on feedback received.



# **2-3** Human Resources



# Labor-Management Relations

We view our employees as our family and most valuable assets. We always keep our door open and are willing to communicate and reach a mutual understanding through respectful negotiation procedures. We want to create a more harmonious work environment based on a win-win situation for both parties, in which our employees' work is recognized and well compensated. We will also steadfastly hold true to the promises we make to our clients and the public. We hope to create a better future for millions of customers, the company's sustainable development, the interests of stake-holders, and our employees.



Provide a diverse range of educational approaches through the industry-academia collaboration programs to enhance students' industry-specific knowledge and technic.



Survey our employee satisfaction to understand the different needs between male and female employees. In order to adjust and formulate measures that resolves employees' concerns and gender equality.



Increase the incomes of employees by improving our remuneration and benefit policies. Comply with the statutory requirement for disabled employment, in order to create the accessible environment for disables. What is the current state of agreements between CAL and unions? What is the CAL's standpoint toward unions? How does CAL develop a harmonious and mutually beneficial union-management relationship?

Assistant Vice President, Human Resources Division

**Shao-Ting Yeah** 

On June 24, 2016, the Taoyuan Flight Attendants Union (TFAU) staged a strike by CAL employees without advanced warning, resulting in a disruption of business operations and services which sparked a public outcry. In an act of good faith, CAL chairman Nuan-hsuan Ho— who was nominated at noon on the same day immediately visited the scene of the strike to communicate with union members. After mediated by government authorities, two parties finally reached an agreement. The strike ended in the evening of the same day, and regular flight schedules were gradually resumed within two days. On June 27, the China Airlines Employees Union (CAEU) proposed exact eight requests same as those made by TFAU, and after two rounds of negotiations a consensus was reached between both sides. On October 14, due to not being satisfied with the slow progress of CAL regarding its performance of the earlier agreement, TFAU organized a press conference accusing CAL of reneging on its promises. TFAU members also staged a protest in front of CAL Taipei Branch Office and threw eqgs to express the anger.

Regarding all the doubts about the minutes of the June 24 consultation meeting, given that a consensus had previously been reached between the two parties regarding the rights and interests of flight attendants, we reiterated our position that the June 24 meeting had been convened to resolve the labor dispute and CAL would abide by its promises and fulfill the terms of the agreement in compliance with law. However, owing to the fact that the agreement was not classified as a collective bargaining agreement, the dispute was expected to be heard by a court with relevant jurisdiction in order to achieve a fair and equitable decision. At present, a preliminary consensus has been reached by both sides on the most pressing issue, mutual performance evaluation between management and staff. All the other demands on the agenda are now in process of implementation. However, TFAU resorted to staging a protest on October 14 in an irrational manner in spite of CAL's concerted efforts to fulfill its promises. We expressed our deepest regrets about the incident. If TFAU had truly been concerned that CAL was not implementing the seven agreements in a timely manner, proper communication channels should have been adopted to consult with CAL. Regarding the agreement made between CAEU and CAL on June 28, processes and implementation details were

discussed during union-management meetings, most major demands had been implemented.

The protest that raised by TFAU in June was unexpected; therefore, CAL was not able to activate the existed contingency plan in time. Eventually this incident escalated and compromised our passengers' righ and interests.

Under the structure of more than one union, the members of each union are different in professional characteristics and working conditions. CAL respects for all unions and consistently communicates regarding the stated demands with each individual labor union, views the labor rights of every employee as first priority based on neutral standpoint and extends to each union the same level of respect and commitment of resources. In point of fact, we are of the view that CAL should maintain an equitable, cooperative, and mutually respectful relationship in which both sides are willing to carry out mutually beneficial two-way communication with respect to any and all collective bargaining agreements. Currently, apart from monthly regular meetings held between the head office and CAEU, a number of committees tasked with various functions and consisting of members from management and CAEU have been established. CAL tracks the status of follow-up actions for proposals made at each meeting and then reports its findings at the following meetings. CAL is dedicated to maintaining harmonious union-management relations through open channels of communication and efficient modes of operation.

Furthermore, CAL has always sought to understand the difficulties our employees face in their work and is dedicated to continually improving the working conditions. We have also endeavored to maintain healthy relationships with employee unions and value their opinions tremendously. Our vision is that both CAL's management and employees can work together to achieve equity and mutually beneficial outcomes.

# Highlights





CAL is the only company in the industry that received the Golden Wingspan Award. CAL hired 119 disabled.

📕 крі





Investment on salary and benefits: TWD 16 billion.





Investment on employee training: TWD 590 million.



99.5% Employee participation in labor unions



Employee participation in labor unions: 99.5%.

Issue	КРІ	2016 Objestives	2016 Performance	Achievement	2017 Objectives
Occupational Safety and Health	Reduce disabling injury frequency rate	5%	3.27%	100%	5%
Labar/Management Dalations	Labor/Management Conferences	12 times/year	12 times/year	100%	12 times/year
Labor/Management Relations	Reduce the number of incidents of employee grievances	30 incident/year	18 incident/year	100%	30 incident/year
	Labor RightsUnion Participation Rate	98.2%	99.5%	100%	98.2%
Labor Rights	Retirees Seminars	2 events/year lecture and e-learning lesson	2 events/year lecture and e-learning lesson	100%	2 events/year lecture and e-learning lesson
	Sexual Harassment Prevention Lectures	1 event/year	1 event/year	100%	1 event/year

# 2-3-1 Promoting Human Rights

# China Airlines' Human Rights Policy

# The Standards to Which We Adhere

China Airlines respects and adheres to internationally recognized human rights standards and principles, including the Universal Declaration of Human Rights, United Nations Global Compact, the labor standards in the core conventions of the International Labour Organization, UN Guiding Principles on Business and Human Rights, and local laws and regulations. Based on the guiding principles of the preceding standards and conventions, CAL has formulated the Company's human rights policies and related measures.

# Scope of Application

China Airlines' human rights policy applies to China Airlines and enterprises in which it is invested. CAL is committed to respecting, protecting, assessing, and compensating employees and customers who may have been adversely affected by human rights violations. In addition, we apply the same standard of expectations and require suppliers and contractors of China Airlines to comply with the spirit of this policy and its basic principles.

# The Principles to Which We Are Committed

- We firmly believe that the respect for and protection of human rights are the foundation for an enterprise's long-term viability and sustainable development.
- We take into consideration human rights issues in all aspects of our business value chain, including contexts in which we face our employees, customers, suppliers, and in the social environments in which we operate.
- As a corporate citizen, we actively provide assistance to members of minority as well as underprivileged ethnic groups. Moreover, we provide emer-

gency relief on a local and international basis through the utilization of dynamic support mechanisms.

- 4. We comply with local laws and regulations as well as our relevant internal policies for the purposes of protecting human rights.
- 5. We provide Communication channels and platforms to our stakeholders, and we listen to the views and concerns of our stakeholders regarding human rights issues.

# Issues of Particular Concern

We place a particularly strong emphasis on the following human rights issues:

- 1. Providing fair and reasonable salaries and working conditions.
- Respecting employees' freedom of assembly and entering into negotiations.
- 3. Providing a safe, sanitary, and healthy work environment.
- Respecting privacy and protections pertaining to the collection and use of personal information.
- 5. Opposing to all forms of discrimination, bullying, and harassment.
- 6. Protecting the working right to indigenous communities and persons with disabilities.
- 7. Prohibition of forced labor and child labor.
- 8. Opposing to corruption and bribery.

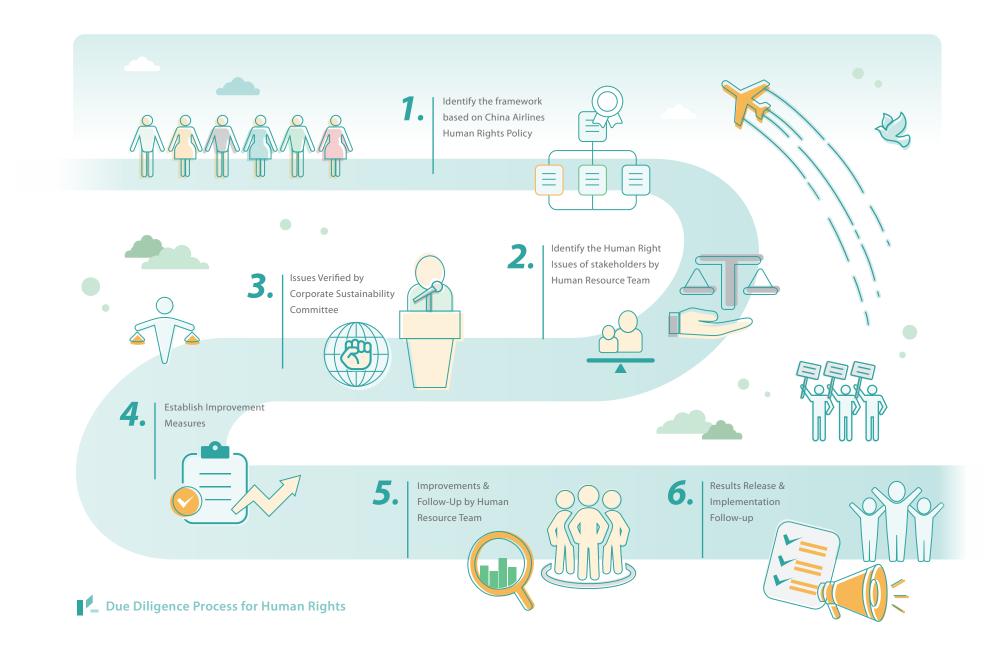
#### Chairman

nH Ho



# CAL Human Rights Standard

Employee Code of Conduct	• Employees should support company policies on human rights, fair treatment and respect for every employee, avoid infringing on the rights of others or become accomplice to human rights abuses. We not only implement policies to protect the human rights of employees, but has also established a management mechanism to ensure employee care. We do not use forced labor. We do not use race, gender, age, family, political affiliation or religious beliefs as the criteria for employee assignment, performance evaluation or promotion.	
Human Resource Manual / Employee Complaints Regulation/ Sexual Harassment Complaints and Disciplinary Actions Regulation	<ul> <li>Proclaimed employee human rights protection includes basic stipulations, freedom of employment, humane treatment, and prohibition of discrimination or sexual harassment.</li> <li>In June 2015, one sexual harassment prevention seminar was held, and 167 employees participated.</li> <li>In March 2016, one sexual harassment prevention case discussion was held, and 98 employees participated.</li> </ul>	
Corporate Social Responsibility and Sustainable Development Best Practice Principles-Child Labor Prohibited	• Employment of minors less than 16 years old is strictly prohibited to fully ensure compliance with legal minimum age for employment. To safeguard the physical and psychological health and safety of minor employees, hazardous assignments are strictly prohibited.	
Supplier Code of Conduct	<ul> <li>Human rights standards specified in the Supplier Code of Conduct include :</li> <li>1. Prohibition of child labor; 2. Anti-discrimination; 3. Remuneration and working hours; 4. Freedom of labor; 5. Respect forfreedom of assembly and association, and the right to collective bargaining agreement</li> </ul>	
Anti-discrimination Policies and Courses	• Operations staff must attend non-discriminatory policy courses for boarding passengers with physical and mental disabilities to ensure the interests of passengers.	



# CAL Human Rights Assessment and Management Measures

Target	<b>Vulnerable groups</b>	Human rights issues	Improvement and mitigation measures
Employee	<ul> <li>Female flight attendants</li> <li>Maintenance crew</li> <li>Shift employees</li> </ul>	<ul> <li>Freedom of assembly</li> <li>Freedom of consultation and negotiation</li> <li>Discrimination</li> <li>Respect for privacy</li> <li>Job safety and hygiene</li> <li>Free from sexual harassment</li> <li>Working hours</li> <li>Anti-corruption / accepting bribes / offering bribes</li> <li>Wages</li> </ul>	<ul> <li>Education and Training         Conduct training courses on issues such as sexual harassment, personal information protection, laws and regulations, and health and safety to improve employee human rights awareness.     </li> <li>Regulatory Compliance         Integrate issues such as discrimination, bribery, working hours, sexual harassment, employee grievance and personal information into internal management standards and measures.     </li> <li>Employee Engagement         Communicate and address employee needs through channels such as unions, labor-management meeting and town hall meeting.     </li> </ul>
Suppliers (including contractors)	• All suppliers and contractors	<ul> <li>Prohibiting of child labor</li> <li>Anti-discrimination</li> <li>Remuneration and working hours</li> <li>Freedom of labor</li> <li>Respect for freedom of assembly and rights of collective bargaining</li> <li>Safety and health</li> </ul>	<ul> <li>Conducting supplier social responsibility survey</li> <li>Include safety and hygiene issues into contractor agreement.</li> <li>Inform contractors of workplace, risk factors, preventive measures and safety and hygiene regulations.</li> <li>Hold Construction Safety Coordination meetings before and during construction, and coordinate safety in the industry.</li> <li>Supervise contractors to ensure compliance with safety regulations, and follow up and improve on any failure.</li> </ul>
Customers	• Customers	• Privacy rights	<ul> <li>Ensure that standard operating regulations comply with Personal Information Protection Act to safeguard passenger interest.</li> <li>Without passenger consent, personal information will not be disclosed to a third party unrelated to the service or transaction.</li> <li>Formulate standard operating procedure for personal information, and establish personal information processing system beginning April 2016.</li> </ul>

# **Improvements and Follow-ups**

### Employees

Sexual harassment prevention is emphasized in education and training courses for new employees to prevent workplace sexual harassment. Continuing education in sexual harassment prevention is also conducted annually for all employees, and course materials are available for employees to access on CAL website (CAL EIP). Employees can file grievance of sexual harassment to the Sexual Harassment Mailbox provided by Human Resource Department. If the perpetrator of sexual harassment is a company employee, the Human Resource Department must investigate within 7 days of receiving the notification or grievance. No less than half of the members of the Complaint Review Committee for disciplinary actions or other resolution must be women, and based on individual cases, psychological counseling is provided to both the offender and victim. If the perpetrator of sexual harassment is an outside employee, the CAL will help the victim with relevant laws for charges and legal aid. The incidents of sexual harassment decreased in 2016 because CAL employees realize the importance of gender equality in working environment after implementation of training and promotion of preventing sexual harassment. CAL will keep on protecting and preventing employees from the threat of sexual harassment and create a friendly working environment.

# Incidents of Sexual Harassment

	2014	2015	2016
No. of Grievance	4	7	1
No. of Cases	3	5	1
Category	Physical	Physical	Physical
Outcome	Administrative disciplinary	Administrative disciplinary	Administrative disciplinary

In respect of employee feedback, employees may file grievances of infringement or improper handling to their respective departments or the Human Resource Department in accordance with Employee Complaint Regulations. Employees disagreeing with the outcome of their grievances may appeal to the Human Rights Department to ensure their basic employee rights and interests. In the last three years, most disputes were related to concessional flight ticket.

# Grevances Received from 2014 to 2016

	2014	2015	2016
Performance Evaluation	3	2	3
Concessional Airline Rebated Tickets	15	16	5
Leave of Absence	0	0	1
Disciplinary Actions	4	1	1
Workplace accidents	0	0	0
Others	11	5	8

Grievances

Sexual harassment (03)399-8922 SHC@china-airlines.com

# Suppliers

China Airlines conducted sustainability risk survey to suppliers. There were 132 suppliers enforcing human right management, which accounted for 83.54%.

### 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 personal data inventory and risk assessment for each tier-1 department; all assessments were complet-

ed successfully as of year-end 2016. The "Information Security Policy" has also been formulated for collection of customer Information, use of customer information, sending of Emails, customer self-protection to ensure the right of customer. We had conducted seminar regarding information confidentiality in 2015, and will conduct training periodically.

### China Airlines Defended for Insulted Employee

On December 9, on the flight of Cl220, from Taipei Songshan Airport to Tokyo Haneda Airport, a Japanese passenger from the economy-class tried to rush into the business class and was stopped by the cabin manager with polite manner though being pushed by the passenger. After landing, the cabin manager was at the gate to greet departing travelers. However, the passenger in question swung his luggage at the cabin manager' s stomach and left with laugh and insulting mumbling.

CAL's Tokyo branch office followed the standard operating procedure at once by informing the police of this situation and requested that the Japanese passenger be detained. The cabin manager, accompanied by the local CAL station chief, went for a medical diagnosis regarding injury and then provided a statement to the police. Upon receiving the information of the incident, the vice president of the Cabin Crew Division immediately telephoned the cabin manager to express his sympathy and convey the support of the chairperson, president, and senior vice president. The next day, the cabin manager returned to Taiwan to resume working. The vice president of the Cabin Crew Division along with the chief of Cabin Management Department greeted the manager at the airport with flowers, as requested by the chairperson. They also continued to follow up on the cabin manager's medical treatment. The offending passenger has since been listed as an unwelcome passenger by CAL, and the Company will provide the necessary legal assistance to help the cabin manager file a lawsuit against the perpetrator.

It's CAL's mission to serve its customers with the utmost respect. However, we will never compromise the safety and dignity of our employees! Whenever passengers conduct unsafe behavior, CAL will take actions with no tolerance.



# 2-3-2 Recruitment and Retention

# Workforce Structure of CAL Group

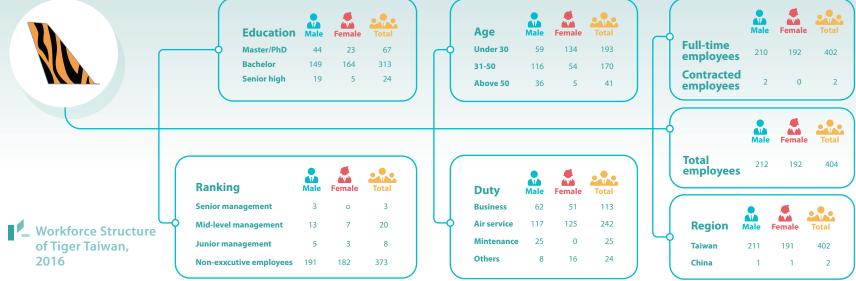
By the end of 2016, China Airlines had 12,648 employees worldwide, including 12,545 full-time employees (Male 51.7%, Female 48.3%) and 103 contracted employees (Male 61.1%, Female 38.9%). Based on job categories, CAL has 3,634 employees in business operations, 4,697 flight and cabin crew, 2,415 maintenance personnel and 1,902 employees in other categories. Mandarin Airlines has a workforce of 828 individuals with no contracted employees, including 403 in business operations, 171 flight and cabin crew, 128 maintenance personnel,

and 126 in other categories. For Tigerair Taiwan, the total number of employees is 402, including 420 full-time employees (Male 210, Female 192) and 2 contracted employees. Based on job categories, Tigerair has 112 employees in business operations, 242 flight and cabin crew, 26 maintenance personnel, and 24 employees in other categories. The recruit and employment of the above mentioned airlines comply with laws and regulations.



Workforce Structure of China Airlines, 2016





# **Gender Equality and Diversity**

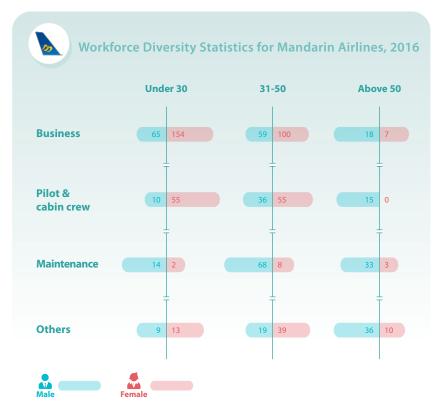
China Airlines provides the equal rights and opportunities to every employee regardless gender. In 2016, female employees accounted for 48.2% of the total CAL workforce; and 22.6% of all managerial positions were held by females. In Mandarin Airlines, female employees accounted for 53.9% of the total workforce, with 19.2% of managers being female. Tigerair Taiwan's female employee ratio was 47.8%, whereas female managers represented 32.3% of all managerial positions. Due to the nature of jobs, there are more male employees in the maintenance facilities and more female employees as flight attendants. CAL is committed to providing a comfortable work environment that is conducive to balanced career development for all employees. In order to safeguard the wellbeing 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 may be used by female employees at any time. With respect to male employees, we also exceed the requirements of 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 to CAL employees.

CAL values diversity in its workforce. In 2016, we received the Excellency Award at the 14th Golden Wingspan Awards organized by Taiwan's Ministry of Labor which commends CAL's



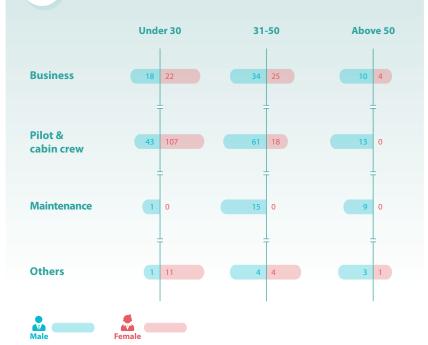
efforts in hiring disabled employees in workplace. CAL hired 85 indigenous employees and 119 disabled employees, and set human rights policy to protect the right to work for members of indigenous communities and disabled employees. In addition to our commitment to expanding employment among indigenous workers, we started to hire disabled employees since 2015. In 2016, CAL hired disabled employees 12% more than legal requirement and represents a 29% increase over 2015. We have redesigned job descriptions on behalf of disabled employees, emphasized on improving working conditions and making adjustments to job requirements and career development. We also provide special transportation services and regularly-scheduled medical checkups for our disabled employees. In addition, CAL conducted long-term service contracts with visually impaired massage therapists to visually impaired persons and enhancing our own employees' health — a true win-win situation.

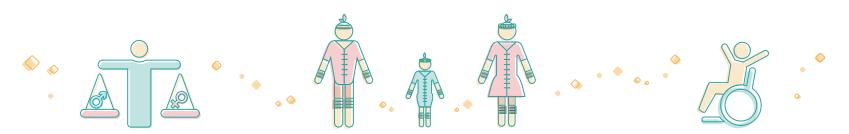






Workforce Diversity Statistics for Tigerair Taiwan, 2016





# Recruitment

Due to CAL Group's business growth and fleet/flight network expansion in recent years, we have recruited in various areas (including flight crews and ground crews) to meet the requirements of our growing business. In addition, in order to fulfill our social responsibility commitments, we continue to promote industry-academia collaboration programs and employ disabled person. In 2016, CAL recruited 1000 full-time and 80 contracted employees, accounting for 8.54% of its total workforce. Mandarin Airlines recruited 213 new employees, accounting for 25.72% of its total workforce. Tigerair Taiwan also hired 143 full-time and 2 contracted employees, accounting for 35.89% of its total workforce.

# Newly Hired Employee for CAL Group, 2016

	Cate	gory	Full-time emplo	oyees Con	tracted emplo	yees
	Amou	unt (%)	1000 (92.6%	)	80 (7.4%)	
Age Amount (%)	<b>Under 30</b> 793 (73.4%)	<b>31-50</b> 236 (21.9%)	<b>Above 50</b> 51 (4.7%)	Gender Amount (%)	<b>Male</b> 593 (54.9%)	<b>Female</b> 487 (45.1%)
Region	Taiwan	China	Asia	USA	Europe	Oceania
Amount (%)	765 (70.8%)	45 (4.2%)	186 (17.2%)	55 (5.1%)	15 (1.4%)	14 (1.3%)



	Cate	gory	Full-time emp	loyees Con	tracted emplo	yees
	Amou	nt (%)	213 (1009	6)	-	
Age	Under 30	31-50	Above 50	Gender	Male	Female
Amount (%)	188 (88.3%)	19 (8.9%)	6 (2.8%)	Amount (%)	61 (28.6%)	152 (71.4%



## **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% 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, India, Japan, South Korea, and Thailand. We also employ local workers at our 145 destination cities in 29 countries around the world. CAL strives to provide a friendly working environment to our international employees, with equal opportunities and benefits to our Taiwanese employees.

# **Employee Turnover**

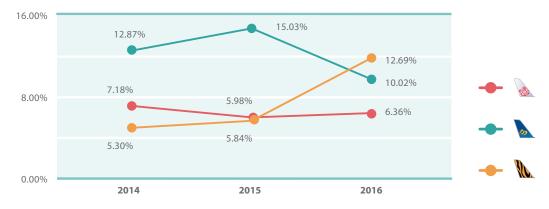
The average employee turnover rate of CAL over the past three years is 6.51%, which is below the industrial average. Each of our employees is ensured by the employment contract, and provisions regarding rewards, disciplinary actions and employment termination are clearly set forth in each contract. In 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 to see whether to adjust our salary and benefit practices. We also utilize internal systems and incentive programs to reduce turnover rate.

Employees who resigned from Mandarin Airlines over the past three years were mostly front-line staff. They were temporary contracted workers who were hired to fill seasonal demand. With respect to other employees, Mandarin Airlines has been improving the salary levels of flight, cabin, and ground crews, and some of these employees' salaries are now higher than the industry average. After implementation, employee turnover rate has declined considerably.



# Local Employment for CAL Group, 2016

# Employee Turnover Rate of CAL Group, 2014–2016

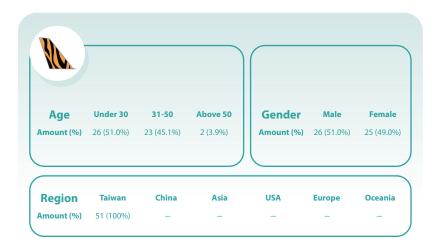


Tigerair Taiwan is a newly formed company, in order to fulfill the expansion of fleet/network, it recruited a number of flight attendants and ground staff. The primary reason for turnover among flight attendants is because they fail to meet the Company's performance standards. Tigerair Taiwan operated at a loss in 2016, and a small number of employees lacked of confidence and loyalty and decided to leave; others departed due to personal career decisions. To enhance the performance of CAL Group, Tigerair Taiwan's chairperson was re-nominated by full-time position. To improve the Company's business performance, the new executives proceeded to adjust the business model. A few employees were unable to adapt to this change and subsequently departed. In the future, Tigerair Taiwan will enhance recruitment process, re-examine employment conditions, improve employees' welfare system, promote multiple communication channels between employees and management, and set a profitability goal for 2017, the purpose of which is to stabilize the organization's development and to reduce employee turnover.Tigerair gained profit in 2017Q1 after 3 consecutive months being profitable.

# Employee Turnover Statistics for CAL Group, 2016



Age	Under 30	31-50	Above 50	Gender	Male	Female
Amount (%)	41 (49.4%)	20 (24.1%)	22 (26.5%)	Amount (%)	43 (51.8%)	40 (48.2%)
Region		China				Oceania



#### Note:

Voluntary termination includes resignation, retirement prior to retirement age, application for dismissal, and other factors; involuntary termination includes reaching retirement age and layoffs.

# **Employee Retention**

# Conducting periodical performance evaluations on a fair and objective basis

CAL conducts employee performance reviews three times a year. Apart from conducting evaluations based on common core functions, job function assessment indicators and approaches are also adopted based on each employee's professional characteristics and in consideration of the actual work circumstances 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).

In order 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, in order to ensure that the performance evaluation provides employees with positive feedback and assistance, the performance review also includes an interview process to facilitate 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 in accordance with employee classification in order to avoid subjective impressions which could detract from the impartiality of the performance review process.

### **Comprehensive remuneration system**

Every year CAL offers employees reasonable remuneration packages, related benefits, and insurance coverage based on CAL's overall salary policy and earnings. Performance-based salary adjustments and promotions are also possible for outstanding employees, ensuring that the promotion process is conducted in accordance with the principles of transparency and fairness. In addition, we provide allowances and various types of benefits (e.g., dividends, education and training, employee stock options, complimentary/discounted airline 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 strengthening the bond between employees and management, this arrangement can also improve employee satisfaction levels and retention rates.

### Internal recruitment and rotation system

China Airlines is committed to upholding the principle of assigning the most suitable individual to each position. We offer regular job rotations and internal training courses to improve our employees' job skills and overall productivity. Each department conducts a staff review and rotation evaluation at least once a year. Employees who have been in the same positions for long are also reviewed and rotated when necessary. A comprehensive system for internal personnel transfers is also in place to allow employees to hone diverse capabilities and skills. In addition, we have established an internal recruitment system so that employees can participate in the selection processes in accordance with their wishes and ambitions. This allows the CAL to utilize its human resources in a flexible manner and ensures employees are assigned to the most suitable positions, resulting in a win-win situation for all parties.



# 2-3-3 Employee Development

China Airlines establishes sound training systems and structure to cultivate employees. We adopt diversified training methods including virtual reality, invest in training hardware and software facilities, and develop training courses comply with regulations. CAL emphasizes on the development of employees and ensures the training courses enhance their skills. CAL also improve the competencies of the Company's managers at various supervisory levels, and cultivate managerial capabilities and perspectives among personnel with potential for advancement.

### **Education and Training Framework**

Based on the demand for education and training, a "Training Advisory Committee" was established to handle 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 2016, CAL invested a total of TWD590 million in training and development. The total number of training time exceeded 430,000 hours and the training completion rate reached 98%. Through the investment of resources in these development and training activities, employees will be able to achieve our objectives in a more effective manner. We also encourage employees to participate in the self-directed courses provided by the Vocational Training Bureau's "Industry Talent Investment Program". CAL subsidizes the training costs and keeps a record of each employee's training results in his or her personal learning file.

# **Human Capital ROI**

Through education and training, employees can grow along with the CAL's strategic and business objectives. Meanwhile, corporate assets will also continue to be appreciated in value, which helps the CAL lay a solid foundation of long-term viability. CAL has recently adopted a metric - Human Capital Return on Investment (HCROI) as a benchmarking tool. In addition to estimating the earnings from investing in human capital, the metric can also be included among the Company's long-term performance indicators.

# Human Capital ROI

	Human Capital ROI
2014	1.07
2015	1.24
2016	1.23

Note: This "\*" means Human Capital ROI = Income - [Operating expenditures - (Salary costs + Benefit costs)] / (Salary costs + Benefit costs)

# Training Statistics of CAL Group, 2014–2016

C	0	ategory	20	14	2015		2015	
Company			Training Hours	Average Hours	Training Hours	Average Hours	Training Hours	Average Hours
		Business	74,955	22.62	116,899	42.72	186,733	35.80
	Duty	Air service	331,629	85.34	426,826	93.29	215,607	46.00
	Duty	Mintenance	52,939	23.61	25,605	9.85	23,708	9.20
		Others	11,791	6.27	7,650	8.52	7,102	10.00
	Condex	Male	265,174	43.77	460,409	26.57	152,115	22.77
	Gender	Female	230,418	43.79	170,594	76.50	281,035	43.07
		Business	11,901	58.05	2,871	12.59	19,082	68.89
	Duty	Air service	14,523	78.50	9,367	53.52	16,849	93.09
	Duty	Mintenance	3,301	79.70	14,159	107.27	8,850	70.23
		Others	3,301	36.68	3,294	49.16	4,359	57.35
	Condex	Male	25,466	76.02	23,065	61.84	23,815	63.51
	Gender	Female	15,376	47.02	6,586	17.06	25,324	53.43
		Business			673	9.35	703	6.40
		Air service			4,322	21.09	17,910	74.01
<b>W</b>	Duty	Mintenance	N		240	13.30	432	16.70
N(C)		Others	N	A	147	9.80	189	7.90
	Gender	Male			2,900	37.90	9,527	44.94
	Gender	Female			2,481	32.42	9,707	50.56

Note:

1. Others include vice presidents and above, audit and accounting, information technology personnel and others.

2. Average hours of training=Total training hours/total number of employees trained.

3. Training hours exclude training hours in outstation.

# Employee Development Programs, 2016

Employee development program	Business benefits	Quantitative impact of business benefits	Proportion of employees the program
Refreshment training for maintenance, ground service, cabin crew and flight operation	<ol> <li>Elevate the safety awareness and enhance the security awareness</li> <li>Be familiar with the operation procedure</li> <li>Be familiar with the emergency response procedure</li> </ol>	Flights in 2016: 88,592 GDI Direct Lost in 2016 due to human factor: USD 147,708	Proportion to total employees: 57% Engineering and Maintenance Organization: 2,582 Ground Staff: 354 Cabin Crew: 3,287 Flight Operations: 984
Regular service related training for cabin crews and ground service staffs to strengthen the service concept and skills	<ol> <li>Recall the passion of service</li> <li>Enhance the service skills</li> <li>Strengthen the professional ability for handling and solving problems</li> <li>Decrease customer complaints and elevate the service quality</li> </ol>	Enhance the service quality and decrease the compensation issue from customers to increase customers' willingness to take the plane again. The customer satisfaction of groundservice: 87.6. The customer satisfaction of cabin crew: 88.5.	Proportion to total employees:26% Cabin Crew: 2,043 people Ground Service Staff: 1,302 people
Training for pilots based on regulation and fleet plan to ensure safety.	<ol> <li>Enhance flight safety.</li> <li>Comply with regulation and enhance skills.</li> </ol>	High level risk of unsafety events due to pilot human factor: 0	Proportion to total employees: 8% Pilots: 984

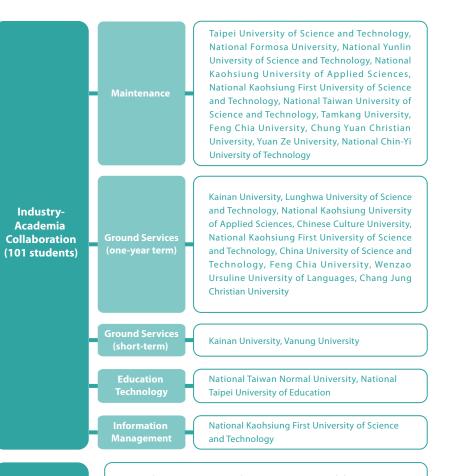
Note: In order to reduce GDI (Ground Damage Incident) of aircraft, CAL implements periodical training to front-line employees.

### Industry-Academia Collaboration

In addition to employee training, CAL has promoted campus talent cultivation programs since 2013 which make use of the abundant practical experience and comprehensive aviation-related training facilities and courses. The program — which also corresponds to the "Industry-Academia Collaboration for Technical Colleges and Universities and Talent Cultivation" initiative actively promoted by the Ministry of Education in recent years — aims to introduce collaborative teaching methods at educational institutions to allow academia and the industry to jointly cultivate new aviation management talent through theoretical and practical training:

- Maintenance talent: Industry-academia cooperation programs help promote training in aero space technology maintenance and repair through a series of comprehensive aircraft maintenance courses. Outstanding students are offered opportunities to work for the CAL in the future.
- Aerospace engineering talent: Civil aviation courses are offered in collaboration with universities to bridge academic theory with practical skills. Students who have successfully completed the civil aviation program are given priority to be hired by CAL.
- 3. Campus talent incubation: In cooperation with a number of educational institutions, CAL offers students training in professional customer service, ticketing, and marketing. The goal is to cultivate sales and marketing talent in the aviation industry. In addition, outstanding teachers within the CAL are also recruited as lecturers to conduct aviation management and service management courses at various universities so as to enhance the practical aspects of on-campus theoretical training.





National Taiwan University, Chung Hua University, Shih Hsin University, National Chiao Tung University, Soochow University, Chang Jung Christian University, Aletheia University (Tainan Campus), National Chung Cheng University, National Cheng Kung University, National University of Kaohsiung, National Kaohsiung Marine University, National Taiwan Normal University, National Taiwan Ocean University, Tamkang University, Feng Chia University, Frovidence University Chien University, Fu Jen Catholic University, Providence University

Industry-Academia Collaboration

Summer

internships

(61 students)

# 2-3-4 Employee Rights

# **Employee Care**

### Salary and benefits

CAL firmly believes that employees are the greatest asset and is important to accommodate both employee benefits and shareholders' equity. For these reasons, CAL provides competitive salaries and benefits to its employees. When determine remuneration for an employee, CAL prohibits compensation discrimination on the basis of gender, race, religion, political affiliation or marital status. Whenever the minimum wage of a particular location in the world is raised, we promptly review our salary standards and make any necessary adjustments at the appropriate time. Employees who are required to work overtime due to the nature of their work receive reasonable overtime pay in accordance with regulations. Employees are never forced to work overtime against their will.

# Male/Female Salary Ratios for CAL Group, 2016

		Base salary	Bonus				
Bu	siness operation staff	1.24	1.38				
	Flight & cabin crew	2.53	1.91				
	Maintenance crew	1.29	1.25				
	Other	1.23	1.25				

	Base salary	Bonus
Business operation staff	1.39	1.85
Flight & cabin crew	3.4	2.6
Maintenance crew	-	-
Other	1.04	1.55

	Doos estore	Bonus		
	Base salary			
Business operation staff	1.06	1.08		
Flight & cabin crew	1.19	1.64		
Maintenance crew	1.07	1.39		
Other	1.1	1.23		

Note 1: the flight crew of the male is the majority and their wages and allowance are five times higher than cabin crews. Therefore, the wage ratio in the flight & cabin crew is much higher than other categories.; Other: including senior executives at the level of vice president and above, auditing and accounting, information technology staff, and all other personnel not categorized above;

Note 2: Base salary - \* basic remuneration Bonus: Pay beyond the base salary Note 3: Tigerair Taiwan maintenance crew consists of male employees only

### **Pension Scheme**

CAL values employee rights and interests. The Company reports to the "Labor Pension Reserve Supervisory Committee" on a quarterly basis regarding the management status of the CAL pension reserve fund. Prior to the end of the year, CAL allocates the amount required for the following year based on actuarial calculations. In terms of the rate of allocation, the rate for the new labor retirement scheme is 6%. The rate under the old labor retirement scheme was 15%, which is the statutory upper limit, and this amount has been fully allocated in accordance with Article 56-2 of the Labor Standards Act to ensure that employees receive the retirement benefits to which they are entitled.

# **Friendly Workplace**

CAL cares deeply about the physical and mental well-being of our employees. Each year, we organize a number of activities that foster a friendly workplace and provide care for our employees. We have devised a diverse series of employee care classes, including "Body Combat", "Zumba Fitness", and "Mark's Happily Working and Learning", to teach the benefits of exercise for stress relief. "Summer Light Snack Fun", "Enjoy a Healthy Slim Lifestyle" and "Intestinally Healthy" show the right way to eat food provide related health information. We also invite employees to events we organize on traditional holidays, such as "Warm Ginger Soup", "Summer Fun with Cooling Ice", "Winter Solstice Tangyuan Warms Your Heart" so that everyone can take a break from a hectic work week and enjoy a good time together. We encourage employees to pursue a healthy and sustainable lifestyle which fosters mental and physical balance.



Cotton Guashua Treatment Course to Relieve Stress in the Neck and Shoulders



Body Combat

unit: TWD



Summer Fun with Cooling Ice

# Salary, Benefits and Labor Retirement Fund – CAL Group

	2014	2015	2016
Salary	11,063 M	12,223 M	15,813 M
Benefits	133 M	243 M	207 M
Pension reserve fund	1,831 M	1,804 M	4,986 M

	2014	2015	2016
Salary	363 M	515 M	531 M
Benefits	6.8 M	7.5 M	7.8 M
Pension reserve fund	212 M	214 M	191 M

	2014	2015	2016
Salary	41 M	246 M	436 M
Pension reserve fund	NA	0.3 M	1.6 M

### A Warm Heart on a Cold Day: Flight Operations Division Organizes Thanksgiving Luncheon

On Thursday, November 24, 2016, we celebrated the traditional U.S. holiday of Thanksgiving, which is an occasion for the entire family to sit down and enjoy a delicious turkey feast together.

The vice president of the Flight Operations Division took the opportunity on this special day, which signifies the ushering in of the winter season, to give thanks to our employees for their team spirit and hard work throughout the year by organizing a Thanksgiving lunch party, complete with delicious crispy chicken in place of turkey and bowls of warm squid rice noodle soup. Supervisors from the Division personally served these delicious meals to each and every employee with wonderful, authentic Taiwanese taste!

When you love someone, speak out loud! During Thanksgiving, everyone has a feeling of gratitude that they wish to express! To encourage everyone to write down things they are grateful for and give thanks to the people we cherish in life, a special "Thanksgiving Thoughts" board was set up on the wall of the crew's check-in center. Everyone participated with enthusiasm, and the wall quickly filled up with colorful words of gratitude! The collection of notes and messages posted on the wall were also quite moving. Everyone was welcome to stop by and read the messages — perhaps one of those stories of gratitude was about you!





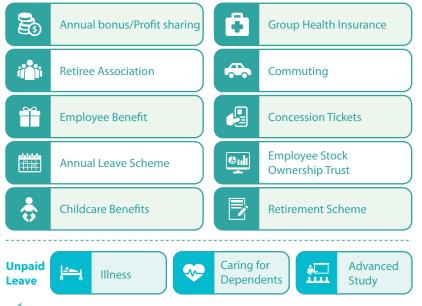
# **Unpaid Leave**

CAL understands that employees are sometimes unable to continue working due to extenuating personal or family-related matters. Therefore, CAL has instituted an extended unpaid leave policy which allows employees to take care of their families while retaining their positions with CAL, underscoring our commitment to fostering a friendly workplace. Furthermore, CAL supports the government's policy of requiring employers to provide comprehensive childcare leave. To encourage qualified employees to apply for this arrangement, CAL guarantees that applicants will not receive a performance evaluation below an "A" grade for that year. Male employees are also entitled to receive this benefit, including the option to apply for 5-day

paternity leave with full pay before and after the child is born. In addition, if the period of paternity leave coincides with a regular or public holiday or a business trip, then the balance of the paternity leave may be taken within 15 days thereafter. CAL leave policies are superior to the requirements stipulated by the Gender Equality in Employment Act. After analyzing previous cases of unpaid leave taken by employees in recent years, we found that the majority of employees who did not return to their posts, or returned to work but continued their employment for a period of less than one year, did so primarily because of continuing commitments to caring for family members or due to changes in career objectives.

Atternity Leave Statistics for CAL Group in 2016	5						N.		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
Numbers of employees eligible for parental leave in 2016 (A)	654	550	1,204	24	26	50	7	14	21
Actual Numbers of employees applying for parental leave in 2016 (B)	334	15	349	10	-	10	2	-	2
Rate for employees applying for parental leave in 2016 (B/A)	51.07%	2.72%	28.98%	41.67%	-	21.00%	28.57%	-	9.52%
Numbers of employees expecting to return in 2016 after parental leave in 2016 (C)	152	6	158	9	-	9	1	-	1
Numbers of employees applying to return in 2016 (D)	129	6	135	7	-	7	1	-	1
Return rate in 2016 (D/C)	84.86%	100%	85.44%	77.78%	-	77.78%	100%	-	100%
Total number of employees returning after parental leave in 2015 (E)	267	8	275	15	-	15	1	-	1
Number of employees completing one full year of service after returning from parental leave in 2015 (F)	176	7	183	13	-	13	1	-	1
Rater on return after parental leave in 2016 (F/E)	65.92%	87.50%	66.55%	86.67%	-	86.67%	100%	-	100%

Note: (A) China Airlines – Date of birth within March 01, 2013 to November 30, 2016; Mandarin Airlines – Date of birth within February 1, 2013 to October 31, 2016; Tigerair Taiwan – Date of birth within January 1, 2013 to December 31, 2016. (B) Employee retention before December 31, 2016



Benefits of CAL Employees

### **Employee Communication**

To CAL, employees are members of our family. We maintain multiple avenues of communication with our employees, such as regularly scheduled labor-management consultation meetings, which allow us to express our goodwill and actively respond to the concerns of employees. In turn, we strive to find solutions to problems and build consensus with labor unions. 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 affect the interest of employee, CAL will pre-notice the situation in order to comply with the labor regulations and also promptly communicate with the labor union and employees. Information regarding major issues facing CAL and the latest news about employee rights are made 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 increase the frequency of employee communication.

### **Versatile Communication Channel**



**Company-wide Meetings:** meetings are held monthly with employee representatives from all CAL Employees Union Branches;

Divisional Meetings: Divisional meetings are classified into the division-basis. 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 second month. Other divisions are held on a regular basis.

Supervisor Mailbox

CAL encourages employees to express opinions and advices to their supervisor mailbox.



CAL encourages employees to express opinions and advices to "Speak Your Mind" Employee Portal in the corporate intranet website.

# Employee Care Mailbox

CAL provides the dedicated mailbox for complaints pipeline (wecare@china-airlines.com).

### **Labor Unions**

At present, CAL cooperates with several labor unions and remains committed to maintaining open communications in order to negotiate reasonable agreements. We continue to accord unions with the utmost respect and devote considerable resources in accordance with law. In particular, the China Airlines Employees Union (CAEU) is a member of the Chinese Federation of Labor (Taiwan). There are six subordinate branches under CAEU which are classified on CAL organizational-basis:

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

CAEU membership included 10,755 CAL employees in 2016, resulting in an average participation rate of 99.5%. In 2002, CAL entered into a collective bargaining agreement with CAEU the first of collective bargaining agreement in Taiwan's airline industry. The agreement, which currently remains in force, pertains to 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; as well as benefits, training, and occupational safety and health clauses. The purpose is to protect and enhance employees' rights.

CAL's relationship with CAEU is based on a model of partnership, cooperation, and interdependence. Both sides conduct two-way communication through various channels on a regular basis. In addition to holding monthly regular meetings between the head office and CAEU, front-line units and their respective union branch labor representatives hold labor-management conference on a monthly basis during which time member proposals are discussed. Meeting minutes are taken in all of these meetings which are then submitted to the respective supervisory units. Meeting minutes taken at labor-management meetings held at CAL head office are published and made available to all employees on CAL's corporate website. Moreover, CAL tracks the status of follow-up actions for proposals made at 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.

### Union Participation Rate of CAL Group

		2014	2015	2016
	No. of participants	9,339	10,247	10,755
	Participation rate	96.91%	98.13%	99.50%
	No. of participants	351	376	645
	Participation rate	55.00%	59.00%	88.00%

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 currently does not have a labor union.

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### **Employee Engagement**

We view employees as our greatest asset. This is why we set a variety of channels to communicate, and carefully listen to our employees' suggestions. China Airlines conducted the "Walking with Cl" employee engagement survey from late March to early April 2017. The anonymous questionnaire was conducted by an external consulting firm covering six major categories (Employee Engagement, Corporate Culture, Management Culture, Job Potentials, Work Environment, and Salary) and a total of 42 questions (including 10 scenarios). The survey participants were domestic full-time China Airlines employees. We received 2,252 effective surveys, representing a return rate of 21.9%. We then analyzed the surveys based on 5 positions: administrative staff, pilots, cabin crew, maintenance staff, and ground/customer service staff.

The satisfaction rates of all six categories are as follows, listed by ranking are: Employee Engagement, Salary, Job Potentials, Work Environment, Management Culture, and Corporate Culture. We also analyze the results based on gender. The result of our analysis shows that there is no significant difference between genders. The analysis also shows no significant difference among job categories. The Employee Engagement category represents the highest satisfaction rate both last year and this year. Salary had the lowest satisfaction rate last year, but has shown gradual improvement: the satisfaction rate of this category has increased by 9.5%.

This survey helped us to understand employees' views and needs. It is an important reference for us to provide our employees with a stable work environment, increase their efficiency, and achieve a positive and sustainable company culture.

# 2-3-5 Healthy and Safe Workplace

In accordance with 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. 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.



### Cccupational Health and Safety Committee Members, 2016

	Taipei Area		Kaohsiung Area	Engineering & Maintence Organization	
Proportion of employee representatives	33%	36%	37%	35%	

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

CAL is committed to creating a safe, healthy, and comfortable working environment for all employees. We have established a standalone safety and health management system and continue 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 capabilities to meet international standards. With the consulting services provided by the SGS certification institution, 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. By improving our occupational safety and health management performance, we are able to better safeguard the health and safety of employees and enhance our competitiveness in the industry.

# At the Forefront of Disease Prevention to Protect Passengersand Employees

CAL was awarded the Epidemic Prevention Award certification in 2016 for annual influenza prevention and fostering a friendly healthy workplace — the only airline in Taiwan to have received the honor. We were recognized for our efforts in preventing the spread of diseases and stopping cross-border infections, thus affirming our important role as a gatekeeper in guarding the nation against the spread of diseases from overseas areas. CAL has a dedicated medical and health department which keeps track of information regarding the spread of diseases at home and abroad and regularly publishes information concerning the management of local and international epidemics, issues travel advisories, and devises on-board disease prevention mechanisms. In order to safeguard the health of all employees, CAL has taken the initiative to provide employees with free influenza vaccines, and all front-line staff is given free single-shot MMR (measles, mumps, and rubella) vaccines, underscoring our commitment to a healthy and safe work environment.



		Male	Female	All employees	Taoyuan Area	Engineering & Maintenance Organization	Taipei Area	Kaohsiung Area
		1.33	5.2	3.27	3.95	1.59	0	4.33
Disabling Injury Frequency Rate		2.86	8.59	11.46	_	-	_	_
	N.	0	0	0	_	-	_	_
		14	65	41	52	25	0	13
Disabling Injury Severity Rate		228	478	707	_	-	_	_
	V	0	0	0	_	-	_	_
		0	0	0	0	0	0	0
Occupational Disease Rate		0	0	0	_	_	_	_
	V	0	0	0	_	_	_	_
		0.56%	2.36%	1.02%	1.25%	0.47%	0.07%	0.99%
Absence Rate		0.77%	1.77%	1.31%	_	-	-	_
	N.	0.33%	0.50%	0.41%	_	-	-	_
		0	0	0	0	0	0	0
Incidents Resulting in work-Related Fatalities		0	0	0	_	-	_	_
ratantes	N.	0	0	0	_	-	_	_

# Workplace Injury, Illness, and Fatality Statistics of CAL Group in 2016

\*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

### **1. Recruitment**

In 2017, to enhance our workforce quality and operational efficiency, CAL plans to implement process optimization and organizational streamlining initiatives aimed at enhancing employee productivity and reducing labor costs. In turn, these measures will help CAL achieve its business objectives, increase revenue, and boost profitability. In order to accomplish our planned expansion of the CAL fleet and network, however, it will be necessary for CAL to recruit more front-line staff and actively recruit new flight crews in order to meet the future growth targets. Moreover, to achieve our commitments to social responsibility, we will continue to promote cooperative endeavors with academic institutions and employ persons with disabilities.

### 2. Employee training and development

In order to enhance the CAL overall competitiveness and ensure preparedness for our planned fleet and flight network expansions, we will be providing professional training courses to different types of personnel through our on-site classrooms and e-learning platforms which cover a wide range of topics, including flight operations, aircraft maintenance, passenger services, and business operations. In addition, CAL will utilize diverse learning channels, such as lectures, workshops, seminars, and other approaches, to provide internal training and development programs to our various aviation and management personnel.

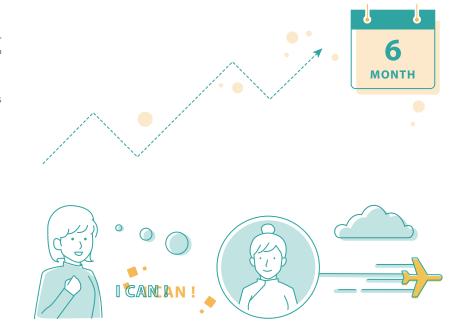


### 3. Employee benefits

- To comply with 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 made available to employees based on their accumulated years of service with CAL.
- 2. All employees are eligible for 123 days off over the course of the year, and beginning in 2017, seven extra days off will be added as an additional benefit.
- 3. Employees who are paid on an hourly basis will receive increased wages and benefits, and CAL has relaxed the requirements for transferring employees hired on an hourly basis to permanent employment status.
- CAL is committed to helping employees enhance their professional capabilities and skills. Personnel who have completed approved licensing and certification programs are eligible to receive an additional allowance.
- 5. In addition, CAL makes sufficient contributions to a pension reserve fund on behalf of employees which correspond to the maximum statutory limit.

### 4. Health and safety

Our 2017 employee health care program is primarily focused on the following: Continuing to conduct pandemic risk management and vaccination measures, workplace prenatal and postnatal care programs, flight crew fatigue risk management, overwork and overload health risk assessment and cardiovascular disease prevention and control, and annual health promotion activities (including anti-aging, stress management, and disease prevention).





# 2-4 Cooperation



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



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.

# Supply Chain Management

What are the reasons for launching the supplier sustainability risk survey?

Jo-ching Chen Assistant Vice President, Administration Division



1. Sustainable supply chain management has become a necessary criterion for international benchmarking enterprises. According to a survey, as many as 45% of enterprises said that they promote supply chain sustainability in order to improve efficiency and create opportunities for innovation, while 33% said they do it for the sake of regulatory compliance. The airline industry in Taiwan has yet to come up with relevant regulations on supply chains; however, CAL believes it should be responsible for taking the lead in helping its business partners move toward sustainable development in order to fulfill CAL's mission in building mutually beneficial relationships with its partners.

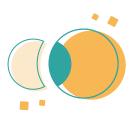
2. Through the promotion of sustainable supply chain management, CAL will not only be able to control the overall risk in the supply chain, but also increase efficiency for both CAL and its supply partners to explore new market opportunities. The first step in promoting the sustainable supply chain is to understand and identify sustainability risks faced by suppliers. So far, CAL has carried out two sustainability risk surveys on its suppliers and communicated the results and ideas with its suppliers via a supplier conference. Supply partners can conduct self-assessement on their business operations through CAL's sustainability risk survey for understanding their own sustainability risks to further develop into sustainable companies and business partners. Therefore, CAL will continue to carry out annual sustainability risk survey of its suppliers and hope to work with its partners to achieve the goal of sustainable development.



# What is the next step for China Airlines?

Following the identification of suppliers' sustainability risks, CAL plans to develop incentive measures by referring to risk distribution status and--based on economic, environmental, and social aspects--implement such measures to motivate supply partners to move forward in the area of sustainability. At the same time, CAL will continue to convene the supplier conference to help its partners to become sustainable companies and increase the sustainable competitiveness for all suppliers, CAL, and the entire industry chain.

# Highlights



# Highest Supply Chain Mngt Criterion

Received the highest theme score of supply chain management criterion on the DJSI index for the global airline industry



# Annual Supplier Conference

1 st

Became the first Taiwanese airline to hold the annual supplier conference



# 100%

### Coverage In-flight meal & fuel

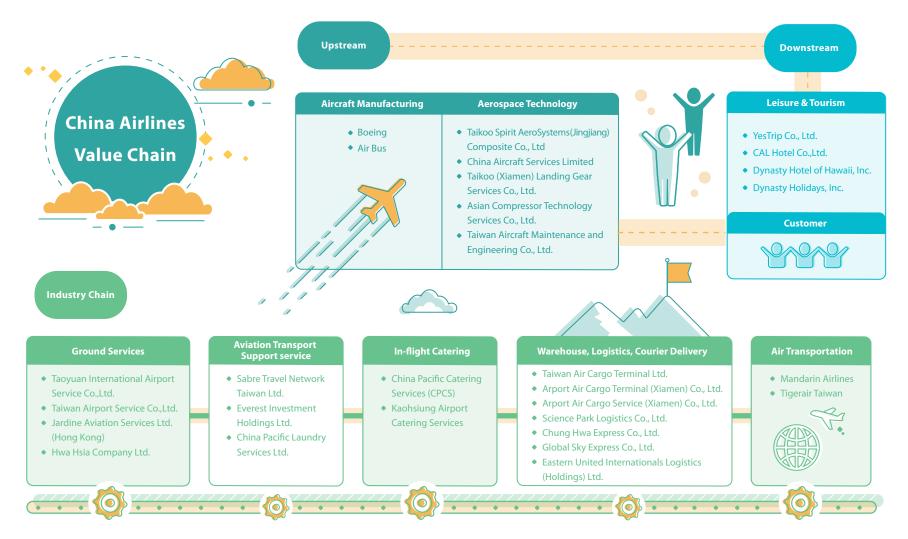
Achieved a coverage rate of 100% for sustainability risk survey sent to in-flight meal catering and fuel suppliers

# КРІ

КРІ	2016 Objestives	2016 Performance	Achievement	2017 Objectives
Convene an annual supplier conference	One session	To be held in Taipei during November	100%	Conduct supplier sustainability risk survey
Conduct supplier sustainability risk survey	Response rate - 60%	Response rate - 58%	97%	Response rate - 65%
Implement procurement staff	One session	To be participated in one session	100%	Two sessions

# 2-4-1 CAL Value Chain

The airline industry always places safety first, and it has a very unique industry chain. Up until 2016, the China Airlines Group (hereinafter the Group) has established 36 joined ventures, spreading across business sectors including airline, aircraft maintenance, ground services, logistics, air cargo terminal, in-flight catering, laundry, IT networking, and tourism. By integrating the strengths from each party, the Group hopes to improve its overall service quality and competitiveness.



# 2-4-2 Sustainable Supply Chain Management

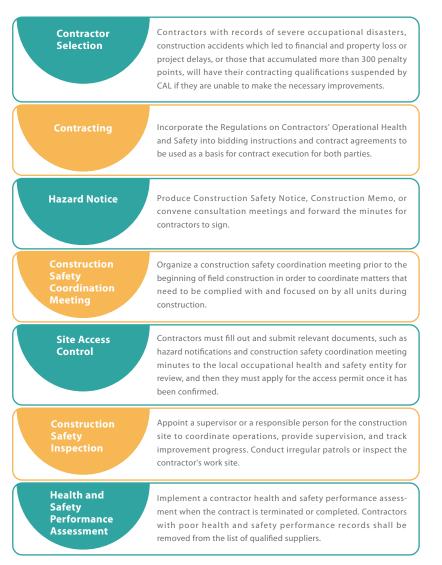
CAL's suppliers can be divided into four main categories: fuel (28 in 2016), aircraft parts including goods (715 in 2016), in-flight catering (47 in 2016), and general goods (284 in 2016); they are distributed throughout Asia, Europe, Oceania, and North America. Since 2014, CAL has assembled a Sustainable Supply Chain Team under the Corporate Sustainability Committee; comprising members responsible for procurement in four categories (fuel, material, catering, and general goods) to implement policies on sustainable supply chain management. In the same year, CAL formulated the Sustainable Supply Chain Management Policy Statement, which is applicable to all of suppliers, contractors, subsidiaries, and joint ventures.

To implement its objectives for supply chain sustainability, CAL has used the management policy as a basis and complied with international standards set by the Global Reporting Initiative (GRI), ISO 26000, the United Nations Global Compact (UNGC), and the International Labour Organization (ILO) to devise <u>Supplier Code of Conduct</u> covering important aspects ranging from laws and regulatory compliance, human rights and labor conditions, occupational health and safety, the environment, fair transaction and ethics, quality and safety, and information security, with the goal of improving the sustainability of numerous suppliers. In 2016, CAL went even further and required all suppliers to sign the Supplier Code of Conduct to work with its partners in building a sustainable environment for the industry. Furthermore, CAL was included in the DJSI Emerging Markets Index in 2016 and received the highest theme score in the supply chain management criterion across the same industry.



Strategies of CAL's Sustainable Supply Chain Management

CAL attaches great importance to suppliers' (e.g. contractors) operational safety. In order to achieve the goals of enhancing contractors' ability to self-manage work safety and to improve work safety performance, CAL has implemented the following measures:



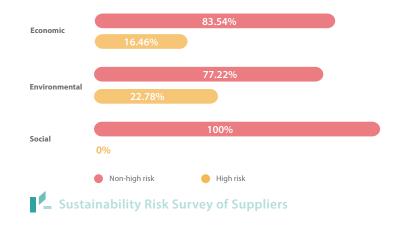
### 2016 Progress

### 1. Risk identification

In order to understand sustainable risks in the supply chain, CAL launched a survey on sustainable risks in the supply chain in 2016, which covered three dimensions: the economy, the environment, and society. Contents of the survey questionnaire were generated based on relevant international initiatives and evaluations, such as GRI G4, ILO, UNGC, DJSI (Dow Jones Sustainability Index), CDP, and the Universal Declaration of Human Rights. Through internal discussions, CAL defined and selected key suppliers as respondents for the sustainability risk survey. In 2016, the survey was sent to 270 suppliers(98% of total procurement amount), with a response rate of 58.52%. CAL will forward survey results to high-risk suppliers via e-mail, and then CAL will organize the supplier conference to exchange ideas, and provide training to help suppliers build up fundamental knowledge and skills for sustainability.

CAL expects to construct a sustainable supply chain through its own influence and further expands its risk management implementation beyond first-level key suppliers. CAL will soon identify the number of second-level suppliers through the sustainability risk survey, and will also refer to supply chain management information provided by tier 1 key suppliers (e.g. the sustainability report) to fully understand the current status of supply chain management for these non-critical suppliers as reference for future planning.







Over 60 suppliers published sustainability reports.



More than 100 suppliers established sustainable committee.

### 💁 Sustainability Performance

### Reasons of High Risk for Every Dimension

Economic (16.46%)	Only small amount of tier one suppliers manage their own suppliers from a sustainable perspective.				
Environmental (22.78%)	The suppliers with management systems related to energy or GHG are less.				
Social (0%)	Few suppliers don't have the public statements regarding anti-discrimination and freedom of assembly and association				

#### Improvement

CAL understands the sustainability risk of suppliers through on-site visit, collects the management ways of tier-2 suppliers and considers to include tier-2 suppliers in the sustainability risk survey in the future.

### 2. Assistance to reduce risks

#### Organize the annual supplier conference

In order to increase the cohesion of the concept on supply chain sustainability and to raise suppliers' awareness of the issue, CAL held its first annual supplier conference on November 7, 2016, which was attended by 44 domestic supply partners.

During the conference, CAL not only revealed the results from the supplier sustainability risk survey, but also invited the expert to share the latest trends of international supply chain management (including relevant standards and systems), hoping that suppliers would gain a better understanding on the issue. CAL also collected suppliers' comments and suggestions throughout the discussion sessions, which will be used as references for subsequent promotion and improving strategy formulation. Through providing communication platforms such as the supplier conference, CAL hopes to further strengthen its partnerships with suppliers and improve mutual understanding as a business community in order to face challenges and respond to international sustainability trends together, and to work in conjunction toward building a sustainable value chain and a sustainable Taiwanese brand in the service industry, re-creating a mutually beneficial atmosphere.



### Provide training on sustainability

In order to enhance procurement personnel's knowledge regarding sustainable procurement, CAL actively facilitates sustainability training for procurement personnel. Members of the sustainable supply chain team attended sustainability courses offered by external sustainability institutions to gain a better understanding of international supply chain management's trends and current status. CAL also arranged visits to domestic benchmarking enterprises in various fields for experience sharing and exchange of practices.

In addition, CAL continues to make efforts in creating environmentally sustainable energy for its suppliers and affiliated companies. Two educational training sessions on environmental issues for suppliers were held, and greenhouse gas data from 11 of its major affiliated companies were compiled to build an energy foundation for suppliers' environmental sustainability management.



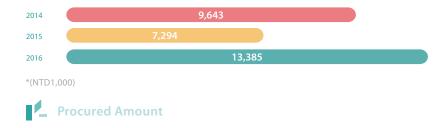
### Build the green supply chain

CAL has been actively promoting green procurement; it is dedicated to the purchase of products with green mark certified by EPA, Taiwan. CAL also collaborates with suppliers throughout the process of designing its cabin service products in order to develop environmentally friendly products or assist qualified suppliers in obtaining the green mark product certification; these efforts will allow suppliers and their supply chains to obtain and equip themselves with the capabilities to produce environmentally friendly products and to create a green supply chain.

### 3. Sustainability results

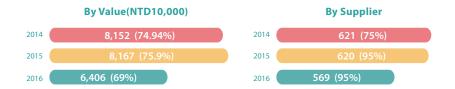
#### Green procurement

CAL is dedicated to purchasing products with green mark certified by EPA, Taiwan and also assists qualified suppliers to obtain the green mark products; these efforts will allow suppliers and their supply chains to obtain and equip themselves with the capabilities to produce environmentally friendly products.



### Local procurement

Fostering the development of relevant industries in Taiwan has always been CAL's responsibility; therefore, except for certain aircraft equipment, parts, and some business procurements that are subject to the requirements of international standards, CAL has made its best to source from local suppliers in order to boost the growth of local economy. The number and amount of local suppliers fell slightly in 2016 because the operations cost increased and some suppliers did not operate anymore; however, in the future, CAL will continue to follow its local sourcing policies.



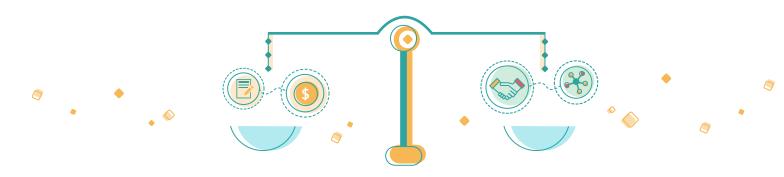
Note 1: The administration division and maintenance division of China Airlines are included; though procurement conducted by the fleet for in-flight goods and catering service units are excluded.

Note 2: Aircraft parts are not included because airlines are not able to select due to specific certific cation requirements.

# Local Procurement

# What's Next

- 1. Organize sustainability training for procurement personnel and carry out plant visits.
- 2. Convene the second annual supplier conference.
- 3. Facilitate suppliers in building sustainable development capabilities, and develop incen tive programs for suppliers.
- 4. Expand the scope of the survey on supplier sustainability risks.



# 2-5 Environment



 Plan and enforce water management
 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.
- 2. Promote the use of renewable energy in order to protect our environment and develop a low-carbon economy.



14 LIFE BELOW WATER 15 LIFE ON LAND

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Continue to promote green management for freight and passenger services, refine the no-paper policy in cabin services, and implement the management of a green supply chain.



- . Organized the establishment of low-carbon facilities and work environments, and continuing to take climate change into consideration when developing fleet management strategies and emergency measures.
- 2. Implement GHG reduction management to achieve the carbon reduction

Implement corporate conservation policies while supporting the Conservation Initiative from IATA and promote environmental protection to all clients and in freight management processes.

# **Sustainable Environment**

What is CAL's thinking towards taking action against climate change?

Chih-jen Cheng Aanager, Environment Dept, Corporate Safety Office

> CAL will actively deal with "adaptation" and "mitigation" issues for climate change from the perspectives of risk and opportunity. Through ideas exchange with experts or at the conference, international assessment, and learning from benchmark companies, CAL keeps up with the latest trend in the newest issues, and internalizes and implements different strategies through four aspects of management, execution, action, and disclosure to set the operation goal based on the principle of Environmental Integrity and enforce the mechanisms of

tracking, oversight and evaluation, and improvement. Because of the great effort of our related departments, CAL has not only received the ROC Enterprises Environmental Protection Award but was also in the Leadership Band (A-) of CDP in 2016. Moreover, our environmental result assessed by DJSI was ranked in the top 6% of the world's industries. This shows that CAL's thoughts and actions on climate change are world-recognized. In the future, CAL will remain humble, taking on the responsibilities for environmental stewardship to move forward and maintain sustainable growth together with our stakeholders.

> How does CAL improve fuel efficiency?

CAL knows how closely fuel efficiency is connected with sustainability issues such as climate change and has therefore actively devoted itself to related operations since its early years. In 2007, CAL established a cross-department fuel usage management task force, in which the senior vice president himself is involved with monitoring and enhancing the operations of fuel-saving. Working from starting points such as planning workflow, flight operations, aircraft maintenance, and process control, the task force has oversaw and evaluated nearly 30 fuel-saving efficiency indices. In 2012, CAL signed the OnPointSM Low Carbon Solution Agreement with GE Aviation, making good use of the patented software and professional fuel solution, in order to achieve the 1.5% average fuel usage efficiency increase each year before 2020.

### 📕 Highlights



Recognized by CDP for Leadership Band (A-)



Water-saving Ecoshine Moist Cleaning Method

First Taiwanese corporate group to introduce water-saving Ecoshine moist cleaning method for washing the exterior of aircraft



The only company in Taiwan's aviation industry to participate in the PGGM Project cooperated by EU IAGOS



Rated second place on environmental dimension of the world's aviation industry in the DJSI assessment

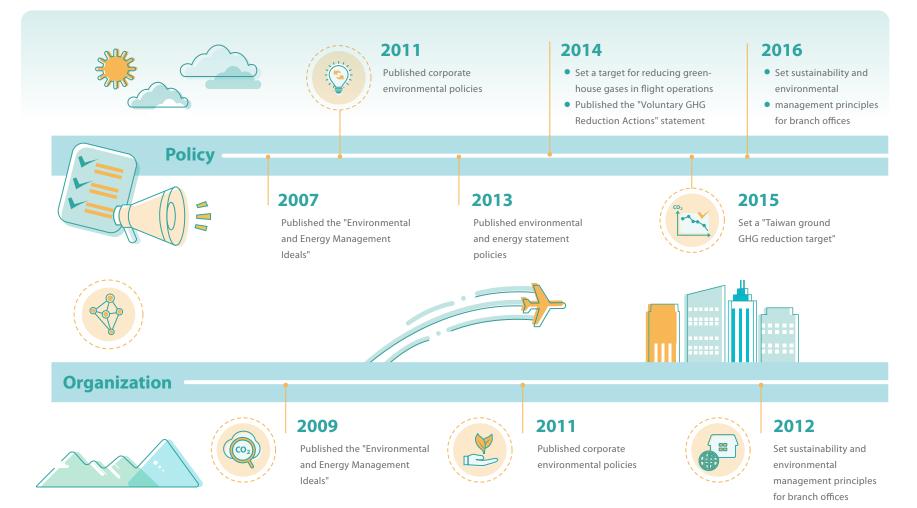


Completed the Aviation Passenger Transportation Services: Carbon Footprint Product Category Rule (PCR)

Main pillar	2016 Objective	2016 Performance	Achievement	2017 Objective
Main pillar	<ul> <li>2016 Objective</li> <li>Complete GHG inventory and third-party assurance</li> <li>Map out ICAO GMBM response strategies</li> <li>Complete 2016 CDP assessment</li> <li>Carry out carbon-reduction performance monitoring and improvement operations according to the Voluntary Reduction Agreement</li> <li>Promote low-carbon projects of CAL park (Taiwan)</li> <li>Develop carbon footprint Product Category Rules for the domestic aviation industry</li> <li>Expand Scope 3 GHG inventory</li> </ul>	2016 Performance Completed the verification of the BSI-TAF with reasonable level of assurance Completed research and promotions on GMBM response operations. Listed in the Leadership Band (A-) of the CDP. Completed the regular environmental committee meeting regarding efficiency monitoring and overall review. Completed planning for solar energy facilities in the China Airlines Park, and gradually set up facilities accordingly. Approved by the EPA, Taiwan and pub- lished the Aviation Passenger Transporta- tion Services: Carbon Footprint Product Category Rule (PCR)	<b>Achievement</b>	2017 Objective 1. Continue to monitor the emission of green- house gases with the reduction target. 2. Promote international flight' s carbon foot- print marking and related PR operations. 3. Start trials for carbon footprint label with domestic flight. 4. Promote carbon-management counseling for key groups and suppliers. 5. Continue to actively reply to CDP assess- ment and participate in Science Based Targets (SBT) projects.
	<ul> <li>Expand scope 3 GHG inventory and improve the data quality</li> <li>Continue to guide our two affili- ate companies to set up GHG management systems</li> <li>Conduct educational training on carbon management for our suppliers</li> <li>Increase the usage efficiency of energy</li> <li>Improve aviation fuel efficien- cy (tons of fuel consumption/ RTK) to 0.25 (ton/RTK)</li> <li>Reduce 4,377 metric tons of GHG scope 1 emission of ground operation</li> <li>Reduce 1,586 metric tons of GHG scope 2 emission of ground operation</li> </ul>	Calculated the emissions for 15 individual items according to GHG Scope 3 Calcula- tion Guidance Consulted Mandarin Airlines and Tigerair Taiwan in the operation of greenhouse gas inventory		<ul> <li>6. Implement low-carbon park and label operations.</li> <li>7. Increase the usage efficiency of energy.</li> <li>Improve aviation fuel efficiency (tons of fuel consumption/ RTK) to 0.22 (ton/RTK)</li> </ul>
		Completed the training on carbon man- agement communication and evaluation for suppliers 0.26 ton of fuel consumption per RTK of		<ul> <li>Reduce 4,640 metric tons of GHG scope 1 emission</li> <li>Reduce 2,190 metric tons of GHG scope 2 emission</li> </ul>
		fuel efficiency in 2016 Reduce 397 metric tons of GHG scope 1 emission Reduce 234metric tons of GHG scope 2 emission		

Main pillar	2016 Objective	2016 Performance	Achievement	2017 Objective	
	<ul> <li>Continue to promote 69 KPI supervision operation of energy</li> </ul>	Completed the implementation for 64 energy resources KPI		1. Complete 59 environmental management projects.	
	and environmental manage- ment • Obtain certification by the new	Completed the verification of ISO 14001:2004 and ISO 50001:2011 and obtained the certification of those.		<ol> <li>Check and revise the environmental management policy statement and related documents.</li> <li>Complete the counseling operation with new versior of ISO 14001 and obtain the certification during the</li> </ol>	
	version of ISO 14001:2015 and the expand the verified scope of ISO 50001: 2011	Completed the training of new version of ISO 14001:2015 for main manage- ment personnel.		fourth quarter. 4. Optimize waste investigation tools.	
Environmental management system	<ul> <li>Carry out second-level inspec- tion and unit performance eval- uation of the management system</li> </ul>	Completed the annual corporate self-audit and prevention/improve-	93%	<ol> <li>Consider the international aviation industry' s wastereduction trends and set targets for recycling and waste reduction.</li> <li>Continue to monitor water resource conservation.</li> </ol>	
	<ul> <li>Formulate environmental protection management rules</li> </ul>	ment operations. Published, announced, and promoted		<ol> <li>Continue to monitor water resource conservation.</li> <li>Check and optimize the Company's current ope tions while analyzing the international aviati industry' s water resource conservation trends.</li> </ol>	
	for branch offices <ul> <li>Begin the second stage in the establishment of the informa- tion platform for environmental management system</li> </ul>	the environmental protection man- agement rules for branch offices. Completed the first-stage stability test		8. Develop environmental risk assessment tools for suppliers and branch offices.	
		and second-stage evaluation of the environmental management system.		<ol><li>Continue to plan the second stage of the information platform of the environmental management system.</li></ol>	
	<ul> <li>Implement environmental learning (e-learning) training for new employees and branch office personnel</li> <li>Continue to participate in external environmental assessments</li> <li>Continue to promote activities regarding environmental</li> </ul>	1,949 new employees and branch office personnel have completed the environ- ment training.			
		Won the Climate Leadership Award from the TCSA for three consecutive years and was listed in the Leadership Band (A-) by CDP		<ol> <li>Use both inside and outside platforms to publisl articles and knowledge concerning environmenta protection.</li> </ol>	
Environmental awareness promotion		Held sustainable environmental protec- tion activities.	100%	<ol> <li>Designate an annual environmental protection edu cation month focusing on conservation of energ and resources.</li> </ol>	
	<ul> <li>protection sustainability</li> <li>Disclose data of carbon foot- print on the freight/passenger</li> </ul>	Completed and disclosed carbon foot- print data on the passenger/freight aircraft flight		<ul> <li>3. Promote interaction with those inside and outside the industry for learning new information.</li> <li>4. Actively participate in external assessments and</li> </ul>	
	<ul> <li>aircraft flight</li> <li>Continue to promote interaction with those inside and outside the industry</li> </ul>	Held 6 events with international avia- tion companies, 2 events with domestic academic and corporate organizations, and 10 forums with domestic industries, officials, and universities.		4. Actively participate in external assessments and learn from other benchmark companies.	

# 2-5-1 Governance of Environmental Sustainability and Climate Change



### **Environmental Sustainability Management**

Milestones in CAL's Environmental Management



Note : ISO 14064-1 is GHG Inventory; ISO 14001 is Environmental Management System: ISO 50001 is Energy Management System.

# Milestones in CAL's Environmental Management (Cont'd)

### **Climate Change Governance**

Climate change has a huge impact on the ecological environment around the world as well as the lives of human beings. The stakeholders of CAL have become increasingly concerned about climate change. At the end of 2015, in the 39th ICAO Assembly, ICAO approved GMBM in the form of the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), and following that, the delegates of 195 countries also signed the Paris Agreement at the United Nations Climate Change Conference in Paris, France, which was a new milestone for the world with mitigation and adaptation measures to combat climate change, and it also signals the start of the new age of the low-carbon economy. With the responsibility CAL took, CAL has long been concerned about issues related to climate change. Strategies for mitigation and adaptation have been formed through two main concepts: identifying risks and seizing opportunities. CAL is devoted to implementing risk prevention and corresponding management measures, in order to ensure that the way CAL is run is in accord with the continuous growth and environmental friendliness.

# Carbon emission goal for flight operations:

- Improve fuel usage efficiency by an average of 1.5% each year
- Carbon-neutral growth
- Carbon emissions lowered to 50% of that in 2005

# GHG emission goal for ground operations

### (Taiwan area):

#### Before 2020:

Reduce GHG emissions to 38% of the basic year level





### International Civil Aviation Organization (ICAO)

Required membership countries to sign the Greenhouse Gas Reduction Agreement.

Through research on the Global Market-based Measure (GMBM), the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) will be implemented in 2020.

All countries are encouraged to promote the development of biofuel for aviation purposes, and the carbon-reduction efficiency of biofuel is planned to become part of the GMBM in the future.

Aircraft  $CO_2$  emission standards have been passed

The Clean Development Mechanism (CDM) and the aviation industry carbon-reduction project methodology have been proposed.

### International Air Transport Association (IATA)

Goals for the three stages of reduction are set

- 2009-2020: An average improvement in fuel efficiency of 1.5% per year
- 2020: Carbon-neutral growth
- 2050: Carbon emissions to be reduced to 50% of 2005 level

Develop an environmental management technology document for the aviation industry.

Participate in the development of ICAO CORSIA technology regulations and promote industrial training operations.

# European Union (EU)

Civil aircraft that take off and land at airports in EU countries have all become part of the EU Carbon Emission Trading Scheme.

Some of the countries are planning to require corporations to disclose their emissions information.

### R.O.C. (Taiwan)

The Greenhouse Gas Reduction and Management Act has been passed, and carbon reduction operations will be carried out department by department.



**Others** 

• .

Business location risks and aviation safety risks can be caused by climate change.

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# Carbon Risk Sources(Cont'd)

### Impact

### **Financial aspect**

- The regulation of carbon emissions will become increasingly common. Different environmental issues (such as carbon taxes, water bills, and carbon offset) generate extra costs that directly lead to financial pressure for management.
- At the current stage, alternative technologies (for example biofuel for aviation, etc.) are not yet well-developed enough to be applied in the market, and their cost thresholds are too high.
- Drastic climate changes such as strong winds, rain, and fog will directly affect flight conditions and raise the possibility of changes in flight plans (for example, flight grounds or turns down), which will in turn lead to an increase in costs.
- Climate change will lead to differences in the supply-and-demand model in the materials market. This will not only affect the supply-and-demand conditions in the transportation market but also will bring about an increase in the cost of food materials needed for in-flight catering and travel services purchases.
- The concept of low-carbon transportation will lower the need for large shipments to be sent by air.

### Management aspect

- The declaration and offset operations and quota sources of the ICAO COSIA MRV have not been decided yet, which causes uncertainty in future plans.
- No clear sources or certifications for alternative fuels or biofuels for aviation have been determined, and the sources already found are not yet sophisticated enough for the market. Choices are very limited.
- The consumption patterns of customers have changed, and the need for low-carbon air transportation is on the rise. Adjustments will have to be made in services, marketing, and management plans accordingly.
- Climate change will create the need to establish emergency exercise for the business environment.

### **Opportunities**

### **Financial aspect**

- Effectively monitoring carbon emission and the usage of energy will lead to an increase in business efficiency and lower management costs.
- Low-carbon economic and financial modes are on the rise. For example, carbon quotas may be used for offset, and this situation may provide opportunities to make profits outside of regular business.
- The risk of regulation violations in the Company's operations are analyzed, to lower the risk of being fined and the costs that will be generated in such cases.
- Early-period actions may earn us price-deduction guarantees in trading mechanisms, lowering the cost required for tailoring our operations to follow regulations.
- Promote the corporate brand image as a company that supports sustainable development and lead to higher market shares.

### Management aspect

- Improve management efficiency and smoothness of collaboration between sectors in corporate groups by the energy and carbon managmeent operation.
- Improve the engagement of suppliers and coordination of supply chain management through low-carbon management issues.
- Increase the accuracy of weather predictions and the efficiency of fleet management.
- Create corporate business opportunities and increase competitiveness by being familiar with issues regarding low-carbon economics and transportation as well as the related market modes.

# Carbon Management Strategies

2	Dedicated organizatio	<ul> <li>Increase the operation capabilities of the corporate environmental committee</li> <li>Implement the carbon management task force and the aircraft fuel task force</li> </ul>				
<b>8</b> 1 <b>8</b>	Management systems	<ul> <li>Make enhancements on the environmental management system ISO 14001 and the energy management system ISO 50001 while implementing 2-stage internal evaluations and promoting third-party certifications</li> <li>Set and work toward goals concerning voluntary greenhouse gas reduction</li> </ul>				
Management		<ul> <li>Set and work toward goals concerning voluntary greenhouse gas reduction</li> <li>Implement strategies for greenhouse gas management for all group branches and supply chains</li> </ul>				
		• Continue to promote fuel-conservation projects in four main areas: personnel operations, aircraft maintenance, aircraft weight, and fuel carriage				
	Conserve fuel in aviation/	• Continue to explore new flight paths that can be beneficial for conserving fuel and reducing carbon emissions				
~^	ground operations	• Map out and implement monitoring measures and carbon-reduction projects, carbon rights trading, and carbon asset management operations				
	Eco-friendly aircraft	Energy conservation and environmental protection will be considered when establishing new fleets				
(Q) (Q)	Calculation of greenhouse gases/carbon footprint	Calculate carbon emissions footprint on international flight				
Execution		Improve the implementation performance of ISO 14064-1 GHG inventory				
Execution		Submit the verified emission report to EU ETS				
		• Finish setting up the Aviation Passenger Transportation Services: Carbon Footprint Product Category Rule (PCR) and take the trial of carbon footprint label				
	Emergency exercise	Improve workflow processes for preventing and reacting to extraordinary weather phenomena such as typhoons and heavy rain				
Disclosure	Publish annual corporate sustainability reports, update the Corporate Sustainability website, and participate in DJSI, CDP, and EcoVadis assessmen					
Actions	Please see 3-1-1 for details on environment-related international and domestic external initiatives and memberships					

Note: PCR= Product Category Rule

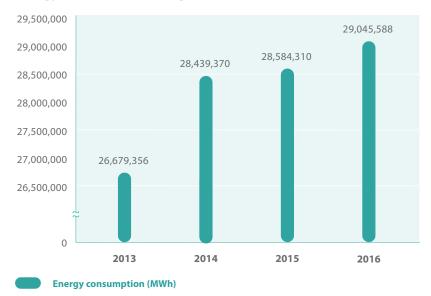
# 2-5-2 Environmental Sustainability Actions

### The 2016 Progress

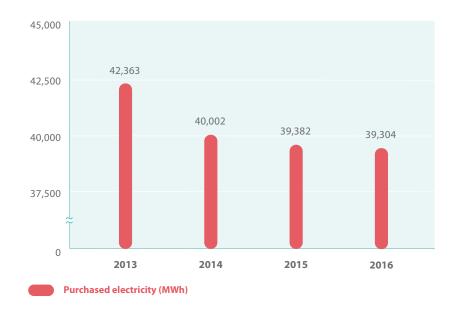
# 1. Efficient operations of the environmental and energy management systems

The environmental (ISO 14001) and energy (ISO 50001) management systems are sets of circular management operations that can be reviewed and continuously improved by establishing policies and organizations, setting goals, and actual execution. CAL will not only make improvements to the management system through internal and external audits and

**Energy Conservation Management** 



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 China verification but will also hold KPI performance reviews by the environmental committee each quarter, in order to increase efficiency in the usage of energy and resources. Taking into consideration the uniqueness of the aviation industry, CAL will develop related energy conservation, carbon reduction, and waste management policies to lower the impact our business has on the environment and achieve the goal of environmental sustainability.



Airlines 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.

# Energy Consumption Information

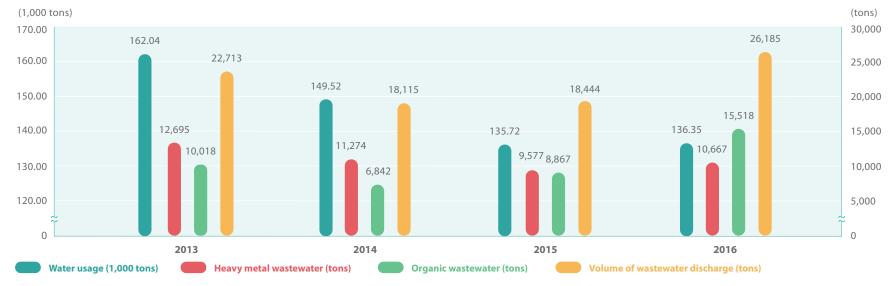
#### Water resource management

CAL understands the importance of water resources and has made the conservation of water resources part of the performance monitoring process since 2012, working on two aspects: seeking more water sources and reducing usage. In 2016, CAL consumed 136.35 tons of water and 26,185 tons of wastewater, discharging 1,592 tons of wastewater. The aviation industry is unique in that electroplating wastewater (containing heavy metals such as chromium and cadmium) and organic wastewater are bound to be produced in the aircraft maintenance process. Such wastewater causes heavy damage to our environment, and CAL takes the monitoring and controlling of such wastewater very seriously, ensuring that regulations are followed and environmental safety is achieved. In 2016, the fleet underwent an important routine maintenance process, and therefore the amount of industrial wastewater processed rose slightly. However, the total water consumption level was decreased due to adequate recycling strategies and management. From the perspective of the CAL group management, the CAL group has actively introduced new technologies to conserve water. In 2015, Hwa

Hsia Company Ltd. signed a collaboration agreement with UUDS of France, becoming the first and only company in Taiwan to introduce the environmentally friendly Ecoshine moist cleaning method. Starting from May 2016, this method has been gradually used in the ground cleaning process for CAL's 24 aircraft. This process uses 100 times of water than a traditional washing, applies an anti-static biodegradable (96%). Using Ecoshine has reduced water use by at least 98% for CAL. By the end of 2016, 190 tons of water had been saved.

#### Waste management

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 2016, as the fleet was undergoing important routine maintenance, major construction was carried out in the park areas, and the scale of recruiting and training was large; as a result, the amount of waste produced slightly increased. CAL has already strengthened promotion and management operations through existing monitoring platforms to prevent this from happening again.



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 Taoyuan International Airport, Taipei City, and Kaohsiung City to be processed. Heavy metal wastewater and organic wastewater produced in the maintenance operations as well as the everyday

sewage produced in the maintenance facilities are first processed in the parks' professional level-three wastewater treatment facilities according to the maintenance parks' full recycle treatment policy, then discharged into the Taoyuan International Airport sewage treatment system. Note 2: The source of water is from Taiwan Water Corporation.

# 🖕 Water Resources



ltem (kg)	Operation requirements	Treatment method	2012	2013	2014	2015	2016
General industrial waste/ everyday waste	General maintenance/ everyday life use	Commission certified waste cleaning companies to clear away waste, and keep documentation on the treatment. Report to the government routinely, per the law (physi- cal/burning/heat treatments)	113,450	204,745	387,948	380,662	419,689
Hazardous industrial waste	Emergency power requirements in aircraft and on the ground	Commission certified waste cleaning companies to clear away waste, and keep documentation on the treatment. Report to the government routinely, per the law (chemical/ solid landfill)	19,070	18,398	17,673	12,728	13,430
Batteries containing cadmium	Used in maintenance of aircraft and generators	Commission certified waste cleaning companies to clear away waste. Report to the government routinely, per the law	1,717	1,328	1,110	1,445	1,920
Total (Waste)			134,237	224,471	406,731	394,835	435,039

Note 1: Statistics for 2012-2013 comes from maintenance facilities.

Note 2: The operations at China Airlines Park, Songshan Branch Office, and the Taipei Branch Office are all regular office affairs that produce no hazardous waste. The waste produced in these areas is counted as part of the general business/daily life waste starting from June 2013.

Note 3: Unit is kg.

#### Noise management

Aviation noise pollution includes aircraft noise and the airport noise it causes in turn. For example, the roar of the APU(auxiliary power unit) during takeoff, 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 there are currently no noiseless engines designed or produced, CAL will implement the following actions to decrease noise pollution without affecting flight safety:

- Use aircraft conformed to international noise standards listed in Annex
   Chapters 3 and 4 determined by ICAO. (All CAL aircraft have conformed).
- 2. Implement flight operations following the Noise Abatement Procedures posted by each airport.
- Encourage flight crews to employ the Continuous Descent Approach (CDA) to lower noise level and reduce fuel consumption.
- Pay noise charges according to regulations of each country's airports on noise prevention.

 Collect related information from around the world through international exchange platforms such as IATA to continue to carry out noise reduction operations.

In addition, concerning noise management at operation environments and personnel hearing protection, CAL has already developed and implemented a hearing protection plan that includes:

- Noise testing is implemented regularly in working environments, and when noise testing indicates that the risk level is over the legal standards, equipment and environment will be improved or work hours will be adjusted accordingly.
- 2. The workers are required to wear hearing protection gear and receive training in noise prevention.
- 3. Regular personnel hearing tests.

### Environmental expenditure

CAL purchases with environmental protection and energy conservation in mind. Items such as office equipment with energy label certified by the Bureau of Ministry of Economic Affairs (Taiwan), electricity saving light bulbs, and consumables with green mark certified by EPA (Taiwan) are purchased. In 2016, CAL implemented energy conservation operations, such as switching to LED light bulbs, leading to much higher expenditures in green purchasing. Nearly 217 million TWD was devoted to the procurement of environ-mentally friendly equipment, projects, and green purchasing, a number higher than that of any previous year.



		China Airlines Environme	ntal Equipment and G	ireen Purchasing	<b>Investment Chart</b>	(Thousand TWD)
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	2013	2014	2015	2016	Total
Environmental protection equipment, maintenance projects 1	6,975	5,331	16,798	13,993	43,097
Green purchasing 2	14,263	9,634	7,294	13,385	44,576
Waste disposal	2,268	2,608	2,417	4,164	11,457
Noise prevention cost	161,130	176,869	181,704	185,864	705,567
Total investment amount	184,636	194,442	208,213	217,406	804,697

Note 1: Environmental equipment includes the updating of outdated pollution prevention equipment, operational maintenance, hardware investments, environmental testing, and related projects. Note 2: Green purchasing includes the first, second, and third categories of products listed in Regulations for Priority Procurement of Eco-Products (Jan 15th, 2001).

-4

# 2. Enhance carbon management and air pollution operations

• SCOPE 1

Aviation fuel is the main source of greenhouse gases (GHG) emissions for CAL. Thus, CAL has been working on operation assessments, looking for a way to lower carbon emissions and increase fuel usage efficiency through avenues such as flight plans, flight operations, aircraft maintenance, process management, and aircraft weight reduction. The China Airlines Voluntary Greenhouse Gases Emission Reduction Statement was formulated through integrating operational resources and evaluating management's operating conditions. In 2016, a total of 34 different aviation fuel conservation projects were carried out. Compared to 2015, 2,732 fewer tons of fuel were consumed, which was equal to 8,644 fewer tons of CO<sub>2</sub>e emissions. Compared with the business-as-usual (BAU) baseline, 187,380 tons of CO<sub>2</sub>e emissions were decreased. The overall aviation fuel. usage efficiency (0.2550) has fallen slightly, by 0.43%, compared with the previous year (2015), not meeting the "increased aviation fuel usage efficiency by 1.5% each year on average before 2020" goal. Through analysis, CAL has discovered that this drop in efficiency was mostly due to the expansion and upgraded aviation fuel usage scale for the fleet in a short period of time. The demand in the passenger and freight transportation market in 2016 as a whole has been less than ideal, and some market-related issues have also come into play, which is why the aviation fuel usage efficiency in 2016 was not as high as predicted. CAL is already working on improvements through reviews in management meetings and fuel-management meeting. Regarding carbon management for ground operations, in 2016, a total of 68 projects were developed, lessening the CO<sub>2</sub>e missions by 524 tons. CAL continues to work toward the goal of "reaching 38% less greenhouse gas emission in ground operations in 2020, compared to the emissions of the timeline year (2009)." In addition, the emissions of scope 3 GHG in 2016 was 2,070,003 tons. The main reason why the emissions amount increased compared with the previous year was the expansion of scope 3 from GHG Protocol.

#### (CI) (AE/IT) 6,934,415 7,047,183 6,891,110 700,000 7,200,000 6,462,069 600,000 6,400,000 500,000 5,400,000 4,500,000 400,000 3,600,000 300,000 294,735 277,158 263,016 200.000 2,700,000 233,927 106,493 1,800,000 100,000 900,000 30,000 0 2013 2014 2015 2016 • SCOPE 2 23,000 22,113 22,000 21,000 20,844 20,158 20,752 20,000 0 2013 2014 2015 2016

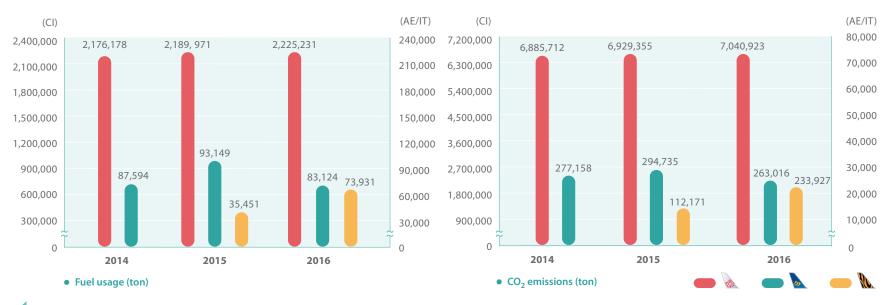
Note 1: Data calculation contains 100% of all aviation fuel used by China Airlines, Mandarin Airlines, and Tigerair Taiwan. Note 2: Greenhouse gas emissions assessment unit: BSI (2013, 2015-2016), DNV (2014). Note 3: Emission intensity (ton  $CO_2e/kRTK$ ) = greenhouse gas emissions/total capacity ton-kilometer. Note 4: Business-as-usual baseline is a situation before implementing emission reduction. Note 5: The calculation range of scope 3 is according to the 15 categories of GHG protocol.

**CAL Group's GHG Information(tonne CO**<sub>2</sub>e)

# China Airlines Fuel Efficiency Information

	2009	2014	2015	2016	2016 compared to 2015	2016 compared to 2009
Fuel usage (ton)	1,927,803	2,176,178	2,189,971	2,225,231	+35,260	+297,428
CO <sub>2</sub> emissions (ton)	6,099,820	6,885,712	6,929,355	7,040,923	+111,568	+941,103
Transportation capacity (RTK)	7,721,089	8,444,065	8,625,831	8,727,407	+101,577	+1,006,318
Fuel usage efficiency (Fuel/RTK)	0.25	0.26	0.25	0.26	-0.43%	-2.12%
Carbon emissions intensity (ton CO <sub>2</sub> /RTK)	0.79	0.82	0.80	0.81	-0.43%	-2.12%

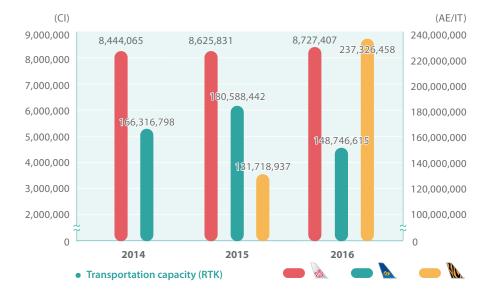
Note: The lower the fuel usage efficiency and the carbon emissions intensity, the better the performance.







• Fuel usage efficiency (Fuel/RTK)



### NOx, SOx emissions

The gases emitted by the aircraft engines include not only greenhouse gases that have an impact on climate change but also other pollutants that have a major impact on the local air quality. NOx, in particular, is a major emitted gas. Related emissions data is as follows: (Please see the next page)

Note 1: SOx: Using the calculation method from the EPA of the US: yearly total emissions = number of aircraft flown\*0.000891. The emissions factor is 0.000891 (Tons/LTO). Note 2: NOx: Using the calculation method from the EPA of the US: yearly total emissions = number of aircraft flown\*0.009288. The emissions factor is 0.009288 (Tons/LTO). Note 3: LTO: The Landing/Take-Off (number of aircraft) Note 4: Mandarin Airlines and Tigerair Taiwan do not own freight aircraft.

(AE/IT)

1.80

1.60

1.40

1.20

1.00

0.08

0.06

0.04

0.02

0

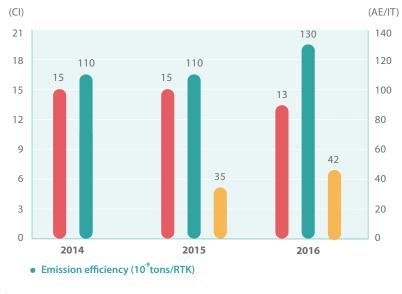
1.77

0.99

2016

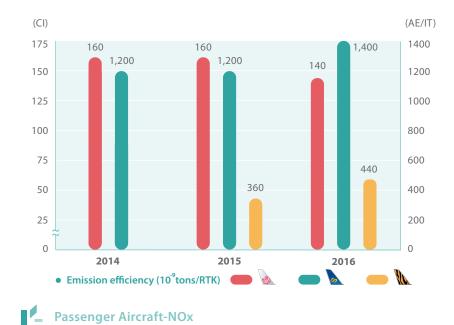
0.81





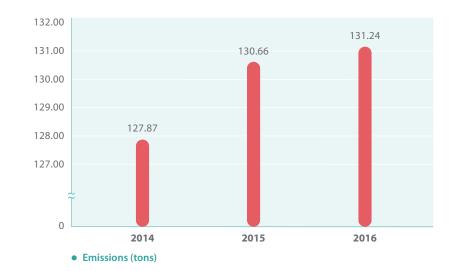














# 3. Enhance Employee Awareness of Environmental Protection

### **Environmental education training**

CAL places a strong focus on the environment training of its personnel. Managers and employees of all levels must undergo the environmental management e-learning training, so that they can better cherish our planet and environment through their attitudes and actions. Besides the implementation of personnel training for Taiwan employees, the new employees also have to undergo environmental education during orientation each year. All new employees in 2016 have been trained. Those in branch offices are also requested to participate in the second phase of the environmental training. A total of 1,949 employees have attended with a 100% attendance rate. Besides training through classes, outside professionals are also invited to hold seminars for managers in higher positions and carry out environment-themed visitation activities. In August, the EMS Audit and Risk Analysis training courses were held, with 33 attendees in total. In addition, to continue strengthening the capacities of the management, members are sent to attend outside training on environment-related standard regulations as needed. The communication and promotion between employees and managers regarding environmental protection issues are also emphasized through various channels.

- Monthly environment column: Send articles related to energy conservation and carbon reduction to the web-mail of all employees and publish such articles on the internal bulletin board (China Airlines Corner) as well. A total of 26 such articles were published in 2016.
- Advanced seminars: Invite outside experts or hold activities for interaction between differ-



ent industry/educational tours. In 2016, a total of 4 speeches were given and 1 interactive activity/educational tour between different industries was held.

### Annual sustainable environmental protection activity

To enhance employees' awareness towards environmental sustainability and have them implement such concepts into everyday life to achieve the goal of "ECO employee education" a series of sustainable environmental protection activities were held from July to September 2016, with "Fly to CAL' s Sustainability" as the theme (there were 5 main categories of activities held, along with promotion slogans). In total 902 persons attended.

### What's next?

- 1. Move to the new version of ISO 14001:2015 from ISO 14001:2004.
- 2. Continue to promote the management of waste and water resources.
- 3. Enhance carbon management operations.
- Strengthen the awareness of environmental protection in employees and establish a voluntarily environmentally friendly culture.
- 5. Supervise risks related to environmental sustainability and promote related measures.



# 2-5-3 Green Services and Operation

As part of the transportation services industry, CAL understands that environmental protection must be integrated into the operation and services. Therefore, environmental committees have been established from both freight transportation and passenger transportation aspects in order to coordinate, plan, and execute related environmental protection actions.

# The 2016 Progress

Item	Results	Marketing Performance	<b>Environmental benefits</b>
Continued introduction of eco-friendly aircraft	Introduce A350-900 XWB aircraft	<ol> <li>25% less fuel consumption compared to A340 aircraft.</li> <li>70% of the aircraft body is made of advanced materials in order to increase flight safety.</li> <li>A high-quality cabin environment with the fresh air renewed every 2 minutes, providing passengers with a more comfortable experience.</li> <li>Saves TWD 70 million in operational costs for each aircraft every year.</li> </ol>	<ol> <li>25% less carbon emissions compared to A340 aircraft.</li> <li>Noise in the cabin is only 57 decibels at maximum. Named the quietest passenger aircraft in the industry.</li> </ol>
Disclosure of carbon footprint and formula- tion of documents	<ol> <li>The carbon footprint for major international flight will be updated and counted as part of the freight services.</li> <li>The development of PCR has been completed in conjunction with the Civil Aeronautics Administration (Taiwan) and approved by the Environmental Protection Administration(Taiwan) to officially went online.</li> </ol>	<ol> <li>CAL is the only airline in the nation that discloses its carbon footprint and aids clients in LCA carbon management.</li> <li>The only company in the domestic aviation industry with a calculation guidance covering the life cycle of carbon footprints in every phase.</li> <li>Important reference for developing carbon footprint label.</li> </ol>	Calculate the carbon footprint of passenger and freight transportation services (carbon emissions by ton/person-km)

# The 2016 Progress (Cont'd)

Item	Results	Marketing Performance	<b>Environmental benefits</b>
Cabin environmen- tal protection services	Continue to promote environmentally friendly actions to passengers, for example, encouraging them to reuse consumables and to shut the windows in the summer.	Cut down on waste, and close windows in the summer to lessen the APU and energy consumption cost for airports.	Increase environmental protection awareness and actions in passengers, and lessen carbon emissions.
	Promotion of green consumption: Use O'right series products, a brand famed for its environmental friendliness; sell artwork by Taiwan indigenous artist, Yosifu; use FSC-certified paper for in-flight magazines.	Enhance the image of green services to increase profits from green products.	Lessen the impact of operations on the environment
	Use local food for in-flight meal to decrease the carbon emission; Print "China Airlines won't use protected animals for the meal" on the menu; Menu uses recycled paper and soy ink		
	Shorten the length of the receipts for in-flight duty-free items	Shorten each receipt by about 10 cm, making it more convenient for cabin crews to provide services	Decrease usage of thermal paper, decreasing the burden on the environ- ment caused by company operations.
	Adjust the weight of the paper used for in-flight magazines from the previous 80 gsm to 70 gsm. • 2016 Q3-Q4: Reduced by 65,790 KG.	Lower the weight of magazines, in order to save on fuel and other costs.	Lower the weight of magazines in order to reduce carbon.
	Select 12 environment and ecology themed videos to play on the plane	Increase effectiveness in communication with travelers and brand identity	Invite passengers to protect our environ- ment, and raise environmental awareness.
e-Air waybills	Raise rate of penetration to 63.9%	Lower the time required to transport items by 1.5 days and the possibility of losing related bills	Lessen the impact of operations on the environment
	Update the China Airlines app, offering functions such as online booking, ticket purchasing, check-in, seat selection, and meal selection.	Increase service efficiency and get in touch with passengers	Lower the amount of energy consumed by flight operations Achieve ecological benefits from energy conservation, carbon reduction, and resource conservation
Digital and mobile services	Adopt electronic boarding passes		

Note 1: In-flight magazines consist of duty-free product magazines, Fantasy Sky, and Home Delivery. Note 2: Actual fuel consumption data of the A350 is dependent upon real flight conditions.

### What's next?

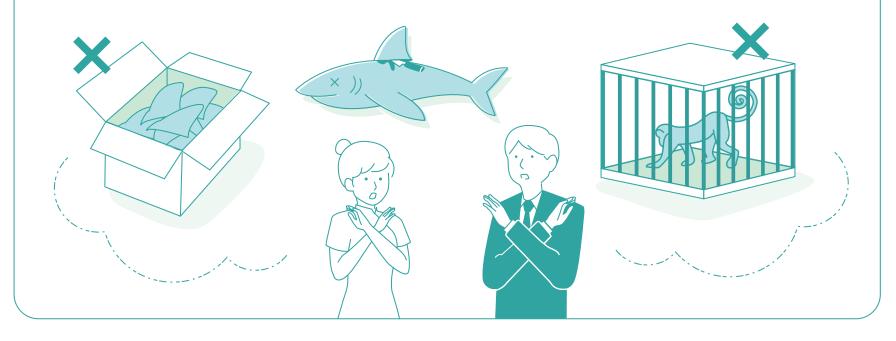
1. Continue to promote the trial of carbon footprint label for main domestic flights

- 2. Evaluate carbon offset operations and develop related strategies
- 3. Advocate and support the wildlife conservation issue
- 4. Continue to promote green services

# Support Ecological Conservation

The IATA ENCOM has established the IWTF (IATA Wildlife Task Force) and published the "ENCOM Guidance on Prohibited Carriage of Wildlife and Related Products by Passengers," inviting all airline members from ENCOM to sign the Buckingham Palace Declaration to protect endangered species. As an ENCOM member, CAL has banned shark fins and the use of primates for experimental use, and has announced that the CAL Group will not be using any food materials from conservation species. CAL also participated in the related IATA operational discussion. In 2017, CAL will consider signing the declaration to show support and dedicate itself to developing work plans in 2017.

- Condemn illegal trading of endangered species and related products
- For all passengers, suppliers, and employees, instill the awareness of the disastrous results that exchanges of endangered species may cause



# 2-6 Society



CAL reinforced its cooperation efforts with local and international organizations to increase forms of humanitarian relief and expand relief locations to save more people from hunger and disease.

# Highlights

**2,000** students

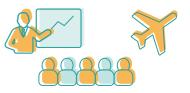
Our "Love All Around" team visited more than 9 counties and cities in Taiwan and helped approximately 2,000 students;



Provided assistance with relief delivery for areas affected by the Tainan earthquake and contributed more than TWD 10 million in donations;



Sponsored textbook programs for 50 schools throughout Taiwan to help approximately 16,000 students;



Trained more than 600 aviation professionals in partnership with colleges and universities.



Provided assistance with post-disaster revitalization for the typhoon disaster in Taitung, Taiwan, the earthquake in Kumamoto, Japan, the Fort McMurray Wildfire in Alberta, Canada, and other natural disasters plaguing other parts of the world.

As the leader in the airline industry in Taiwan and a global citizen, CAL understands that our success comes from supporting many aspects of society. Therefore, CAL has always upheld its belief of giving back to society and centered its sustainable development on fulfilling our social responsibilities. In 2016, CAL continued to be a productive member of community; we want to take on our social responsibility, support the development of society, and create a positive cycle of social investment and corporate development. Together, CAL will achieve sustainability with the society.

## 2-6-1 Enforcing Social Responsibility

As an airline company, our responsibility is not only to stimulate the economic development, but also enforces our commitment in the social responsibility.

#### **TransAsia Crisis**

In 2016, TransAsia Airways (hereinafter TNA) suspended its operations unexpectedly, impacting approximately 100,000 passengers' itineraries. As a leader in the Taiwanese airline industry, CAL coordinated its international and domestic operations in order to transport the affected passengers and mitigate the impact to society.

#### "We Must Return the Favor..." Media Coverage on November 22, 2016

TNA suspended its operations unexpectedly on November 22 and impacted Taiwanese society. CAL initiated a crisis response instantly. The management sent a message to all the airport supervisors hoping that CAL could fully support the TNA in order to mitigate the impact on passengers and repay the TNA' s support during the CAL cabin crews strike in June 2016. During that period, CAL established the exclusive counters for affected passengers and arranged the available seats as many as possible.



#### **Humanitarian Relief**

There were many natural disasters in the globe and impacted our society seriously. CAL utilized its resources to participate in rescue and relief efforts.

#### **Tainan earthquake donations**

Donated TWD 10 million to relief the victims for the emergency usages and rehabilitate their community as early as possible.

#### Typhoon nepartak revitalization in Taitung

In collaboration with Taitung County Government's "Supporting Taitung United Charity Auction", CAL donated passenger sales revenue to the revitalization from the disaster recovery.

#### Kumamoto earthquake relief

In collaboration with Fo Guang Shan Monastery, CAL delivered relief supplies to affected areas in Kumamoto, Japan.

#### Fort mcMurray wildfire relief

In collaboration with the Tzu Chi Foundation, CAL delivered relief supplies to affected areas in Alberta, Canada.

#### Hurricane matthew in Haiti

In collaboration with the Tzu Chi Foundation, CAL delivered supplies and aids to affected areas.

#### Tigerair Taiwan's "More Aso!" project in Kumamoto, Japan

Tigerair Taiwan collaborated with Aso City Office, and related institutions in Taiwan to sponsor six Taiwanese students to visit Japan and learn about its post-earthquake revitalization project to revitalize the local tourism industry.





Fo Guang Shan Monastery's Relief Supplies The Company Delivering

The Company Delivering Fo Guang Shan Monastery's Relief Supplies

#### Caring for rural areas in Taiwan

To spread hope for a better future, volunteers from CAL "Love All Around" team chipped in individually to raise funds and hosted events at remote rural schools in Taiwan during their vocation. Our volunteers have visited nine counties/cities, 18 townships, and offered their support to approximately 2,000 students since 2014; bringing hope to remote corners in Taiwan.





Love All Around—Volunteers and Studentst

Love All Around— Illustrating How to Wear a Flotation Jacket





#### **Caring for disadvantaged students**

CAL organized the "6th Year-end Hot Pot Banquet" for disadvantaged children from Muhsiang Preschool, White Childern Home, Taoyuan Jhuwei Elementary School and other educational institutions; Taoyuan City Mayor Cheng Wen-tsan was also invited to the banquet. In addition, CAL and 11 Skyteam partners in Taiwan organized "the Year-end Concert" performing by the Ju Percussion Group for various disadvantaged groups, their families, and volunteers in the Taipei.



In-flight Meals Made Exclusively for the Chinese New Year

#### **Caring for the elderly**

Mandarin Airlines employees donated their second-hand apparels, toys, and furniture to the charity auction event organized by Environmental Protection Department, Taipei City Government. Moreover, Mandarin Airlines have donates approximately TWD 100,000 to Nantou County Restoration Association since 2014.



Second-hand Furniture Charity Auction



Appreciation from Nantou County Restoration Association

#### **Caring for abandoned infants**

Mandarin Airlines donated all revenue from the "Dawn of Happiness" Charter Flight (approximately TWD one million) to Hannah's Hope Home, an orphanage taking in abandoned infants under 2 years old in Eastern Taiwan.



2016 "Dawn of Happiness" Charter Flight

#### Caring for the disadvantaged overseas

In 2016, CAL North America Regional Office organized a sales charity campaign in collaboration with Simple Help Foundation, where passengers purchased tickets from North America to Asia on CAL website. CAL donated 4 % of revenue for the charity purpose and total donation was USD 6,107. Moreover, during the mourning period for His Majesty King Bhumibol Adulyadej in Thailand, all the colleagues from CAL Bangkok Branch Office decided to replace the year-end dinners with charity activities, which they visited and cared for orphanages and disadvantaged children; furthermore, our Bangkok colleagues in collaboration with local Taiwanese enterpriser donated THB 121,748 for the charity purpose.



Press Conference for Fund Raising Event at the Los Angeles Branch Office



Bangkok Branch Charity Event

## 2-6-2 Supporting Social Development

As an important member of Taiwanese society, the social development is the most critical mission for CAL. In the process of social development, education played a pivotal role. Therefore, CAL wants to become a promoter in education, sport and environmental cognition, in order to support our social development.

#### **Strengthening Education**

CAL has deeply contributed its efforts to cultivate the reading habits for Taiwanese children since 2010. Furthermore, CAL has established the long-term partnerships with various universities in Taiwan and brings the mutual benefit for both industry and academia aspect.

#### **Industry-Academia Partnership**

In support of the external internship policy from the Ministry of Education in Taiwan, CAL offers a wealth of corporate expertise and resources to help students enhancing their professional knowledge and practical experience through the industry-academia partnership program. The program provides various operations to nurture maintenance professionals in aviation knowledge and competence. Meanwhile, CAL also provides the fundamental maintenance training courses, scholarships, and employment opportunities. Through the partnership between academia and industry, we can provide society with highly-trained aviation specialists.



Industry-academia Partnership Students Visiting the Crew Training Facility



Graduation Ceremony for Summer Industry-academia Partnership Programs

### **Volunteer Teaching**

CAL has founded the CAL Volunteer Club since 2011. The Club dedicates to socially vulnerable groups and instills spiritual contentment in employees. Volunteers taught children about aviation knowledge and aviation English during winter and summer vacations.





China Airlines Aviation Education— Jhuwei Elementary School

China Airlines Aviation Education— Shi-hai Elementary School

## Creating a knowledge-sharing platform at elementaryschools

CAL has collaborated with the Global Views Educational Foundation to create the charitable project of sharing knowledge platform since 2014. CAL subscribed to the "Global Kids Junior Monthly" and the donation has been expended 50 schools and benefited approximately 16.000 students.

# Touring Hanshin Koshien Stadium with the Nurturing Camp

In July of 2016, Tigerair Taiwan invited the Guansi Elementary School baseball team from Hsinchu County to visit the Hanshin Koshien Stadium in Japan. Through traveling and witnessing Japan's professional baseball tournament, the young players were encouraged to learn about sportsmanship, teamwork, focus, as well as having the courage to pursue their dreams.



Guansi Elementary Baseball Team at Hanshin Koshien Stadium

### China Airlines X Jeremy Lin - Dreams Come True Charity Day

The Charity Day event was relocated to China Airlines' cabin, where Jeremy Lin interacted with students from Elementary School in Taoyuan City. Through engaging event activities, the children learned about aviation and were inspired to pursue their dreams.





Jeremy Lin Greeting the Students

Group Photo of Students with Jeremy Lin

#### **Sports Activity**

CAL supports Taiwanese athletes who are participating in the international sport activities. CAL has been designated the official airline for various international tournaments. We also sponsors in various major local and international sport activities and local Taiwanese athletes, such as the NBA star Jeremy Lin, MLB player Chen Wei-yin, tennis player Chang Kai-chen and the 4 Deserts Race Series Champion Tommy Chen. All those effort is to promote the sport culture in Taiwan and also cultivate the expertise of those Taiwanese athletes.



## A Street Vendor's Son Achieving His Dream

The biggest teen tennis tournament in Europe, Les Petits As, welcomed its 13-year-old champion, Tseng Chun-hsin—the tournament's first Asian champion in 33 years. Tseng started playing tennis at 3 years old and exhibited immense talent. However, Tseng's parents, selling caramel fruit in a night market, struggled to pay for the TWD 4 million per-year training fee. Since 2016, China Airlines has provided financial support for Tseng to participate in international matches. We look forward to the success of Taiwan's athletes abroad.



#### **Environmental Education**

Loving the planet is not just a slogan. CAL has proactively dedicated to environmental advocacy. The Company's employees are encouraged to get personally involved with environmental preservation efforts and to set an example for others.

### **Coastal Cleanup**

In 2016, in response to International Coastal Cleanup Day, CAL senior vice president gathered CAL volunteers, and about 250 students from Nanmen Junior High School to clean up the Jhuwei fishing harbor.





CAL Volunteer Club at Coastal Cleanup

# Supporting the Blue-Tailed Bee-Eetar Egg Retrieval and Nurture Initiative

Mandarin Airlines participated in Taipei Zoo's Blue-Tailed Bee-Eater Retrieval and Nurture Initiative, transporting abandoned eggs from Kinmen to Taipei. In 2016, the first artificially incubated blue-tailed bee-eater entered into adulthood. It was the first artificially incubated bee-eater to survive. This event is a great example to environmental education in Taiwan.



Incubating an Egg of Blue-tailed Bee-eater



Blue-tailed Bee-eater in Healthy Condition

#### **Animal Conservation**

In 2016, Tigerair Taiwan and Taipei Zoo work together on the animal conservation program in order to emphasize the importance of the tiger conservation to the public audience by substantial action.



Tigerair Taiwan Animal Conservation Plan



## 2-6-3 Creating a Sustainable Society

CAL commits to social welfare through the social investment. This commitment is not only to take the social responsibility, but also establishes a positive influence for the society and CAL. For this purpose, CAL quantifies the social investment evaluation with our financial data in order to monitor the contribution to the society and CAL. Through this process, we anticipate to achieve a sustainable society.

#### **Social Investment Evaluation**

CAL invests every effort into social involvement by contributing our expertise and services. We have applied the London Benchmarking Group (LBG) model to assess the effectiveness of our social investment since 2015. The LBG model applied simple quality management techniques to measure corporate community contribution and uses a simple input/output/impact matrix. The matrix allows CAL to measure contributions in terms of input to the community, output achieved, and impact made, with impacts providing long-term results. The LBG model integrates the measurement on financial and non-financial contributions in order to provide detailed guidance on the resource allocation and avoids the duplicate investment. It becomes a quantifiable measurement in order to maintain the expectations of stakeholders.

For our contribution on social investment, CAL donated TWD 44.8 million in 2016. Commercial initiatives, charitable event and community investments were the three major donations which represented 64%, 30% and 6% of our investment. The investment could be also categorized into material donation, monetary donation, volunteer and management overheads which represented 71%, 25%, 2% and 2% of our social investment. For further detail on the investment figure, please refer the table listed below.

Project	Content	Cost (TWD)	Percentage (%)
Commercial	Public Forums and Cultural Events	29 642 674	64%
Initiatives	Sponsoring Taiwan-based Athletes for International Competitions	28,642,674	04%
Charitable	Domestic and International Disaster Relief	12 401 702	2007
Events	Sponsoring Educational Events	13,491,703	30%
Community Investments	Organizing support events for the disadvantaged; community English lessons; monthly magazine donations to Elementary Schools in Taoyuan City; hosting China Airlines Employee Charity Day; host CAL Park tour and coastal cleanup events	2,697,062	6%

## Types of Social Involvement



Project	Content	Amount (TWD)	Percentage (%)
Material Donations	Donation of flight tickets and in-flight products	31,899,877	71%
Monetary Donations	Cash input for each event	11,244,500	25%
Volunteers	Volunteer Expenses for tours, teaching, and coastal cleanup	772,378	2%
Management Overheads	Overhead for managing various activities	914,684	2%



#### **Social Involvement Effectiveness**

Environmental/Social Effectiveness				
Indicator	Data	Amount (TWD)		
Donations for Tainan Earthquake Victims	TWD 10 Million	10,000,000		
Other donations for art, sport & charitable sponsor	Guansi Elementary Baseball Team, Pluralistic Education, Juvenile DreamWorks, Huashan Social Welfare Foundation, charitable auction	930,000		
Kumamoto Earthquake, Fort McMurray Wildfire	Delivering Relief Supplies	486,163 (*1)		
Year-end Hot Pot Banquet, Caring for the Elderly	Approximately 300 beneficiaries	273,194 (*2)		
Coastal Cleanup in Jhuwei, Taoyuan	Approximately 250 participants	283,000 (*3)		
Volunteer Teaching	1,237 students from various elementary schools	432,950 (*4)		
Sharing Knowledge Platform charitable project for Children with Global Views Monthly	Approximately 16,000 students from various elementary schools	561,600 (*5)		
CAL Headquarter Visits	1,003 participants	490,000 (*6)		
China Airlines X Jeremy Lin - Dreams Come True Charity Day	Approximately 200 participants	500,000 (*7)		

Calculation of the Social Involvement Effectiveness:

- \*1 Shipping cost: the Kumamoto Earthquake TWD 88,350; Fort McMurray Wildfire TWD 397,813
- \*2 Catering and transportation cost: TWD 150,000; personnel cost: TWD 123,194 (20 cabin crew, 4 hours each event)
- \*3 Catering and transportation cost: TWD 150,000; personnel cost: TWD 133,000
- \*4 Tuition TWD 350 for each participant \* 1,237 students = TWD 432,950
- \*5 Subscribed 156 magazines/month \* TWD300 \* 12 months = TWD 561,600
- \*6 49 visits \* TWD 10,000 visiting fee = TWD 490,000

\*7 Event/decoration, catering, equipment, transportation cost is equivalent to TWD 500,000

## Social Involvement Effectiveness

Marketing Performance			
Indicator	Data	Amount (TWD)	
Media Exposure	Media Reports: 111/Facebook Page Likes 668,386	11,100,000 (*8)	
Number of Sponsored tickets	625 tickets	3,216,797	
Number of Certificate of Appreciation Received	475 certifications	NIL	
Discount tickets for Sponsorship	TWD 15,125,960	15,125,960 (*9)	

Calculation of the Social Involvement Effectiveness:

\*8 Media exposure is equivalent to TWD 100,000 for each ad slot \* 111 media report = TWD 11,100,000

\*9 Total ticket revenue TWD 19,235,394 - Discount amount for sponsorship 4,109,434 = actual ticket revenue TWD 15,125,960



## Foundations for Sustainability Development

**3-1** Sustainability Governance

**3-2** Corporate Governance

BEAT MOST BE IN MILLION / MICHES OF TRANSC. SEAT MUST BE IN FORWARD 7 INCHES OF TRAVEL DURING TAKEOFF AND LANDING

F.

# **3-1** Sustainability Governance





Included in the Dow Jones Sustainability (DJSI) Emerging Markets Index



Ranked among top 20 of the best TWSE/TPEx listed companies in the Third Corporate Governance Evaluation



Recognized as "Bronze Class and Industry Mover" in the airline industry by RobecoSAM's Sustainability Yearbook



Included in the TWSE Corporate Governance 100 Index



Formulated the Corporate Social Responsibility and Sustainable Development Best Practice Principles



#### **3-1-1 Commitment to Sustainability**

Enforcing sustainable development is an important corporate commitment to all stakeholders as well as the corporation. China Airlines is committed to creating value for our stakeholders. Only by taking care of employees, serving customers well, meeting shareholders' requirements, supporting partners, protecting the environment, and giving back to the community" can the Company grow in a sustainable way around these changing circumstance.

CAL is committed to fulfilling our corporate sustainability responsibility and determined to stay up-to-date with the latest trends in international sustainable development while operating the business. By taking on the responsibilities as a corporate citizen, CAL aims to strengthen the country's economic development, improve the quality of life for stakeholders such as employees, communities, and the society as a whole, preserve the sustainable use of resources and energy, and establish sustainable competitiveness based on corporate responsibility.

While fulfilling our corporate social responsibility and pursuing sustainable operations and revenue growth, we must also strive to safeguard the interests of stakeholders and to incorporate environmental, social and governance (ESG) into the Company's business operation and decision-making process for striking a balance between sustainability and profitability.

The Company is committed to the practice of corporate social responsibility in accordance with the following principles, and we aim to promote sustainable supply chain management and facilitate stakeholder communication:

- Exercise corporate governance; The directors of the Company are devoted to exercising the due care of good administrators to urge the Company to perform its corporate social responsibility initiatives, achieve sustainable development, review the results of the implementation thereof from time to time and continually make adjustments, so as to ensure thorough implementation of its corporate social responsibility and sustainable development policies.
- 2. Foster a sustainable environment; The Company follows relevant environmental laws, regulations and relevant international standards to properly protect the natural environment and eco-diversity, and shall endeavor to promote a sustainable environment when engaging in business operations and internal management
- 3. Preserve public welfare; The Company complies with relevant labor laws and regulations,

and the International Bill of Human Rights, with respect to rights, such as gender equality, the right to work, prohibition of discrimination, etc.

4. Enhance disclosure of corporate social responsibility and sustainable development informmation; The Company discloses information according to relevant laws and regulations and the Corporate Governance Best Practice Principles for TWSE/GTSM listed Companies and fully discloses relevant and reliable information relating to its corporate social responsibility and sustainable development initiatives to improve information transparency.

Note: Visit 1-2-2 of CAL 2016 CR report for more information regarding how we support UN Sustainable Development Goals (SDGs) through sustainability strategy

### **3-1-2 Corporate Sustainability Management**

#### **Organizational structure**

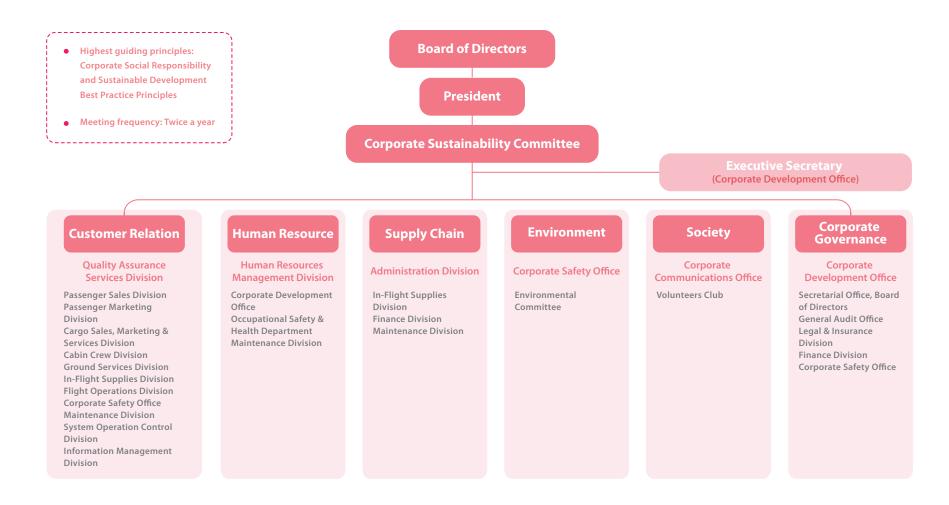
Enforcing sustainable development is an important corporate commitment to all stakehold-CAL is fully aware that numerous sustainability risks are faced by the aviation industry. In 2014, we established the Corporate Sustainability Committee, the highest-level of sustainable governance body chaired by the President. The Committee is charged with developing and planning sustainable development strategies for the entire organization, and reports the latest progress and plans pertaining to sustainable governance to the Board of Directors on a regular basis, who is then responsible for ruling on issues relevant to sustainability risks as well as opportunities. In 2016, the Board approved the "<u>Corporate Social Responsibility and Sustainable Development Best Practice Principles</u>", which provides the highest guiding principles for the Company's sustainable development and applies to the Company's entire business activities, mainly including daily operations, risk management, corporate merger and corporate split, etc.

China Airlines Co., Ltd.

Corporate Social Responsibility and Sustainable Development Best Practice Principles

The Committee has established seven teams based on the key sustainability aspects in the aviation industry; these teams are responsible for carrying out the Company's sustainable development affairs. However, the sustainability issues should align with the Company's development strategies. Thus, in 2016, during the Corporate Sustainability Committee Meeting, the Chairperson ordered the duty of Executive Secretary of the Committee to be transferred to the Corporate Development Office from Corporate Safety Office. In addition,

existing teams were reorganized into the following six task forces based on their business structures and sustainability strategies, which are Customer Relation, Human Resource, Supply Chain, Environment, Society, and Corporate Governance. All senior vice president were appointed to supervise these task forces, each of which is headed by a vice president. The formation of these task forces aims to further reinforce the ties and relevance between sustainable development and business governance.



#### **Initiatives and Memberships**

As 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, SkyTeam Statement of Commitment to Safety, Security and Quality, and Global Tourism Code of Ethics. In addition, CAL also provides support and assistance to the industry and to the country's sustainable development by participating in various initiatives and organizations. In particular, during the first CSR Task-force Meeting organized by the International Air Transport Association (IATA) in December 2016, we participated in the meeting by serving as a member of the IATA Environmental Committee. It is hoped that guidance for sustainability practices specific to the aviation industry can be developed by IATA through interactions and exchanges among various airlines in order for industries to achieve sustainable development.



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#### C Initiatives

Initiative	Roles and participation
Earth Hour	CAL has participated and supported the event since 2008. Apart from providing support through concrete actions such as turning off the light in CAL Park, Taiwan Branch Office and Songshan Park, we have also urged the general public to aware the impacts of global warming and climate change through media outlets.
Pacific Greenhouse Gases Measurement Program (PGGM)	Since 2012, CAL has participated in the PGGM by installing the In-service Aircraft for a Global Observing System (IAGOS) in the aircraft cabins to collect trans-Pacif- ic high-altitude gas data for global warming and climate studies conducted by science agencies around the world.
CDP	Beginning in 2012, CAL accepted CDP's invitation to disclose its carbon risk management strategies, data on greenhouse gas emissions, reduction management, and relevant results.
DJSI	Starting from 2015, CAL also took the initiative to respond to the Dow Jones Sustainability Index (DJSI) question- naire, disclosing its management objectives as well as strategies and practices covering the economy (including governance), environment, and society.

#### Memberships

- International Civil Aviation Organization (ICAO) - IATA delegation
- International Air Transport Association (IATA) - Environment Committee (ENCOM), CSR Taskforce, CORSIA, Air Cargo Carbon Footprint working group
- Association of Asia Pacific Airlines (AAPA) Executive Committee

**Overseas** 

 Flying Safety Foundation-Taiwan (FSF) -Convener of Technical Regulations Team

Association of Atmosphere Protection in Taiwan (AAPT) - Director

- Taipei Airlines Association -Representative Director
- Center for Corporate Sustainability -Director



Domestic

# **3-2** Corporate Governance

## **3-2-1 Governance Framework**

#### **Board of Directors**

The Board of Directors is the highest governing body at China Airlines; it is responsible for developing and promoting major decisions and plans for the Company as well as its affiliated businesses. CAL's Board of Directors is nominated from shareholders who hold more than 1% of CAL's stock and members of the Board. Shareholders elect 13 directors (including 3 independent directors) in accordance with the provisions of the "Procedures Governing the Election of Directors". Two members of the board are aged between 30 and 50, while the rest are all over 50. The roles of the CEO and the chairman in CAL is split, which shows the impartiality of corporate governance. As directors are nominated from shareholders who own more than 1% of CAL' s stock, no additional conditions may be included in the process apart from those according to Article 192-1 of the Company Act. The election of female directors is currently under review by the Board as a next step for CAL in becoming a global benchmark company. Shareholders with at least 5% of the Company's shares as of the end of 2016 are listed below:

Major shareholders	Contributions to Taiwan	Percentage of shares held	
China Aviation Development Foundation(Taiwan)	Committed to the development of vocational training in Taiwan's aviation industry	43.63	
National Development Fund, Executive Yuan(Taiwan)	Strengthen Taiwan's industrial development		

CAL convenes the meeting at least once per quarter according to Rules of Procedure for Board of Directors Meeting. Moreover, Directors are required to participate in relevant 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 " in order to keep abreast of the latest information and trends pertaining to corporate governance.

Note: Please refer to the 2016 China Airlines Annual Financial Report for the professional experience and other relevant information regarding Board members. The age of each member is as of December 31, 2016.

#### **Functional Committees of the Board**

The Board has established three functional committees: the Remuneration Committee, the Audit Committee, and the Risk Management Committee; these committees convene meetings, exercise their authority conferred by the Board, as well as review and discuss relevant issues in accordance with organizational regulations established by the Board. Corresponding conclusions and recommendations are then submitted to the Board for final resolutions for strengthening the effectiveness of corporate governance and making the function of the board of Directors more complete.



In order to enforce the corporate sustainability, General Audit Office implements regular and irregular internal audit and project audit according to the yearly audit plan approved by the board of Directors to ensure the sustained operating effectiveness of the internal control systems. The inspection results should be immediately corrected, or the departments under inspection complete the correction before the due day. General Audit Office confirms the completion of correction from the departments to close the case. CAL conducts annual self-assessment of the design and operating effectiveness of its internal control systems, and announces and reports the Internal Control System Statement on the websites designated by the FSC within 3 months from the end of each fiscal year in the prescribed format.

Except for the internal control system, the General Audit Office was established with a whistle-blowing mechanism to report fraudulent activities and unethical conducts. If a company employee or an external partner such as a supplier discovers that an employee of China Airlines is misusing his/her position to receive bribes, violate work responsibilities, or obtaining unlawful gains and profits which causes CAL to sustain property or reputation damage, they are encouraged to report it through the managerial system or the independent mailbox auditor@china-airlines.com.

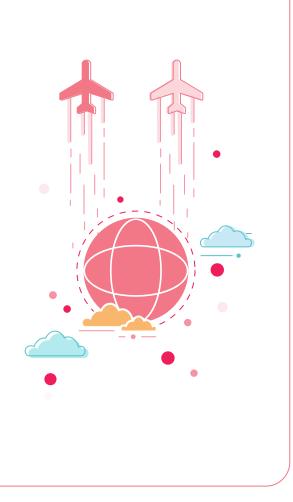




To maximize the synergy within the China Airlines Group and to utilize resources in a more reasonable manner, China Airlines acquired the 10% stake held by Tiger Airways Singapore Pte Ltd. in late 2016, which is intended to enhance the efficiency of corporate governance for both China Airlines and Tigerair Taiwan.

In view of the fact that Tigerair Taiwan has now established a stable brand, Tigerair Taiwan will continue to use the Tigerair brand in the future. Through employing a hybrid approach, Tigerair Taiwan will maintain its low-cost operation model to provide consumers in Taiwan an affordable choice in air travel. What has changed are the increase in passenger volume and aircraft utilization rates. To respond to the market characteristics in Taiwan, Tigerair Taiwan is increasing the proportion of sales by travel agencies to increase passenger volume on all flights. At the same time, Tigerair Taiwan will also take advantage of any surplus capacity to expand its charter business, which will improve aircraft utilization rate and reduce operation costs.

Going forward, China Airlines will map out future directions of development for both China Airlines and Tigerair Taiwan from the Group's perspective as a whole. In terms of planning, Tigerair Taiwan will continue to operate under a low-cost model and focus its operations in markets which are best suited for this model. Tigerair Taiwan will also collaborate with China Airlines with respect to marketing operations via resource sharing to rapidly improve its sales capacity and boost its passenger volume as well as overall revenue. Through these measures, we hope that China Airlines and Tigerair Taiwan will become the leaders of traditional and low-cost aviation markets, respectively.the chairman in CAL is split, which shows the impartiality of corporate governance. As directors are nominated from shareholders who own more than 1% of CAL's stock, no additional conditions may be included in the process apart from those according to Article 192-1 of the Company Act. The election of female directors is currently under review by the Board as a next step for CAL in becoming a global benchmark company. Shareholders with at least 5% of the Company's shares as of the end of 2016 are listed below:



### **3-2-2 Regulatory Compliance**

#### Internal Regulations and Code of Conduct

In order to establish a comprehensive corporate governance system and to 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 relevant laws and regulations, and it is also committed to the following six major principles: protecting shareholders' rights and interests; strengthening the function, meeting regulations, and decision-making procedures of the Board of Directors (including conflict of interest prevention), respecting stakeholders' interests, and enhancing information transparency. To ensure that all employees comply with relevant laws and regulations, CAL has revised and amended the Employee Code of Conduct's content in 2016 as the guiding principle in professional conduct. Emphasis on treating each employee fairly and with respect has been added, as well as requiring employees to refrain from infringing on others' rights or becoming accomplices to such acts. The Code has also incorporated provisions on "conflict of interest and recusal, anti-trust and fair competition, anti-corruption guidelines for socializing and gifts, protection of the Company's assets and intellectual property" into the employee professional conduct guidelines; regular trainings are provided to relevant personnel. Suppliers are also required to sign and enforce the Supplier Code of Conduct adopted by the Company.

#### **<u>List of Regulation Documents</u>**

- CAL Corporate Governance Principles
- Ethical Corporate Management Best Practice Principles
- Procedures for Ethical Management and Guidelines for Conduct
- China Airlines Ltd. Procedure for Handling Material Inside Information
- Board Directors' Code of Ethical Conduct
- Executives Code of Ethical Conduct
- Employee Code of Conduct
- Supplier Code of Conduct



#### Confidential Management of Personal Information

To strengthen the protection of customer data and to comply with the Regulations Governing Personal Information File Security Maintenance Plan and Processing Method for the Civil Air Transport Enterprise in Civil Aviation Transport (Personal Data Protection Plan), 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 personal data inventory and risk assessment for each tier-1 department; all assessments were completed successfully as of year-end 2016. The "Information Security Policy " have also been formulated for collection of customer Information, use of customer information, sending of Emails, customer self-protection to ensure the right of customer. In addition, a set of SOP for personal data safety management within CAL has been established to make sure that the collection, processing, and use of personal data are consistent with the Personal Data Protection Act. No instances of litigation regarding improper information disclosure occurred in 2016.

Major litigation Cases and Controversies

FEB.

	2017
Cause Background	Controversy surrounding the " Mikado Pheasant Liveried" font copyright violation.
	Liveried" font copyright violation.
Disputed Incident	CAL commissioned Leo Burnett Taiwan, an
	advertising agency, to design the exterior of our
	aircraft, and it was confirmed that Leo Burnett
	has acquired the permanent authorization from
	Arphic Technology Co., Ltd. to use the specific
	typeface in question (product license number:
	AOTF-94FE29DA179E). However, Arphic Tech-
	nology Co. accused CAL on its Facebook page of
	using the typeface design without legal authori-
	zation without communicating with CAL.
Current Status	Arphic Technology Co. issued a formal apology
	to CAL on a local newspaper on February 14,
	2017, stating that it acted inappropriately and
	prematurely in accusing CAL of copyright viola-
	tions before receiving an official response from
	the airline.
	AOTE-94FE29DA179E

#### Cause Background

#### Class action suit in US passenger antitrust law.

**Disputed Inciden** 

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

DEC.

INCIDENT

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Current Status

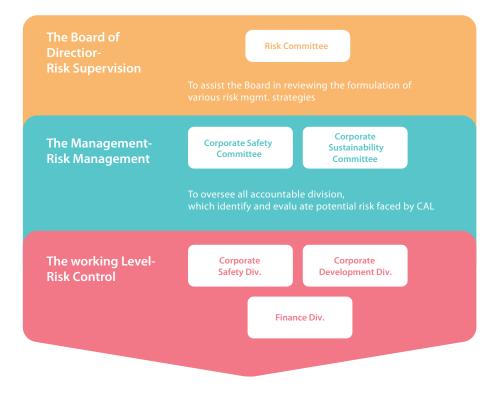
CAL has joined a group of other co-defendants composed of airlines and appointed US attorney to respond accordingly.

## 3-2-3 Risk Management

#### **Organization and Structure**

CAL performance is substantially affected by both internal and external environments. CAL understands the importance of risk management and is aware of potential cross-effects and interactions 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. The "Corporate Safety Committee" and the "Corporate Sustainability Committee" have been established under the President to oversee all accountable divisions, which identify and evaluate potential risks faced by CAL and propose suitable response measures; subsequent results are forwarded to relevant committees and meetings

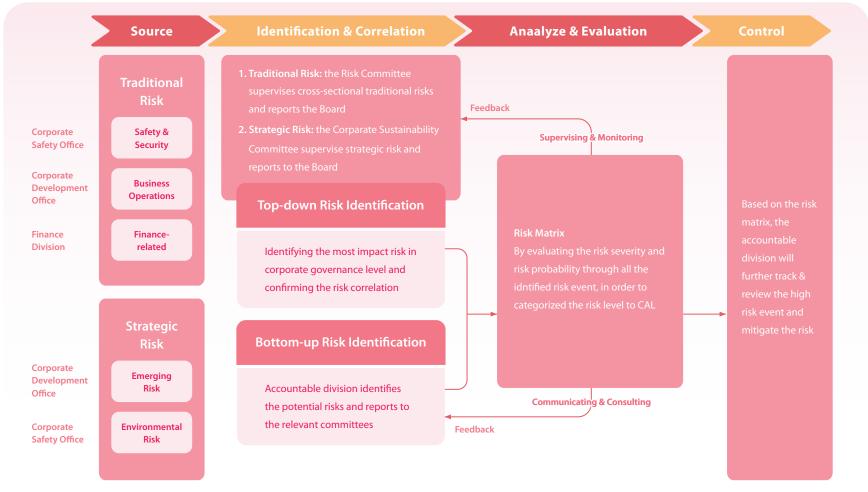




Risk Governance and Structure of CAL

#### **Enterprise Risk Management Model and Procedure**

CAL risk management structure complies with the Enterprise Risk Management (ERM) framework. A multi-level organizational approach is adopted to manage and control CAL overall risks. The structure emphasizes on the interaction and cross-effects among different risks in order to reduce the overall impact. The model identifies traditional risk and medium/long-term strategic risk. The model analyzes and evaluates the risk impacts that based on the ERM procedure including event identification, risk analysis, risk evaluation, and risk control. Suitable response measures are formulated and proposed, which are then implemented, tracked, and reviewed through mechanisms provided by the Risk Committee and the Corporate Sustainability Committee.



#### **Traditional Risk**

Taking into account the environment and day-to-day operation characteristics of the airline industry, focus is placed on three major aspects of risk and security management: safety, business operations, as well as finance. The risk management of these three aspects is summarized below:

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



Business Operations Risk Management The airline industry is constantly faced with a capricious and volatile business environment. Apart from major political and economic turmoil, unexpected incidents internal and external to our organization can also have a considerable impact on CAL business operations. Corporate Development Office conducts analysis on events which have the potential to have a significant impact on CAL operations, such as local/international political and economic events, incidents involving the airline industry, as well as CAL internal incidents. Results of the analysis are then used to develop specific response plans to reduce the extent of negative impact with respect to the "Direction of Strategic Implementation" and "the Annual Business Plan".



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



#### Medium and Long-term Strategic Risk – Emerging/Environmental Risks

In addition to the routine Enterprise Risk Management with respect to safety and security, business operations, Finance-related risks, CAL also faces with the unpredictable international economic and political scenarios as well as internal events. Therefore, CAL identifies and controls emerging risks that are medium-to-long term in nature through a risk evaluation model. Recent emerging risks are outlined as follows:



An Intensified Competition in the Asia-Pacific Airline Market With the implementation of the Open-Skies air service agreements, the overall capacity of the airline market has increased 7.0% annually over the past four years. While existing airlines continue to expand their networks, low-cost carriers (LCCs) are also rising rapidly (LCC capacity has increased 8.3% annually over the past four years). LCCs have expanded heavily in Northeast Asia region. The market share of 26 LCCs in Taiwan reached 13% in 2016. Over the next three years, it is expected that the market share of LCCs will grow by 1 to 2 percentage points each year. Although LCC stimulates the potential air travel demand, it erodes the market share of Full-service carriers and also induces the overcapacity. This trend impacts the market yield and overall profitability of airline industry. To overcome this trend, CAL established Tigerair Taiwan to regain the market share. CAL also established the "LCC Strategic Planning Project Section" under the Passenger Sales Division. The function of this project section is to monitor the LCC development trend in Taiwan and form relevant marketing tactics to respond.



Insufficient Airport Capacity Infrastructure is one of the most important elements to the airline industry. If the speed of airport infrastructure expansions is unable to keep pace with the industry growth, it will severely limited the development of airline industry. According to IATA publication, over 170 airports in the world are categorized as "Level 3 airports" where capacity providers have not developed sufficient infrastructure. CAL home base, Taiwan Taoyuan International Airport (TPE) is also listed in this category; there is no short-term solution to this issues, which will halt on our long term plan on the fleet and network expansion. In addition to urge the Taiwanese Government to increase the airport capacity by the means of optimizing current air traffic procedures and infrastructures; prioritize the airport time slot allocation to Taiwanese carriers. CAL also endeavors TPE Terminal 3 under construction to become the exclusive terminal for CAL and Skyteam members in order to alleviate our growth stress.



**Global Protectionism** 

Since the end of the World War II in 1945, in order to establish a post-war new order, Western nations has promoted more liberalized, privatized and market-oriented in international trade, finance and airline market through the neoliberal concept under the leadership of the United State. However, since the 2008 global financial crisis, the effects of neoliberalism on economic development have been widely criticized. Many countries have begun to reconsider trade protection and barriers, repatriation of manufacturing, and other types of intervention methods to safeguard their industrial development; thus protectionism is once again on the rise. Unfortunately, this trend may lead to a sharp decline in international trading, cross-border business activities, and tourism. Current progress on the liberalization of international trade and airline industry will also be negatively affected; this represents a potentially serious concern for the airline industry in both passenger and cargo transportation. CAL constantly pays attention to the development of global protectionism and monitors the international political and economic situations; in order to adjust our capacity deployment to match the market demand. CAL is also in coordination with the "New Southbound Policy" formed by Taiwanese Government, deploys capacity to Southeast Asia, South Asia and Oceania in order to diversify our market presents.

Climate Changes and Environmental Management ICAO decided to implement a global market-based measure (GMBM) in the form of the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) to address zero carbon growth by 2020 from international civil aviation in 39th ICAO Assembly in 2016. ICAO also decided to enforce other environmental materiality issues, in order to achieve the Sustainable Development Goals (SDGs) from the UN.CAL has taken the initiative to participate in international exchanges and business forums with CORSIA to understand the progress in establishing international standards, and has established an internal carbon management risk identification and response measure. In addition, extra efforts were made to monitor and control noise levels, water availability & quality, and other environment-related issues. Relevant reports are submitted to the government as references for policy making to assist Taiwan airline industry comply with international standards in sustainable development.

### 3-2-4 2016 Results

#### Selected as A Constituent Stock in the Dow Jones Sustainability Emerging Market Index

In 2016, China Airlines participated in the Dow Jones Sustainability Indices (DJSI) selection process, co-organized by S&P Dow Jones Indices and RobecoSAM, an international investment company focused on sustainability and headquartered in Switzerland. As a result of the Company's outstanding sustainability performance, China Airlines was selected as a constituent stock in the DJSI Emerging Markets category, becoming Taiwan's first and only airline in an emerging market to receive such honor. China Airlines also received a "Bronze Class" rating and the "Industry Mover" Award.

These honors indicate that the Company's efforts in the area of sustainability development and governance have earned international recognition. We now feel even more confident that corporate sustainability and governance is the right path.

#### **Received an Excellent Ranking in the Corporate Governance Review**

In order implement ethical management practices, the Company has commissioned external assessment organizations to evaluate and perform self-diagnosis of its business operations. In 2016, China Airlines received the honor of being selected as one of the top 20 of the excellent corporation award in the Third Corporate Governance Review. The Company was also listed in the Corporate Governance Taiwan 99 Index; these affirmations give China Airlines the added confidence in pursuing a path of sustainable development going forward, as well as to maximize the interests for all stakeholders.

#### Golden Eagle Micro-movie Awards - I Love to Fix Aircraft

For its first-time participation, China Airlines received three awards for the microfilm titled "I Love to Fix Aircraft II" at the "2017 Taipei Golden Eagle Micro-movie Festival" jointly organized by the Taiwan Academy of Corporate Sustainability, Taiwan Institute for Sustainable Energy (TAISE), and the Center for Corporate Sustainability; the awards were: Excellent Creativity Award, Sustainability Innovation Award, and Corporate Governance Excellence Award. The short movie was filmed from the point of view of the Company's maintenance crew; it offers an overview of the aircraft maintenance and repair process in an easy to understand approach. Innovative filming techniques were used to promote corporate sustainable development, which were well received by the panel as well as the general public.

## Appendix

Disclosure of Management Approach on Material Aspects for CAL GRI G4 Index Independent Assurance Reports

## **Solution** Disclosure of Management Approach on Material Aspects for CAL

Material aspect	Impact on CAL Sustainable Development	Management responsibility	Management Review
Economic Performance	Potential impact on shareholders, employees and other stakeholders.	Top governance unit and management team	Internal/external reviews of the annual financial statements.
Market Presence	Affects all CAL sites. Employment of local executives as well as protecting the compensation and rights of local employees.	Human Resources Division	Management of employee productivity increases.
Procurement Practices	Potential impact on suppliers and the local community.	CAL Sustainability Committee, and procurement unit	The Sustainability Committee is convened for twice a year.
Energy	Impact on operating costs from rising oil prices.	Carbon Management Task Force	Regular monitoring through the ISO 50001 energy management system.
Water	Impact on employees and the operation such as in-flight service, and flight maintenance.	Environmental Committee	Review by the meeting quarterly.
Emission	Impact on business reputation from global concern over climate change issues.	Carbon Management Task Force	Regular inventory with ISO 14064.
Effluents and Waste	Impact on business reputation from public concern over environmental pollution.	Environment Committee, and Corporate Safety Office	Regular monitoring through the ISO 14001 environment management system.
Compliancev	The impact of violations on public opinion.	Legal & Insurance Division, Corporate Safety Office, and Tier-1 units	Through the ISO 4001 internal/external audit system.
Employment	Hire talented people to improve quality of service.	Human Resources Division	Conduct work assessment (every 6 months) and performance evaluation (yearly) for all employees.
Labor/Management	Personnel turnover impacts on quality of service. Improper management gives a bad impression and creates compliance risks.	Human Resources Division and Union	Labor/management meeting is held monthly. Each chapter's labor/management meeting is also held by chapter-self.
Occupational Health and Safety	Leads to loss of personnel and higher personnel costs that trigger labor inspections by the competent authorities.	Human Resources Division	The OSH Committee meets once every 3 months.

Material aspect	Impact on CAL Sustainable Development	Management responsibility	Management Review
Training and Education	Improve employee quality of service and professional skills.	Human Resources Division and Tier-1 units	Regular inspection of competency completion rate and training pass rate.
Diversity and Equal Opportunity	Protect disadvantaged groups and create equal opportunities for employment.	Human Resources Division	Organize recruitment drives according to business needs.
Equal Remuneration for Women and Men	Pursuit of gender equality helps with workplace harmony.	Human Resources Division	When the local minimum wage is adjusted, review all corresponding wage standards as well.
Non-discrimination/ Investment	Discrimination impacts on workplace atmosphere. The processing of grievances takes manpower.	Human Resources Division	Conduct regular "CAL Lifestyle Protocol" (including Employee Code of Conduct) online testing.
Freedom of Association and Collective Bargain- ing	Protect labor rights and maintain good communica- tions between employer and employee to avoid operational issues from misunderstandings.	Human Resources Division	Convene labor/management meetings with the union every month and sign collective bargaining agreements at regular times.
Child Labor	Injury or harm of child laborers from demanding or hazardous tasks leads to a public backlash that impacts directly on the company's reputation.	Human Resources Division	Inspect resumes of new recruits.
Forced or Compulsory Labor	Reduces employee loyalty, leading to low operational efficiency.	Human Resources Division	Regular inspection of time sheets to identify high-risk personnel.
Human Rights Assessment	Impact on investment and overall operations.	Human Resources Division	The implementation of human right risk identification of assessment is under evaluation.
Anti-Corruption	Impact on corporate governance, honest management and potential stakeholders.	General Audit Office, Human Resources Division, and Finance Division	Internal management is by the respective units and general audit office conducted the policy of blow the whistle and auditing.

Material aspect	Impact on CAL Sustainable Development	Management responsibility	Management Review
Public Policy	May have an impact on company operations, financial performance and related stakeholders.	Public Relations Office and Tier-1 units	CAL disclosure the political contributions in the CSR Report and does not make political contributions.
Anti-Competitive Behavior	May have a serious impact on company operations and financial performance.	Monitored by Tier-1 business units, and Legal & Insurance Division	Departments in charge review and report to the board of directors periodically.
Compliance	Compliance may have an impact on CAL's overall operations, corporate image and freedoms of the air.	Tier-1 units responsible for their respective compliance areas, and Legal & Insurance Division	Important litigation as well as major penalties and amounts are disclosed in the annual report.
Products and Service Labeling	CAL is mainly a provider of air transportation services so it may have an impact on passengers, cargo and aircraft maintenance.	Service Quality Assurance Department, Passenger Sales and Cargo Sales business units	The Service Quality Assurance Department convenes the "Quality Target Meeting" each year to review every item, results and improvement actions.
Customer Privacy	Violation of customer privacy may lead to customer dissatisfaction and impact on operations.	Legal & Insurance Division, and all business units	Customer privacy cases are logged through CSS. Reporting statistics are tracked to serve as an internal control.
Compliance	Compliance may have an impact on CAL's overall operations, corporate image and freedoms of the air.	Tier-1 units responsible for their respective compliance areas, and Legal & Insurance Division provides related consultation services	The Legal & Insurance Division submits the statistics of related cases to the General Audit Office for review.
Supplier Assessment for Impacts on Society/ Enviroment/Labor/ Human Rights	The impact on society/environment/labor/human rights from suppliers may directly affect the service equality offered by China Airlines.	Procurement Unit	Review and evaluate by annual risk assessment on supply chain sustainability.

Material aspect	Impact on CAL Sustainable Development	Management responsibility	Management Review
Labor Practices Grievance Mechanisms	Employee dissatisfaction with the company's systems or handling impacts on their loyalty.	Procurement Unit Human Resources Division	Under the "Employee Grievance Mechanisms", an employee can appeal administrative penalties that infringe on their personal rights by writing to wecare@china-airlines.com. This will be investigated/processed/responded to by dedicated personnel. All information will be kept confidential with retribution forbidden.
Environmental Grievance Mechanism	Identify and correct environmental issues in a timely manner to prevent situations from worsening or continuing to impact on the corporate image.	Corporate Safety Office and Environment Committee	Review the internal/external communications management procedure and system every year.
Other – Flight Safety	Flight safety is the core and the basic principle of airline operation.	Corporate Development Office, Flight Operations Division, System Operation Control Division, Maintenance Division, and Information Management Division	Every department takes its role to maintain the quality of flight safety through phasing out the aircraft, pilot training, natural disaster forecast, maintenance operation, and back-end system.
Other-Risk Management	Control, identify and manage the risk for the basis of operation.	Risk Committee	Risk Committee and Corporate Sustainability Committee assist the board of directors to annually review the formulation of the risk strategies and the implementation results and response measures.
Other-Brand Image	Formulate the brand strategy and promote the feeling of customer on the brand value through external communication.	Corporate Development Office	Implement the annual review of corporate identity to make sure the consistence on the external presence of corporate identity.



Strategy and Analysis				
Indicator Description Corresponding Section				
G4-1	A statement from the most senior decision-maker of the organization about the relevance of sustainability to the organization and the organization's strategy for addressing sustainability	About This Report	2	
G4-2	A description of key impacts, risks, and opportunities	3-2-3 Risk Management	126	

	Organizational Profile				
	Indicator Description	Corresponding Section	Page		
G4-3	The name of the organization	About This Report	2		
G4-4	The primary brands, products, and services	About This Report	2		
G4-5	The location of the organization's headquarters	About This Report	2		
G4-6	The number of countries, and names of countries where the organization operates	About This Report	2		
G4-7	The nature of ownership and legal form	3-2-1 Governance Framework	121		
G4-8	The markets served	About This Report	2		
G4-9	The scale of the organization	About This Report	2		
G4-10	Total number of employees	About This Report	2		
G4-11	The percentage of total employees covered by collective bargaining agreements	2-3-4 Employee Rights	66		
G4-12	The organization's supply chain	2-4-1 CAL Value Chain	78		
G4-13	Any significant changes during the reporting period regarding the organization's size, structure, ownership, or its supply chain	3-1-2 Corporate Sustainability Management	121		
G4-14	Whether and how the precautionary approach or principle is addressed by the organization	3-2-3 Risk Management	126		
G4-15	Externally developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes or which it endorses	3-1-2 Corporate Sustainability Management	118		
G4-16	Memberships of associations and national or international advocacy organizations	3-1-2 Corporate Sustainability Management	118		

	Identified Material Aspects and Boundaries				
	Indicator Description	Corresponding Section	Page		
G4-17	<ul> <li>a. All entities included in the organization's consolidated financial statements or equivalent documents</li> <li>b. Whether any entity included in the organization's consolidated financial statements or equivalent documents is not covered by the report</li> </ul>	2-1-2 Materiality Analysis	29		
G4-18	a. The process for defining the report content and the Aspect Boundaries. b. How the organization has implemented the Reporting Principles for Defining Report Content	2-1-2 Materiality Analysis	29		
G4-19	All the material Aspects identified in the process for defining report content	2-1-2 Materiality Analysis	29		
G4-20	For each material Aspect, report the Aspect Boundary within the organization	2-1-2 Materiality Analysis	29		
G4-21	For each material Aspect, report the Aspect Boundary outside the organization	2-1-2 Materiality Analysis	29		
G4-22	The effect of any restatements of information provided in previous reports, and the reasons for such restatements	No restatement			
G4-23	Significant changes from previous reporting periods in the Scope and Aspect Boundaries	No change			

Stakeholder Engagement				
	Indicator Description			
G4-24	List of stakeholder groups engaged by the organization	2-1-1 Engagement of Stakeholders	28	
G4-25	The basis for identification and selection of stakeholders with whom to engage	2-1-1 Engagement of Stakeholders	28	
G4-26	The organization's approach to stakeholder engagement and frequency of engagement	2-1-1 Engagement of Stakeholders	28	
G4-27	Key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns	2-1-1 Engagement of Stakeholders	28	

	Report Profile			
	Indicator Description	Corresponding Section	Page	
G4-28	Reporting period for information provided	About This Report	2	
G4-29	Date of most recent previous report	About This Report	2	
G4-30	Reporting cycle	About This Report	2	
G4-31	The contact point for questions regarding the report	About This Report	2	
G4-33	a. The organization's policy and current practice with regard to seeking external assurance for the report b.If not included in the assurance report accompanying the sustainability report, report the scope and basis of any external assurance provided c. The relationship between the organization and the assurance providers d. Whether the highest governance body or senior executives are involved in seeking assurance for the organization's sustainability report	About This Report	2	

Governance				
Indicator Description Corresponding Section			Page	
G4-34	The governance structure of the organization, including committees of the highest governance body	3-2-1 Governance Framework	121	

Ethics and Integrity				
	Indicator Description Corresponding Section P			
G4-56         The organization's values, principles, standards and norms of behavior         3-2-1 Governance Framework		124		

	Economic				
Aspect		Indicator Description	Corresponding Section	Page	
	G4-EC1	Direct economic value generated and distributed	1-1-1 Environment for Corporate Operating 2-6-3 Creating a Sustainable Society	10 112	
Economic Performance	G4-EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change	2-5-1 Governance of Environmental Sustainability and Climate Change	87	
	G4-EC3	Coverage of the organization's defined benefit plan obligations	2-3-4 Employee Rights	66	
	G4-EC4	Financial assistance received from government	No major financial assistance		
Market Presence	G4-EC6	Proportion of senior management hired from the local community at significant locations of operation	2-3-2 Recruitment and Retention	54	
Procurement Practices	G4-EC9	Proportion of spending on local suppliers at significant locations of operation	2-4-2 Sustainable Supply Chain Management	79	

	Environmental				
Aspect		Indicator Description	Corresponding Section	Page	
	G4-EN3	Energy consumption within the organization	2-5-2 Environmental Sustainability Actions	92	
	G4-EN4	Energy consumption outside of the organization	2-5-2 Environmental Sustainability Actions	92	
Energy	G4-EN5	Energy intensity	2-5-2 Environmental Sustainability Actions	92	
	G4-EN6	Reduction of energy consumption	2-5-2 Environmental Sustainability Actions	92	
	G4-EN7	Reductions in energy requirements of products and services	2-5-3 Green Services and Operation	102	
	G4-EN8	Total water withdrawal by source	2-5-2 Environmental Sustainability Actions	92	
Water	G4-EN9	Water sources significantly affected by withdrawal of water	2-5-2 Environmental Sustainability Actions	92	
	G4-EN15	Direct greenhouse gas (GHG) emissions (Scope 1)	2-5-2 Environmental Sustainability Actions	92	
Emission	G4-EN16	Energy indirect greenhouse gas (GHG) emissions (Scope 2)	2-5-2 Environmental Sustainability Actions	92	
	G4-EN17	Other indirect greenhouse gas (GHG) emissions (Scope 3)	2-5-2 Environmental Sustainability Actions	92	
	G4-EN18	Greenhouse gas (GHG) emissions intensity	2-5-2 Environmental Sustainability Actions	92	

	Environmental				
Aspect		Indicator Description	Corresponding Section	Page	
Emission	G4-EN19	Reduction of greenhouse gas (GHG) emissions	2-5-1 Governance of Environmental Sustainability and Climate Change	87	
	G4-EN21	NOX, SOX, and other significant air emissions	2-5-2 Environmental Sustainability Actions	92	
	G4-EN22	Total water discharge by quality and destination	2-5-2 Environmental Sustainability Actions	92	
Energy	G4-EN23	Total weight of waste by type and disposal method	2-5-2 Environmental Sustainability Actions	92	
	G4-EN24	Total number and volume of significant spills	No significant spills		
Products and Services	G4-EN27	Extent of impact mitigation of environmental impacts of products and services	2-5-3 Green Services and Operation	102	
Compliance	G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	There was no fine in 2016.		
Supplier Environmental Assessment	G4-EN33	Total environmental protection expenditures and investments by type	2-5-3 Green Services and Operation	78	
Environmental Grievance Mechanisms	G4-EN34	Percentage of new suppliers that were screened using environmental criteria	Inquire environmental issues through 「environment@china-airlines.com」		

Social-Labor Practices and Decent Work							
Aspect		Indicator Description Corresponding Section P					
Employment	G4-LA1	Total number and rates of new employee hires and employee turnover by age group, gender, and region	2-3-2 Recruitment and Retention	54			
	G4-LA2	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation	2-3-4 Employee Rights	66			
	G4-LA3	Return to work and retention rates after parental leave, by gender	2-3-4 Employee Rights	66			
Labor/ Management	G4-LA4	Minimum notice periods regarding operational changes, including whether these are specified in collective agreements	2-3-4 Employee Rights	66			

		Social-Labor Practices and Decent Work		
Aspect		Indicator Description	Corresponding Section	Page
Occupational	G4-LA5	Percentage of total workforce represented in formal joint management–worker health and safety committees that help monitor and advise on occupational health and safety programs	2-3-5 Healthy and Safe Workplace	72
Health and Safety	G4-LA6	Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work related fatalities, by region and by gender	2-3-5 Healthy and Safe Workplace	72
Occupational Health and Safety	G4-LA9	Average hours of training per year per employee by gender, and by employee category	2-3-3 Employee Development	62
Diversity and Equal Opportunity	G4-LA12	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity	2-3-2 Recruitment and Retention	54
Equal Remuneration for Women and Men	G4-LA13	Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation	2-3-4 Employee Rights	66
Supplier Assessment	G4-LA14	Percentage of new suppliers that were screened using labor practices criteria	2-4-2 Sustainable Supply Chain Management	79
for Labor Practices	G4-LA14	Percentage of new suppliers that were screened using labor practices criteria	2-4-2 Sustainable Supply Chain Management	79
Labor Practices Grievance Mechanisms	GA4-LA16	Number of grievances about labor practices filed, addressed, and resolved through formal grievance mechanisms	2-3-1 Promoting Human Rights	48

Social-Human Rights						
Aspect		Indicator Description Corresponding Section Page				
	G4-HR1	Total number and percentage of significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	Not disclosed			
Investment	G4-HR2	Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained	Not disclosed			

Social-Human Rights					
Aspect	Indicator Description		Corresponding Section	Page	
Non- discrimination	G4-HR3	Total number of incidents of discrimination and corrective actions taken	2-3-1 Promoting Human Rights	48	
Freedom of Association and Collective Bargaining	G4-HR4	Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and measures taken to support these rights	2-4-2 Sustainable Supply Chain Management	79	
Child Labor	G4-HR5	Operations and suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor	No such as things happened		
Forced or Compulsory Labor	G4-HR6	Operations and suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor	No such as things happened		
Assessment	G4-HR9	Total number and percentage of operations that have been subject to human rights reviews or impact assessments	0%		
Supplier	G4-HR10	Percentage of new suppliers that were screened using human rights criteria	2-4-2 Sustainable Supply Chain Management	79	
Human Rights Assessment	G4-HR11	Significant actual and potential negative human rights impacts in the supply chain and actions taken	2-4-2 Sustainable Supply Chain Management	79	

Social-Society						
Aspect	Indicator Description		Corresponding Section	Page		
Anti- corruption	G4-SO4	Communication and training on anti-corruption policies and procedures	Because the education training is implemented once every two years. The last training was held in 2015, so the next training will be held in 2017.			
	G4-SO5	Confirmed incidents of corruption and actions taken	No such as things happened			
Public Policy	G4-SO6	Total value of political contributions by country and recipient/beneficiary	No such as things happened			

Social-Society					
Aspect	Indicator Description		Corresponding Section	Page	
Anti-competi- tive Behavior	G4-SO7	Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes	3-2-2 Regulatory Compliance	124	
Compliance	G4-SO8	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations	3-2-2 Regulatory Compliance	124	
Grievance Mechanisms for Impacts on Society	G4-SO9	Percentage of new suppliers that were screened using criteria for impacts on society	2-4-2 Sustainable Supply Chain Management	79	
	G4-SO10	Significant actual and potential negative impacts on society in the supply chain and actions taken	2-4-2 Sustainable Supply Chain Management	79	

Social-Product Responsibility					
Aspect	Indicator Description		Corresponding Section	Page	
Product and Service Labeling	G4-PR3	Type of product and service information required by the organization's procedures for product and service information and labeling, and percentage of significant product and service categories subject to such information requirements	Enforced in accordance with CAA and IATA regulations. All checked luggage and cargo has significant information labeled based on their type and method of transportation.		
	G4-PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes	No such things happened		
	G4-PR5	Results of surveys measuring customer satisfaction	2-2-2 Customer Service	40	
Customer Privacy	G4-PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data	3-2-2 Regulatory Compliancea	124	
Compliance	G4-PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	No such things happened in 2016		

### <sup>™</sup> Independent Third-Party Assurance Reports

#### SGS ASSURANCE STATEMENT

#### SGS TAIWAN LTD.'S REPORT ON SUSTAINABILITY ACTIVITIES IN THE CHINA AIRLINES CO., LTD's CORPORATE SOCIAL RESPONSIBILITY REPORT FOR 2016

#### NATURE AND SCOPE OF THE ASSURANCE/VERIFICATION

SGS Taiwan Ltd. (hereinafter referred to as SGS) was commissioned by China Airlines Co., Ltd. (hereinafter referred to as CAL) to conduct an independent assurance of the Corporate Social Responsibility Report for 2016 (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 2016 and its presentation are the responsibility of the directors or governing body, CSR committee and the management of CAL. SGS has not been involved in the preparation of any of the material included in CAL's CSR Report of 2016.

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 (GRI) Sustainability Reporting Guidelines (2013) 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 subsidiaries, joint ventures, and 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):
- evaluation of the report against the Global Reporting Initiative Sustainability Reporting Guidelines (G4 2013).

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

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; guality, 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.

GPS008 Issue 5

#### 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 2016 verified is accurate, reliable and provides a fair and balanced representation of CAL sustainability activities in 01/01/2016 to 12/31/2016.

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 G4 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 good 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 GUIDELINES (G4 2013) CONCLUSIONS, FINDINGS AND RECOMMENDATIONS

#### Principles

The report, CAL's CSR Report of 2016, is adequately in line with the GRI G4 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, G4-17 to G4-27, are correctly located in content index and report. General Standard Disclosures

More disclosures on corporate governance GSDs are encouraged and the specific actions taken to achieve CSR goals and targets are recommended.

#### Specific Standard Disclosures

More Disclosures on Management Approach components for material aspects, such as specific actions and stakeholder feedback, may be further enhanced in the next report. Detailed disclosures on LA11, LA12, HR1 & HR2 are encouraged in future reports

Signed: For and on behalf of SGS Taiwan Ltd.



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2 May, 2017 WWW SGS COM

GP5008 Issue 5







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