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Preface

0-1 About the Report
0-2 Letter from Management
COVID-19 Special Column
China Airlines (hereinafter referred to as “CAL”) publishes corporate sustainability reports and discloses related information on its CSR website on a regular basis to maintain good and smooth communications with all stakeholders. The coronavirus (COVID-19) delivered a massive blow to the global airline industry in 2020. Following its commitment to corporate sustainability, CAL nevertheless continued to support sustainability oriented environmental, social, and economic / governance activities. While the ongoing pandemic keeps recovery in passenger transport slow, airlines are depending on cargo transport to shoulder operational burdens. Flying into a new era in cargo transport, CAL cargo aircrafts are carrying cargoes across its global network despite the pandemic.

About the Report

China Airlines (hereinafter referred to as “CAL”) publishes corporate sustainability reports and discloses related information on its CSR website on a regular basis to maintain good and smooth communications with all stakeholders. The coronavirus (COVID-19) delivered a massive blow to the global airline industry in 2020. Following its commitment to corporate sustainability, CAL nevertheless continued to support sustainability oriented environmental, social, and economic / governance activities. While the ongoing pandemic keeps recovery in passenger transport slow, airlines are depending on cargo transport to shoulder operational burdens. Flying into a new era in cargo transport, CAL cargo aircrafts are carrying cargoes across its global network despite the pandemic.

Cover Story

CAL has introduced the Boeing 777 Freighter since 2020 which is expected to be the new force of CAL’s cargo fleet. We used it as the main visual theme and high-altitude clouds as the background to recreate the well-known colors of the Company. We used image processing to create a sense of speed that signifies our passage over the woes of the pandemic in 2020 and embrace of opportunities for recovery in 2021.

In 2018, CAL introduced the sustainability logo that highlighted “Sustainability We Care”. We placed the slogan on the back cover this year as a strong signal that CAL tries to differentiate itself by sustainability to demonstrate the brand’s commitment to sustainability despite the pandemic. The overall visual style is a change from the illustration approach in the past. We reverted to using photographs throughout the report and adopted a realistic and refreshing style for the photographs so that the reader can view CAL’s performance in all areas as they read the information. The style also helps us project a professional image for air transportation.
Reporting Principles & Standard Disclosures

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

Report Period & Boundary

• Report Period
The Report discloses CAL's information from January 1, 2020 to December 31, 2020. Some material information up to April 30, 2021 is also reported.

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

Guarantee of Truthful Reporting

• Internal Audit
All data and information disclosed in the Report are provided by the responsible departments of CAL, proofread and examined by the Executive Secretary (Corporate Development Office), Corporate Sustainability Committee, submitted to the Chairman for review and approval, and then reported to the Board of Directors according to CAL Corporate Social Responsibility and Sustainable Development Best Practice Principles.

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

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

Publication History

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

First edition release date August 2014
Previous edition release date June 2020
Current edition release date June 2021
Next edition release date June 2022

Feedback

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

China Airlines Ltd.
Unit Strategic Planning Department, Corporate Development Office
TEL 886-3-399-8530
E-mail csr@china-airlines.com
Address No. 1, Hangshan S. Rd., Dayuan Dist., Taoyuan City, 33758, Taiwan (R.O.C)
Website https://calec.china-airlines.com/
Letter from Management

Global Environmental Challenges

2020 is a year the world will not soon forget. The COVID-19 pandemic has changed the way we live. Border control and strict quarantine requirements have hit the global airline industry hard. The pandemic started spreading in 2020 at the beginning of the Chinese New Year. CAL, from the head office to outstations, responded quickly and rescheduled passenger and cargo flights. Countermeasures, including taking turns to work from home and stockpiling medical supplies, were put in place to protect the health and safety of first line employees and help travelers return home. Passenger and cargo transport capacity was allocated to transport medical supplies to their destinations. While leading airlines around the world started downsizing and implementing pay cuts and layoffs and some declared bankruptcy, CAL and the union displayed a harmonious employer-employee relationship. The work groups also showed perseverance as a team. CAL affiliated enterprises protected and supported each other, and worked together to meet the challenges. As a result, CAL managed to remain standing after a difficult year.

Opportunity amid Adversity

The passenger and cargo transport demand showed clear polarization in 2020. For CAL, passenger transport dropped by 78% while cargo transport skyrocketed by 79% for the year. However, in contrast to the tens of billions of US dollars in losses suffered by the global airline industry as a whole, CAL took advantage of its mid-sized operation, geographical environment, and the world’s largest 747-400F cargo fleet to turn the adversity to an opportunity. CAL has the world’s largest 747-400F cargo fleets. CAL cargo services devised counterstrategies soon after the pandemic started. The team made full use of the cargo transport capacity provided by 18 747-400F aircrafts, and scheduled flights and allocated space as needed. The team also promoted customized cargo charters, and tried to expand in express delivery, e-commerce shipping, and temperature controlled goods. Meanwhile, passenger belly capacity was enhanced, and passenger cabins were repurposed to transport cargo. Since the second quarter, CAL flew more than 1,000 all-cargo passenger flights per month on average to meet the demand. Given the pandemic, most cargoes carried by CAL were medical relief, personal protective equipment and other emergency supplies, and e-commerce goods. CAL cargo services was a winner of Air Cargo World’s Air Cargo Excellence Awards. The team often receives positive customer feedback for its professional services and air transport quality. CAL has plenty of transfer opportunities in Asia Pacific and target Oceania routes.

Opportunity amid Adversity

CAL is the only IATA CEIV Pharma airline in Taiwan. The company has been expanding the air cargo transport network by adding all-cargo destinations, including Nagoya in Japan, Delhi and Mumbai in India, and Columbus in the United States. Flights are also added to increase capacity to Hanoi and Ho Chi Minh City in Vietnam, Penang in Malaysia, and Singapore. These additions make a more extensive air cargo transport network. Meanwhile, CAL is paying close attention to post-pandemic developments in the global cargo transport industry. With hubs in Taiwan, CAL continues to focus on transfer opportunities in Asia Pacific and target Oceania routes.

Sustainability Philosophy

CAL remains committed to environmental protection, and continues to support climate related financial disclosures. The company also invests in sustainability oriented environmental, social, and economic / governance activities, and takes action to incorporate sustainability into the corporate culture. “Safety, governance, fleet and network, products and services, group business, and brand awareness” are the six directions in which CAL develops sustainability strategies. Following the guide for business action on the SDGs, CAL has set short-, medium-, and long-term goals for tasks forces in six areas: “foundation for sustainable development, trust value, talent value, collaborative value, environmental value, and social value”. These goals are designed to help CAL achieve sustainability. Looking back on 2020, CAL received a Reporting Award from the Global Corporate Sustainability Awards (GCSA) for the second time. The company also won the Taiwan Corporate Sustainability Awards (TCSA) for the seventh consecutive year. Meanwhile, CAL was included in the Dow Jones Sustainability Indices (DJSI) and the FTSE4 Good Emerging Index for the fifth consecutive year in 2020. In addition, CAL was recognized in the Silver Class in the latest S&P Global Sustainability Yearbook.

Looking Back and Moving Forward

As the global pandemic continued, CAL purchased a new 777F cargo fleet in 2020, followed by new narrow-body passenger A321neo in 2021. Standing at the beginning of another sixty years, CAL is ready with an efficient cargo and passenger fleet poised to take off into success. Like its logo, CAL is a red plum flower that blooms more beautifully in adversity. CAL of tomorrow will be better than today.
2020
Key Performance and External Affirmation

**Economic / Governance**

- **5th Time** selected for DJSI Emerging Markets Index
  The only Taiwanese airline selected for DJSI Emerging Markets for five consecutive years and ranked in 3rd place among the world’s airlines.

- **5th Time** selected for FTSE4Good Emerging Index
  Selected in the FTSE4Good Emerging Index for five consecutive years.

- **Top 6% - 20%** of TWSE/TPEx listed companies
  Selected as the top 6% - 20% of the excellent corporation award in the sixth Corporate Governance Review.

- **2nd Time** in GCSA Award
  Awarded in the GCSA Reporting Award for the second year.

- **7th Time** in TCSA Award
  Awarded in the Taiwan Corporate Sustainability Award for seven consecutive years along with four TCSA awards.

**4th Time** selected for Taiwan EMP 99 Index and Taiwan HC100 Index
Selected in the Taiwan Employment Creation 99 Index and the Taiwan High Compensation 100 Index for four consecutive years.

**1st airline to conduct sustainability audits**
Taiwan’s first airline to perform sustainability audits.

**3rd Time** received highest scores in supply chain management criteria of DJSI
Granted the highest scores in supply chain management criteria of DJSI for three consecutive years.

**ISMS and PIMS introduced** to certify core information systems
The Company began implementing annual reevaluation of the core Information Security Management System (ISMS) and certification of the Privacy Information Management System in 2020 to ensure that the management system can effectively operate and control risks. The Company also obtained credit card transaction system data security certification in 2020 to ensure the security of the Company’s credit card transaction environment and protect passenger rights.

**9th passed IOSA Certification**
CAL has successfully passed the IATA Operational Safety Audit (IOSA) of the International Air Transport Association (IATA).

**Hosted aviation security seminar**
CAL, China Aviation Development Foundation, and CAA of MOTC co-organized an aviation security risk management seminar in 2020.
Environmental

5th Time selected in DJSI, and got highest scores in environmental reporting and policies, management systems, and climate strategies
Five consecutive times selected in DJSI emerging markets index and got highest score in environmental reporting and policies, management systems, and climate strategies of DJSI in 2020.

7th Time in TCSA Climate Leadership Award
Awards in TCSA Climate Leadership Award for seven consecutive years since 2014.

1st Taiwanese airlines to publish TCFD disclosures
First airline in Taiwan to publish climate related financial disclosures (TCFD).

Buying Power — Special Environmental Sustainability Award
Worked with Zen Zhou to develop “CAL Foldable Platinum Silicone Cups”, which was rewarded a special prize in the environmental sustainability category and a first prize in the procurement category of the Buying Power Awards by SMEA of Taiwan MOEA.

1st Airlines in Taiwan to receive Carbon Label and Carbon Reduction Label
Mandarin Airlines of CAL group passed the 3rd party carbon footprint verification again, and became the first airlines to receive the Taiwan EPA “carbon label” and “carbon reduction label” with over 30% carbon reduction.

Social

Over 2,200 cases of medical supplies
Participated in international relief efforts in 2020, and organized charter transport for medical supplies. A total of 10 flights carried 2,278 cases of supplies weighing a total of 73,343kgs. Helped transporting expats in regions more affected by the coronavirus back to Taiwan. A total of 9 charter flights benefited 1,224 people.

99.43% union participation
99.43% of employees participating in labor unions.

Over 7.16 million in charity contributions
Invested TWD 7,162,191 in charity activities throughout 2020.

Over 3,400 students
From 2014 to now, CAL’s Love All Around team has visited more than 15 cities and counties, 27 villages and towns, and 56 elementary schools as well as social welfare organizations in Taiwan to help 3,447 students.

550 senior citizens
Provided care for 550 disadvantaged senior citizens at four events throughout 2020.

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

4th Time in TCSA Social Inclusion Award
Awarded in TCSA Social Inclusion Award for four consecutive years.
Dynasty, the CAL magazine, won the APEX Awards for Publication Excellence for the fifth time in 2020, and received another Design & Layout Award.

Received the Taiwan Corporate Sustainability Awards (TCSA) for the seventh consecutive year and the Global Corporate Sustainability Awards (GCSA) for the second consecutive year.

Selected as a constituent stock of the Dow Jones Sustainability (DJSI) Emerging Markets Indices for the fifth consecutive year.

CAL’s brand promotional video, “What Travel Brings You”, received a bronze award at the CLIO Awards and a honorable mention at the New York Festivals.

Received the 2020 Air Cargo Executive of the Year Award.
Many Taiwanese expats were unable to return at the beginning of the COVID-19 pandemic. CAL, as the "National Team of the Sky", remained committed to its role and assisted in arranging multiple charters. The company also played a key role in transporting medical relief, personal protective equipment and other emergency supplies during the pandemic. CAL supported the government’s “Taiwan can help” campaign, and donated face masks to countries severely affected by the coronavirus. CAL completed many missions at the behest of the government in the process.

The “National Team of the Sky” Flying on for You — Bringing Expats Home on Charters and Transporting Medical Relief

March 2020: CAL Wuhan Charter Carried Expats Home for Quarantine

Source: MNA

Preemptive Protective Measures — Safeguarding Public Health and Safety

Ensuring the health and safety of passengers throughout the travel journey is top priority for airlines. Airport and aircraft cleaning and disinfection have become more stringent than ever before. These measures will also continue in order to restore traveler confidence in air travel. CAL implemented preemptive protective measures, and followed the health authority’s instructions in enforcing health management procedures. In addition to complying fully with the CDC’s guidelines and creating a COVID-19 information services section to safeguard public health and safety, CAL has taken enhanced measures to provide a safe, relaxing and comfortable journey.

April 2020: CAL Transported Medical Supplies

Source: MNA

COVID-19 Information Services
Enhanced Measures Against COVID-19

Enhanced Aircraft Cleaning and Disinfection

Enhanced Aircrew Safety Protection and Health Monitoring Measures
At present, the key factors in the recovery of the airline industry are control of the coronavirus and consumer confidence. The demand for international passenger transport is subject to constantly changing travel restrictions, and growth of passenger air transport is limited by entry restrictions. Compared to long haul international travel, recovery of domestic or regional air travel may take place sooner. CAL continues to follow developments in the pandemic and the effects of border control policies. In addition to enforcing air travel safety measures, CAL combines several strategies to meet operational challenges. These strategies include gaining access to relief programs, maintaining financial stability, creating flexibility in passenger route allocation, increasing cargo route revenues, and optimizing fleet size.

Building Momentum for Reopening of Cargo / Passenger Transport — Combination Strategies

Taking off with hope at every departure.

Bringing home memories at every arrival.

With fortitude, we will meet again in the sky when the pandemic ends.
CHAPTER 1

Sustainability Management Overview

1-1 About China Airlines
1-2 Sustainability Vision and Strategies
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1-4 Sustainability Management Structure
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2 Value Creation

3 Sustainability Governance

Appendix
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1-7 Achieving Sustainable Development Goals
China Airlines (2610) is the largest airline in Taiwan. Based in Taiwan Taoyuan International Airport, CAL mainly provides international passenger and cargo air transport services. CAL has two subsidiary airlines: Mandarin Airlines (serving domestic and regional markets) and Tigerair Taiwan (offering a low-cost business model). With a multi-brand strategy, members of the CAL Group share resources and complement one another’s strengths and weaknesses to provide a variety of options for customers based on an established network. For more information on the business development of the fleet and route network, refer to CAL’s Annual Report. Through codeshare agreements with other airlines, the CAL Group offered flights to / from 29 countries and 159 destinations worldwide, and Tigerair Taiwan served 22 destinations and 29 routes in 2020.

1-1-1 Business Overview

**China Airlines**

- **Capital:** TWD 54.2 billion
- **Employees:** 11,390
- **Fleet Size:** 84
- **Average Fleet Age:** 9.9 Years

**Mandarin Airlines**

- **Capital:** TWD 2.8 billion
- **Employees:** 728
- **Fleet Size:** 11
- **Average Fleet Age:** 5.7 Years

**Tigerair Taiwan**

- **Capital:** TWD 2 billion
- **Employees:** 951
- **Fleet Size:** 13
- **Average Fleet Age:** 5.2 Years

**Note:** Excluding Taiwan

<table>
<thead>
<tr>
<th>Year</th>
<th>China</th>
<th>Hong Kong</th>
<th>Southeast Asia</th>
<th>Oceania</th>
<th>Americas</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>38.5%</td>
<td>46.9%</td>
<td>52.4%</td>
<td>60.5%</td>
<td>54.3%</td>
<td>159</td>
</tr>
</tbody>
</table>

**Note:** Statistics as of December 31, 2020.

For the latest operating fleet size and age, please refer to the CAL website.

**Note 1:** The latest destinations please refer to the website.

**Note 2:** Excluding Taiwan
CAL Group’s Operational Achievements

Countries across the world have implemented border controls, strict quarantine measures, and general restrictions in response to the impact of the COVID-19 pandemic in 2020. The number of passengers fell sharply and a significant number of flights was canceled. Due to the imbalance in supply and demand caused by the significant decrease in cargo capacity as a result of canceled passenger flights, CAL adapted to market changes by making full use of the 18 Boeing 747-400F cargo aircrafts and passenger aircraft belly capacity to increase revenue from cargo services. The consolidated operating revenue in 2020 amounted to TWD 115.25 billion including TWD 25.704 billion in passenger services, TWD 81.918 billion in cargo services, and TWD 7.628 billion in other revenues. The consolidated net profit amounted to TWD 2.184 billion and the consolidated net loss before tax amounted to TWD 654 million. The net profit attributable to the parent company amounted to TWD 140 million. Please refer to the financial performance in the Appendix for more information.

Operational Achievements

<table>
<thead>
<tr>
<th>Item</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passenger Revenue</td>
<td>102.22</td>
<td>108.35</td>
<td>111.41</td>
<td>25.704</td>
</tr>
<tr>
<td>Cargo Revenue</td>
<td>43.33</td>
<td>49.85</td>
<td>43.79</td>
<td>81.918</td>
</tr>
<tr>
<td>Other Revenue</td>
<td>10.57</td>
<td>12.52</td>
<td>13.24</td>
<td>7.628</td>
</tr>
<tr>
<td>Consolidated Operating Revenue</td>
<td>156.12</td>
<td>170.71</td>
<td>168.44</td>
<td>115.25</td>
</tr>
<tr>
<td>Pretax Profit</td>
<td>3.32</td>
<td>3.08</td>
<td>-0.977</td>
<td>-0.654</td>
</tr>
</tbody>
</table>

2020 Performance of International Passenger and Cargo Transport

<table>
<thead>
<tr>
<th>Routes</th>
<th>Company</th>
<th>Number of Departures (Flight)</th>
<th>Passengers (Person)</th>
<th>Market Share (%)</th>
<th>Revenue Passenger (PTEK)</th>
<th>Available Seat Kilometers (ASK)</th>
<th>Passenger Load Factor (%)</th>
<th>Tonnage (Metric ton)</th>
<th>Market Share (%)</th>
<th>Freight Revenue (TNTK)</th>
<th>Freight Available Ton Kilometers (PATH)</th>
<th>Freight Load Factor (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>International</td>
<td>CAL</td>
<td>45,030</td>
<td>2,259,563</td>
<td>43.6</td>
<td>7,917,306,253</td>
<td>14,406,859,540</td>
<td>55.0</td>
<td>1,538,770</td>
<td>68.0</td>
<td>6,356,281,312</td>
<td>8,970,650,170</td>
<td>71.2</td>
</tr>
<tr>
<td>International</td>
<td>CAL</td>
<td>1,836</td>
<td>125,557</td>
<td>2.4</td>
<td>118,389,820</td>
<td>244,969,398</td>
<td>48.3</td>
<td>9,468</td>
<td>0.4</td>
<td>3,354,023</td>
<td>10,163,746</td>
<td>33.0</td>
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<tr>
<td>International</td>
<td>CAL</td>
<td>3,262</td>
<td>345,045</td>
<td>6.7</td>
<td>606,025,445</td>
<td>1,037,051,426</td>
<td>58.4</td>
<td>4,046</td>
<td>0.2</td>
<td>7,870,561</td>
<td>11,977,768</td>
<td>64.0</td>
</tr>
<tr>
<td>CAL Group</td>
<td>CAL</td>
<td>50,130</td>
<td>2,730,165</td>
<td>52.7</td>
<td>8,641,701,518</td>
<td>15,688,880,364</td>
<td>55.1</td>
<td>1,552,294</td>
<td>68.6</td>
<td>6,397,305,916</td>
<td>8,992,791,684</td>
<td>71.1</td>
</tr>
</tbody>
</table>
1-1-2 Analysis of Business Environment in the Aviation Industry

The airline industry connects the flow of people and the flow of goods around the world. There is a close correlation between growth and outlook of the global economy and growth of the airline industry. According to a report published by the International Air Transport Association (IATA) in November 2020, the civil air transport industry was severely impacted by the COVID-19 pandemic, and airlines worldwide expected the number of passengers to fall to 1.795 billion and the freight tonnage to fall to 54.2 million tons in 2020. As many as 46 million people could be at risk of losing their jobs in the airline industry. Close to US$536 billion in production value evaporated in the process. The total loss was projected at US$118.5 billion. Recovery of passenger transport to pre-pandemic level would be unlikely until after 2024. Hence, CAL performs the “Analysis of Business Environment in the Aviation Industry”, and inspects regularly long term operational opportunities and risks to lay a solid foundation for sustainability. CAL also incorporates material issues relevant to its stakeholders into the CAL sustainable development strategies.

### Global Airline Industry

<table>
<thead>
<tr>
<th>Route</th>
<th>Company</th>
<th>Passengers (Person)</th>
<th>Market Share (%)</th>
<th>Revenue Passenger Kilometers (RPK)</th>
<th>Available Seat Kilometers (ASK)</th>
<th>Passenger Load Factor (%)</th>
<th>Tonnage (Metric ton)</th>
<th>Market Share (%)</th>
<th>Freight Revenue Ton Kilometers (FRTK)</th>
<th>Freight Available Ton Kilometers (FATK)</th>
<th>Freight Load Factor (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic</td>
<td>CAL</td>
<td>26,379</td>
<td>34.3</td>
<td>724,319,680</td>
<td>969,062,493</td>
<td>74.8</td>
<td>12,022</td>
<td>28.6</td>
<td>1,511,672</td>
<td>11,059,615</td>
<td>13.7</td>
</tr>
<tr>
<td>Global</td>
<td>CAL Group</td>
<td>76,509</td>
<td>45.6</td>
<td>9,386,100,195</td>
<td>14,657,942,857</td>
<td>56.2</td>
<td>1,564,206</td>
<td>67.8</td>
<td>6,398,824,588</td>
<td>9,003,851,299</td>
<td>71.1</td>
</tr>
</tbody>
</table>

Source: “Civil Air Transport Statistics (Table 18 Overview of Global Passenger and Cargo Transport on Global Routes by Domestic Airlines)” by CAA of MOTC.
Business Opportunities

Focusing on Air Cargo Opportunities

As the COVID-19 spreads, the demand for medical and protective equipment is skyrocketing, and in turn drives the demand for stay-at-home economy and remote working / learning related products. It also creates opportunities in e-commerce and 5G. The demand for cargo services can be expected to hold steady the upward trend. It is generally agreed in the airline industry that the COVID-19 vaccine will become an opportunity to turn the air travel business around, and “pharmaceutical cold chain transport opportunities” will be a new area of interest. In response to upcoming market changes, airlines are actively strengthening their cargo operations. In addition to repurposing passenger aircrafts for cargo transport, domestic airlines are changing some passenger aircraft orders to 777F cargo aircrafts. CAL already has a large 747-400F cargo fleet with 18 aircrafts, and is going to bring in another 6 777F cargo aircrafts to increase its share of the cargo market.

Post-pandemic Reshuffling of the Airline Market

The top priorities for airlines in a pandemic are “fighting for survival against the virus”, “giving full support to develop cargo services”, and “building momentum for reopening”. Consensus in the private sector does not expect the economy to return to the pre-pandemic level until 2024. Meanwhile, the pandemic has triggered a large wave of bankruptcies in the airline industry. The ongoing spread of the coronavirus is putting 5 million people in the global airline industry at risk of losing their jobs. Many airlines are trying to survive by cutting pays and implementing unpaid leaves, early retirement offers, and layoffs as they face dangerously low cash flows. Domestic airlines are modifying their business strategies and shifting resources to cargo services for optimal passenger-cargo allocation.

Taking Advantage of Geographic Location as a Hub

Taiwan is well situated as an air cargo hub in Asia Pacific. Cargo traffic through the Taoyuan International Airport over the last 10 years shows that on average a total of 2.1 million tons of cargo go through the airport every year. In particular, the 10-year high appeared in 2018 at 2.32 million tons. Except where it was affected by the US-China trade war in 2019, the import / export cargo volume has been consistent in the last 10 years. The import / export cargo volume is generally between 470,000 and 600,000 tons per year and the entrepot volume between 950,000 and 1.13 million tons per year. The ratio of import / export to entrepot volume per year is approximately 1:1:2, which suggests entrepot is a market where Taiwanese airlines actively compete with each other. CAL expects to continue to focus its resources on the Taoyuan International Airport (cargo over passenger) in order to ensure Taiwan’s position as a competitive air cargo hub.

Fleet Renewal for Enhanced Operational Efficiency

CAL continues to complete sustainability oriented fleet renewal. For cargo aircrafts, 777F cargo aircrafts were brought into service in late 2020 as planned. According to the passenger fleet renewal plan, CAL intends to start introducing A321neo passenger aircrafts into the fleet to replace Boeing 737-800 passenger aircrafts in 2021. CAL is also considering introducing new regional wide-body passenger aircrafts to replace the A330-300 and 747-400 fleet. Furthermore, to provide better in-flight services and satisfy the demand for consistent travel products and to follow the direction of “less contact and going virtual” for in-flight entertainment in the post-pandemic era, CAL is campaigning for portable in-flight wireless streaming entertainment upgrade be installed in 737-800 cabins. CAL expects to start allowing travelers to use “their own mobile smart devices” on-board to connect to the in-flight system and enjoy in-flight entertainment in 2021. Moreover, there are plans to install the latest cabin seats and HD personal entertainment system on the A321neo narrow-body passenger aircrafts to be introduced in late 2021. These aircrafts will be equipped with the fastest Wi-Fi service in the business to provide a more entertaining, safe, and comfortable journey.

Business Risks

COVID-19 Creates an Uncertain Outlook for the Global Airline Industry

An IATA forecast sees pandemic losses sustained by the global airline industry reaching US$157.2 billion across 2020 and 2021. Global passenger air traffic will not return to the pre-pandemic level until 2024. It is estimated that revenue passenger kilometers (RPKs) fall by 66.3% and passenger revenue fell by 68.8% in 2020, while freight revenue ton kilometers (FRTKs) fell by 11.4% but cargo revenue rose by 14.9% in the same year. While COVID-19 vaccine research is starting to look promising and some countries have started vaccinating their populations, how long the vaccines can stay effective in the human body remains to be seen. The airline industry still faces massive challenges. According to an IATA forecast, RPKs will increase by 50.4% in 2021 (down by 49.4% compared to 2019) and passenger revenue by 50.3% (down by 53.1% compared to 2019); and FRTKs will increase by 12.9% (on par with 2019) and cargo revenue by 18.8% (up by 36.3% compared to 2019). IATA expects most airlines to remain cash negative until Q4 2021.

A Different Airline Industry in the New Post-pandemic Norm

Increased costs of fighting the virus means smaller profit margins. Hence, the airline industry will have to face structural changes. Before the pandemic, “business travelers” and “transfer opportunities” were the target markets for traditional airlines. The pandemic has had an impact on economics and trade, the employment market, and consumer confidence. Many companies are adopting a remote work model. As disposable income falls, both business travelers and leisure travelers will start to re-evaluate whether flying is still essential. Meanwhile, airlines face challenges in the form of cost reduction, demand for working capital, allocation of idle passenger capacity, air traffic rights, slot time, crew training, and aircraft airworthiness.

Boeing 737 MAX Returning to the Sky

After being grounded for nearly two years after two fatal crashes, Boeing 737 MAX was deemed to have met the safety standards and cleared by the civil aviation authority to return to the sky. American airlines were first to use Boeing 737 MAX to fly commercial flights again on December 29, 2020. According to statistics, Boeing 737 MAX caused Boeing to lose approximately US$20 billion (TWD 559.7 billion). Some companies encountered engine issues during the aircraft’s return to the sky. Given the passenger transport demand swept away by COVID-19, the future remains unknown with challenges such as regaining traveler confidence, cutting production, laying off employees, delaying deliveries, and financial burdens.

Focusing on Air Cargo Opportunities

As the COVID-19 spreads, the demand for medical and protective equipment is skyrocketing, and in turn drives the demand for stay-at-home economy and remote working / learning related products. It also creates opportunities in e-commerce and 5G. The demand for cargo services can be expected to hold steady the upward trend. It is generally agreed in the airline industry that the COVID-19 vaccine will become an opportunity to turn the air travel business around, and “pharmaceutical cold chain transport opportunities” will be a new area of interest. In response to upcoming market changes, airlines are actively strengthening their cargo operations. In addition to repurposing passenger aircrafts for cargo transport, domestic airlines are changing some passenger aircraft orders to 777F cargo aircrafts. CAL already has a large 747-400F cargo fleet with 18 aircrafts, and is going to bring in another 6 777F cargo aircrafts to increase its share of the cargo market.

Post-pandemic Reshuffling of the Airline Market

The top priorities for airlines in a pandemic are “fighting for survival against the virus”, “giving full support to develop cargo services”, and “building momentum for reopening”. Consensus in the private sector does not expect the economy to return to the pre-pandemic level until 2024. Meanwhile, the pandemic has triggered a large wave of bankruptcies in the airline industry. The ongoing spread of the coronavirus is putting 5 million people in the global airline industry at risk of losing their jobs. Many airlines are trying to survive by cutting pays and implementing unpaid leaves, early retirement offers, and layoffs as they face dangerously low cash flows. Domestic airlines are modifying their business strategies and shifting resources to cargo services for optimal passenger-cargo allocation.

Taking Advantage of Geographic Location as a Hub

Taiwan is well situated as an air cargo hub in Asia Pacific. Cargo traffic through the Taoyuan International Airport over the last 10 years shows that on average a total of 2.1 million tons of cargo go through the airport every year. In particular, the 10-year high appeared in 2018 at 2.32 million tons. Except where it was affected by the US-China trade war in 2019, the import / export cargo volume has been consistent in the last 10 years. The import / export cargo volume is generally between 470,000 and 600,000 tons per year and the entrepot volume between 950,000 and 1.13 million tons per year. The ratio of import / export to entrepot volume per year is approximately 1:1:2, which suggests entrepot is a market where Taiwanese airlines actively compete with each other. CAL expects to continue to focus its resources on the Taoyuan International Airport (cargo over passenger) in order to ensure Taiwan’s position as a competitive air cargo hub.

Fleet Renewal for Enhanced Operational Efficiency

CAL continues to complete sustainability oriented fleet renewal. For cargo aircrafts, 777F cargo aircrafts were brought into service in late 2020 as planned. According to the passenger fleet renewal plan, CAL intends to start introducing A321neo passenger aircrafts into the fleet to replace Boeing 737-800 passenger aircrafts in 2021. CAL is also considering introducing new regional wide-body passenger aircrafts to replace the A330-300 and 747-400 fleet. Furthermore, to provide better in-flight services and satisfy the demand for consistent travel products and to follow the direction of “less contact and going virtual” for in-flight entertainment in the post-pandemic era, CAL is campaigning for portable in-flight wireless streaming entertainment upgrade be installed in 737-800 cabins. CAL expects to start allowing travelers to use “their own mobile smart devices” on-board to connect to the in-flight system and enjoy in-flight entertainment in 2021. Moreover, there are plans to install the latest cabin seats and HD personal entertainment system on the A321neo narrow-body passenger aircrafts to be introduced in late 2021. These aircrafts will be equipped with the fastest Wi-Fi service in the business to provide a more entertaining, safe, and comfortable journey.
1–2 Sustainability Vision and Strategy

1–2–1 CAL’s Sustainability Vision

The 17 UN’s SDGs formally launched by CAL in 2016 follow the SDG Compass and related sustainability reports of the International Civil Aviation Organization (ICAO), the Air Transportation Action Group (ATAG), and the international transportation industry. CAL chose to focus on 9 SDGs that established the direction of CAL’s sustainability efforts. This is a way for CAL to achieve sustainability and promise to create stakeholder value.

1–2–2 Sustainability Strategy

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

As the highest governing organization at CAL, the Board of Directors is responsible for supervising, resolving on crucial issues, and guiding management, in addition to formulating and complying with policies and rules, in accordance with both laws and regulations, and with the powers granted by the shareholders’ meetings. The composition of the Board of Directors is diverse; it is based on talent, regardless of gender, nationality, or race. A total of eleven directors have been elected to the 21st term Board of Directors, including three independent directors, two of whom are female, with good qualities and expertise or experience in management of international companies. The tenure of the 21st term Board of Directors is three years (from June 27, 2018 to June 26, 2021). CAL convenes Board meetings at least five times every year and may convene extraordinary meetings for important or urgent business needs. Moreover, the China Aviation Development Foundation appointed Shing-Hwang Kao as CAL director of the Board on March 11, 2021; therefore, the number of directors of the 21st Board increased to 12 directors with effect from the aforesaid date.

As of 2020, shareholders holding more than 5% of CAL’s shares are as follows:

<table>
<thead>
<tr>
<th>Major Shareholder</th>
<th>Contributions to Taiwan</th>
<th>Percentage of Shares Held</th>
</tr>
</thead>
<tbody>
<tr>
<td>China Aviation Development Foundation</td>
<td>Striving for the development of Taiwan’s aviation business, national traffic construction, research, and event promotion</td>
<td>34.45%</td>
</tr>
<tr>
<td>National Development Fund, Executive Yuan</td>
<td>Accelerating industrial innovation, economic transformation, and national development</td>
<td>9.59%</td>
</tr>
</tbody>
</table>

Note: For experience / education, concurrent posts, expertise, field of experience, compliance of independence, and the operations of the Board of Directors, please refer to the CAL’s Annual Report.

Functional Committees of the Board

The Board of Directors has three functional committees: the Remuneration Committee, Audit Committee, and Risk Management Committee. These help the Board of Directors with its supervision and guidance when meetings are convened; in accordance with the respective organizational regulations adopted by the Board of Directors, these committees exercise the powers granted by law to review and discuss relevant issues, then regularly submit their conclusions and recommendations to the Board of Directors for resolution. Based on the powers specified in the CAL’s Remuneration Committee Charter, the Remuneration Committee periodically reviews performance evaluations and remuneration policies, systems, standards, and structures for directors and managerial officers.

Functional Committees

Audit Committee

Frequency of Meetings: At least once every quarter
Composed of all independent directors and is responsible for helping the Board of Directors perform its duties, including supervision of fair presentation of CAL’s financial statements, selection (dismissal), independence and performance of CPAs, implementation of internal controls, and compliance with corporate laws and regulations, as well as other statutory tasks.

Remuneration Committee

Frequency of Meetings: At least twice every year
The committee regularly reviews the overall benefit and compensation policy for directors and executives. It also conducts board performance evaluation once a year. In addition, it has a qualified external independent institution or external expert team conduct the evaluation once every three years (last time being in 2020). CAL increases the long term value of the management team to the company through performance evaluation and remuneration systems. The approach creates a sound corporate governance system, and helps CAL achieve sustainability goals.

Note: Please refer to the CAL’s Annual Report for director and executive remuneration.
To enforce corporate sustainability, the General Audit Office is responsible for auditing the corporate governance system to prevent fraudulent activities and corruption. The results of audits are continually followed and required to be corrected by the given time limit. The audited cases in 2020 are summarized below by category. All of the cases have been corrected and reported to the General Audit Office for approval.

### Audited Cases in 2020

<table>
<thead>
<tr>
<th>Type of Cases</th>
<th>Number of Cases Audited</th>
<th>Number of Comments</th>
<th>Number of Corrections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head Office</td>
<td>17</td>
<td>116</td>
<td>116</td>
</tr>
<tr>
<td>Branch</td>
<td>13</td>
<td>81</td>
<td>81</td>
</tr>
<tr>
<td>Subsidiary</td>
<td>12</td>
<td>73</td>
<td>73</td>
</tr>
<tr>
<td>Transaction in Derivative Products</td>
<td>12</td>
<td>None, all complying with regulations</td>
<td>-</td>
</tr>
<tr>
<td>Procedures for Lending Funds and Making Endorsements / Guarantees</td>
<td>4</td>
<td>None, all complying with regulations</td>
<td>-</td>
</tr>
</tbody>
</table>

Every year, the General Audit Office compiles an “overall evaluation” based on self-assessments performed by individual departments and improvement of errors and irregularities identified in the annual audits. The overall evaluation is used to verify the effectiveness of the internal control system, and provides the basis for the “Declaration of the Internal Control System”, which will be submitted to the board of directors for review. The General Audit Office has also established a whistle-blowing mechanism to report fraudulent activities and unethical conduct. If it is found that an employee of CAL or its affiliates is misusing his / her position to take bribes or behave in violation of his / her duties for the purpose of obtaining unlawful benefits for himself / herself or others, thereby causing losses to CAL’s property or reputation, an employee or an external partner (e.g., a supplier) is encouraged to report this matter through the management mechanism or through the independent mailbox (auditor@china-airlines.com) published on the website (Stakeholder Contact-Business Conduct) and in the Annual Report (Corporate Governance Report-Corporate Governance).
Under the challenging and rapid changing environment with the growing trend regarding sustainability, CAL followed the international trend of sustainability and referred to the experience from the benchmarking companies based on its mission and sense of duty for the sustainable development of the Company to establish its Corporate Sustainability Committee in 2014, the highest governing body of sustainability promotion, and set the Corporate Social Responsibility and Sustainable Development Best Practice Principles. The Corporate Sustainability Committee comprises six task forces which are responsible for setting and implementing sustainable development goals to enforce the sustainable development. It also presents the CSR performance to the Board of Directors once every year to continue to strengthen the connection between the Corporate Sustainability Committee and the Board of Directors and improve sustainability actions.

1-4-1 Corporate Sustainability Committee

To report the progress and performance to the board of directors, once a year (Risk Management Committee, a functional Committee of the Board, resolves on the risk and opportunities related to sustainability)

- Convene the meeting, at least twice a year
- Report the progress of each task force, once every quarter
1-5 Materiality Analysis and Stakeholder Engagement

CAL identified eight stakeholders, namely employee, customer, investor, government, partner, community, media, and association in accordance with the five major principles defined in the AA1000 Stakeholder Engagement Standard (SES). However, the focus turned to internal investigation in 2020 due to the pandemic. Members of the CAL Corporate Sustainability Committee conducted the overall evaluation of material issues in and outside CAL.

**Step 1: Stakeholder Identification**
CAL identified eight stakeholders in accordance with the five major principles defined in the AA1000 Stakeholder Engagement Standard (SES). However, the focus turned to internal investigation in 2020 due to the pandemic. Members of the CAL Corporate Sustainability Committee conducted the overall evaluation of material issues in and outside CAL.

**Step 2: Review and Identification**
Based on the results of the 2019 materiality analysis, and after reviewing the effects of the coronavirus on sustainability and the airline industry in 2020, CAL identified 24 material issues, including the newly added issue Public Health and Safety.

**Step 3: Evaluation and Prioritization**
Once the material issues were established, CAL proceeded to conduct a biennial materiality survey. The previous survey took place in early 2019, when 307 questionnaires were completed. The next materiality survey was scheduled for early 2021; however, given the massive impact of the pandemic on the airline industry in 2020, the questionnaires were completed instead by 43 members of the internal sustainability team. The adjustment was intended to avoid distortion of materiality. The 43 members of the sustainability team assessed the importance of different material issues to CAL, the influence on stakeholder assessment and decision making, and the impact of CAL’s operations on economic, environmental, and social aspects.

**Step 4: Validation and Response**
The results of the CAL material issues investigation were ultimately reached by the Corporate Sustainability Committee, the highest governing organization of corporate sustainability in 2020. The material issues relevant to the stakeholders are disclosed in the Report and on CAL's CSR website.

**2020 China Airlines Materiality Matrix**

Note 1: COVID-19 has sent shock waves throughout the globe, and the airline industry is also severely affected. Stakeholders will be paying more attention to how we respond to the pandemic. Therefore, "public health and safety" is added as a new topic this year. Employee feedback in the company also indicates that it is a vital issue to CAL.

Note 2: CAL identified, assessed, and adjusted the rankings of material issues in terms of the three aspects according to the GRI Standards. The y-axis was the impact of CAL's operations on economic, environmental, and social; on the y-axis was the importance of different material issues to CAL. Following the rankings in the materiality analysis, CAL listed 6 key issues, 13 important issues, and 5 issues of concern. The 24 material issues were put on the materiality matrix with key issues labeled in red.
### Importance of and Changes in Material Issues for 2020

<table>
<thead>
<tr>
<th>Rankings of Material Issues</th>
<th>Material Issues</th>
<th>Category</th>
<th>Changes in the Ranking of the Level of Concern</th>
<th>Importance to CAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Public Health and Safety</td>
<td>★</td>
<td>New</td>
<td>As COVID-19 spread across the globe, public health and safety measures against the virus before, during, and after transportation are attracting a lot of attention. All passengers, ground crew, air crew and other service personnel must be equipped with adequate protective equipment and measures and correct knowledge of the virus in order to work together to keep the virus at bay.</td>
</tr>
<tr>
<td>2</td>
<td>Flight Safety Management</td>
<td>★</td>
<td>▼</td>
<td>Zero flight safety accidents form the basis for creating sustainable customer value.</td>
</tr>
<tr>
<td>3</td>
<td>Risk and Crisis Management</td>
<td>★</td>
<td>—</td>
<td>Risk management plays a key role in our sustainable development. Faced with ever-increasing categories of risk, CAL is committed to reducing risks and improving our resilience to crises.</td>
</tr>
<tr>
<td>4</td>
<td>Financial Performance</td>
<td>★</td>
<td>▲</td>
<td>The pursuit of profit through operating and financial performance is the foundation of our stable operations.</td>
</tr>
<tr>
<td>5</td>
<td>Labor Relations and Engagement</td>
<td>★</td>
<td>—</td>
<td>Maintaining harmonious labor-management relations is a priority for Company. CAL is committed to strengthening diversified communication with employees and creating an equal and friendly work environment.</td>
</tr>
<tr>
<td>6</td>
<td>Governance and Integrity Management</td>
<td>★</td>
<td>▼</td>
<td>A robust corporate governance framework and sound ethical corporate management are fundamental to corporate sustainability.</td>
</tr>
<tr>
<td>7</td>
<td>Market Competitiveness</td>
<td>★</td>
<td>▲</td>
<td>Faced with an ever-changing aviation industry and the emergence of new airlines, CAL optimizes our route network, develops potential markets and customers, and makes good use of group resources to stay competitive.</td>
</tr>
<tr>
<td>8</td>
<td>Privacy and Information Security</td>
<td>★</td>
<td>▼</td>
<td>With the popularization of information systems, and in order to comply with domestic and foreign information security laws and regulations, CAL continuously improves our information security governance system and protection capabilities, and prioritizes information security control in daily business operations. The protection of personal data and customer privacy is closely tied to our reputation and customer trust.</td>
</tr>
<tr>
<td>9</td>
<td>Brand Management</td>
<td>★</td>
<td>▼</td>
<td>Brand management provides a direction for execution. Increased brand awareness can lead to identification with a brand, trust, loyalty, and ultimately a driver of consumer decision making that form a positive cycle.</td>
</tr>
<tr>
<td>10</td>
<td>Climate Change Mitigation and Adaptation</td>
<td>★</td>
<td>▼</td>
<td>As global climate change and energy consumption become ever-more pressing concerns, CAL fully fulfills our environmental protection responsibilities and obligations by actively participating in and responding to environmental protection initiatives at home and abroad and reducing environmental impacts. CAL implements continuous improvement in order to be constantly enhancing climate risk and opportunity identification, quantification, and management while strengthening our carbon management and climate resilience.</td>
</tr>
<tr>
<td>11</td>
<td>Passenger Service Management</td>
<td>★</td>
<td>▼</td>
<td>CAL aims to provide quality products and services, to meet passengers’ needs and become the preferred airlines in Taiwan.</td>
</tr>
<tr>
<td>12</td>
<td>Fleet Development and Management</td>
<td>★</td>
<td>▼</td>
<td>CAL continuously strengthens fleet quality and introduces environmentally-friendly models, to build an efficient worldwide air transport network and provide more comfortable and safer travel experiences for passengers.</td>
</tr>
<tr>
<td>Rankings of Material Issues</td>
<td>Material Issues</td>
<td>Category</td>
<td>Changes in the Ranking of the Level of Concern</td>
<td>Importance to CAL</td>
</tr>
<tr>
<td>-----------------------------</td>
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<td>-----------------------------------------------</td>
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</tr>
<tr>
<td>13</td>
<td>Sustainable Employment and Talent Attraction</td>
<td>!</td>
<td>▲</td>
<td>CAL establishes a sound training system and structure to attract and train aviation professionals; we value the development of employee competency in order to promote sustainable employment</td>
</tr>
<tr>
<td>14</td>
<td>Occupational Safety and Health Management</td>
<td>!</td>
<td>▼</td>
<td>CAL aims to provide a safe and healthy workplace, promote a variety of health promotion activities, and reduce both occupational accident rates and construction risks to improve employee cohesion</td>
</tr>
<tr>
<td>15</td>
<td>Sustainable Innovation and Development</td>
<td>!</td>
<td>▲</td>
<td>We continue to innovate in products and services, and provide value creation capabilities to meet customer demand for technological services</td>
</tr>
<tr>
<td>16</td>
<td>Freight Service Management</td>
<td>!</td>
<td>▲</td>
<td>CAL strengthens sustainable value for the overall supply chain by managing our upstream and downstream suppliers</td>
</tr>
<tr>
<td>17</td>
<td>Sustainable Supply Chain Management</td>
<td>!</td>
<td>▼</td>
<td>With the increased awareness of green consumption, CAL reduces waste and derived processing costs by promoting green consumption and optimizing service processes while investing to improve service efficiency</td>
</tr>
<tr>
<td>18</td>
<td>Green Service Operation</td>
<td>!</td>
<td>▲</td>
<td>We ensure the completeness of our human rights policies, in order to comply with international trends in human rights and to protect human rights</td>
</tr>
<tr>
<td>19</td>
<td>Human Rights</td>
<td>!</td>
<td>▼</td>
<td>CAL gives back to society, to create social value as part of our commitment to corporate sustainability</td>
</tr>
<tr>
<td>20</td>
<td>Social Feedback and Engagement</td>
<td>!</td>
<td>▲</td>
<td>We use a lifecycle model to monitor every process in our organization, construct a complete corporate environmental management system, and improve our environmental governance policy and quality of risk management. We are also committed to improving operational efficiency</td>
</tr>
<tr>
<td>21</td>
<td>Environmental Management System Development</td>
<td>!</td>
<td>▼</td>
<td>We continue to move toward low-carbon operations by focusing on energy conservation and energy efficiency management</td>
</tr>
<tr>
<td>22</td>
<td>Energy Management</td>
<td>!</td>
<td>▼</td>
<td>Customer trust and satisfaction are the most important driving force for CAL’s continued growth. Providing professional service is our commitment to customers</td>
</tr>
<tr>
<td>23</td>
<td>Customer Relationship and Satisfaction</td>
<td>!</td>
<td>▼</td>
<td>“Cost effective, improved efficiency, and zero waste” is followed as a rule. We monitor the operational environment and processes at all stations at all times in order to keep optimizing the corporate environment and energy management and ensure effective allocation and utilization of resources</td>
</tr>
<tr>
<td>Material Issues (Sorted by the level of concern for each ESG aspects)</td>
<td>Corresponding to GRI Topic-Specific Standards</td>
<td>Boundary</td>
<td>Corresponding Chapter / Section</td>
<td></td>
</tr>
<tr>
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<td></td>
</tr>
<tr>
<td>Flight Safety Management</td>
<td>GRI 404 Training and Education</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Risk and Crisis Management</td>
<td>GRI 102 General Disclosures: 1. Organizational Profile 2. Strategy</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Financial Performance</td>
<td>GRI 201 Economic Performance</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Governance and Integrity</td>
<td>GRI 102 General Disclosures: 1. Organizational Profile 2. Strategy</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Market Competitiveness</td>
<td>GRI 205 Anti-corruption GRI 206 Anti-competitive Behavior</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Brand Management</td>
<td>GRI 102 General Disclosures: 1. Organizational Profile</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Passenger Service Management</td>
<td>-</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Fleet Development and Management</td>
<td>GRI 102 General Disclosures: 1. Organizational Profile 2. Strategy</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Sustainable Innovation and Development</td>
<td>-</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Freight Service Management</td>
<td>-</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Sustainable Supply Chain Management</td>
<td>GRI 204 Procurement Practices GRI 308 Supplier Environmental Assessment GRI 414 Supplier Social Assessment</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Customer Relationship and Satisfaction</td>
<td>GRI 102 General Disclosures</td>
<td>●</td>
<td>●</td>
<td>●</td>
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<tr>
<td>Material Issues</td>
<td>GRI Topic-Specific Standards</td>
<td>Boundary</td>
<td>Corresponding Chapter / Section</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td><strong>Internal</strong></td>
<td><strong>External</strong></td>
<td><strong>Corresponding Chapter / Section</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note</strong></td>
<td><strong>Partner</strong></td>
<td></td>
</tr>
<tr>
<td>Public Health and Safety</td>
<td>GRI 403 Occupational Health and Safety</td>
<td>🟢</td>
<td>🟢</td>
<td>🟡</td>
</tr>
<tr>
<td>Labor Relations and Engagement</td>
<td>GRI 401 Employment</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
</tr>
<tr>
<td></td>
<td>GRI 402 Labor / Management Relations</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
</tr>
<tr>
<td></td>
<td>GRI 407 Freedom of Association and Collective Bargaining</td>
<td>🟢</td>
<td>🟢</td>
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</tr>
<tr>
<td>Sustainable Employment and Talent Attraction</td>
<td>GRI 202 Market Presence</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
</tr>
<tr>
<td></td>
<td>GRI 404 Training and Education</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
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<tr>
<td></td>
<td>GRI 405 Diversity and Equal Opportunity</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
</tr>
<tr>
<td></td>
<td>GRI 406 Non-discrimination</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
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</table>

**Direct Influence**  |  **Indirect Influence**  |  **Business Influence**

Note: The boundary of the Report mainly focuses on CAL. Only some related performance data of Mandarin Airlines and Tigerair Taiwan are disclosed.
CAL identified eight major stakeholders including Employees, customers, investors, government, partners (suppliers and contractors), community, media and associations (including aviation organizations). To understand our stakeholders’ needs and expectations, we have established relevant, unimpeded communication channels and platforms based on stakeholders’ attributes and needs. We also report to the Board of Directors in the first quarter of each year, to disclose details of communications with stakeholders, including key points and frequency of communication.

Topics of Concern
- Public Health and Safety
- Flight Safety Management
- Risk and Crisis Management
- Labor Relations and Engagement

Key Points of Communication
- Employment and retention of employees
- Employee development, rights and interests, healthy and safe workplace

Communication Channel and Frequency
1. Labor-management meetings
2. Labor unions
3. Employee suggestion boxes
4. Employee feedback website
5. China Airlines newsletter
6. China Airlines Retirees Portal

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

Employees

Customers

Key Points of Communication
- Customer Relations Management
- Protecting customers’ rights and interests, privacy, food safety, and in-flight drinking water quality
- Providing an integrated flight update platform during COVID-19

Communication Results
- Passenger satisfaction rate was 88.6%
- Cargo satisfaction rate was 88.5%
- Maintenance factory satisfaction rate was 8.57 (score out of 10)

Given the impact of COVID-19 in 2020, CAL and the union engaged in negotiations, and both agreed to meet the challenges together. The two sides reached a consensus to cut pay and hours between May and July and to reduce full pay by 25% for Level 1 managers, 20% for Levels 2 and 3 managers, and 15% for other regular employees. The goal was to avoid layoffs by cutting pay and hours.
Regardless of amount, all investors are contributors to CAL. CAL treats all investors equally, and makes the information available to each investor as consistent as possible.

Key Points of Communication
- Operating results
- Flight safety and passenger transport
- Risk management model

Communication Results
Continues to announce and respond with operation-related results according to laws, regulations, and investors’ demand

Corresponding Chapter Section
1-3 Governance Framework

Highlight of Communication Results
- CAL held the 2020 shareholders meeting on June 23. During the meeting, shareholders raised questions and made suggestions regarding the reasonableness of director remuneration for 2019, plans for the new fleet, and the company’s manpower allocation and countermeasures against the impact of COVID-19. All questions were answered and clarified by the chairman or designated staff. Please refer to the 2020 shareholders meeting minutes for details.
- CAL was invited to road shows hosted by securities dealers on August 26 and December 1 in 2020. CAL presented an overview of the company’s business and the impact of COVID-19 and the company’s countermeasures. Please refer to the first and the second road show presentations in 2020 for details.

Corresponding Chapter Section
1-3 Governance Framework
2-1 Trust
2-4 Environment

Highlight of Communication Results
- In 2020, CAL, CADF, and CAA of MOTC co-organized the Aviation Security Risk Management Seminar.
- In 2020, CAL co-organized two flight safety management conferences cohosted by CADF and CAA of MOTC.
- Attended three CAA meetings on review of carbon offsetting and reduction plans and training.
- Participated in the EPA Carbon Label Program.
- CAL received both carbon label and carbon reduction label.
- Completed ICAO CORSIA monitoring, reporting and verification (MRV)
Social support is the key to our success. As an economic entity in society, CAL continuously contributes to the economy while fulfilling our corporate social responsibilities.

**Community**

**Topics of Concern**
- Public Health and Safety
- Governance and Business Integrity
- Flight Safety Management
- Brand Management

**Key Points of Communication**
- Support for social development
- Assumption of social responsibility
- Creating a Sustainable Society

**Corresponding Chapter Section**
- 2-1 Trust
- 2-2 Human Resources

**Communications Channel and Frequency**
1. Charity events
2. Community activities
3. News releases

- A total of 355,459 individuals benefited in 2020

**Media**

**Topics of Concern**
- Public Health and Safety
- Flight Safety Management
- Labor Relations and Engagement
- Passenger Services Management

**Key Points of Communication**
Collection of issues of stakeholders’ concern and promotion of transparent communication

**Corresponding Chapter Section**
- 2-1 Trust
- 2-2 Human Resources

**Communications Channel and Frequency**
1. News releases
2. Press conferences
3. Interviews
4. Online mailbox

- Released 118 announcements (including press releases, statements, revenue reports, and news announcements) in 2020
- CAL was first to implement health measures and create a designated section to make public announcements at the beginning of the pandemic. Other airlines and government agencies followed and also created designated sections later

**Associations (including Aviation Organizations)**

**Topics of Concern**
- Public Health and Safety
- Labor Relations and Engagement
- Safety and Health Management
- Governance and Business Integrity

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

**Corresponding Chapter Section**
- 2-1 Trust
- 2-4 Environment

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

- Stayed in close contact with aviation alliances on flight safety and health topics during the COVID-19 pandemic to ensure effective safety management and health measures
- Engaged TAA on September 3, 2020 in the request for MOTC to extend airline relief programs and received positive support
- Worked with relevant member airlines within selected aviation organizations, such as AAPA and SkyTeam in reaching consensus on reducing monthly membership fees in response to the COVID-19

**Highlight of Communication Results**
Responding to international relief efforts during the pandemic, CAL organized charter transport for medical supplies, and transported 2,278 cases weighing a total of 73,343kg. Furthermore, CAL helped transporting expats in regions more affected by the COVID-19 back to Taiwan. A total of 9 charter flights benefited 1,224 people.
CAL actively participates in business development, corporate sustainability, environmental and other specialized initiatives and organizations in the airline industry. Despite the COVID-19 pandemic, CAL invested TWD 33.25 million to participate in initiatives (95% or TWD 31.59 million in business development for the airline industry and the other 5% or TWD 1.66 million in corporate sustainability, and environmental and other specialized initiatives) in 2020. The total amount invested fell by TWD 23 million compared to 2019. The decrease is primarily attributed to external organizations and associations reducing membership fees in response to the coronavirus’ massive impact on revenue in the airline industry.

### External Initiatives

**2017 - 2020**

**Buckingham Palace Declaration**

At the 73rd IATA Annual General Meeting in June 2017, CAL signed the Buckingham Palace Declaration against illegal wildlife trafficking. CAL has worked with 61 or more other airlines to stamp out the transport of illegal wildlife in conformity with the UN’s SDGs.

**2016 - 2020**

**The Dow Jones Sustainability Indices (DJSI)**

Since 2015, CAL has taken the initiative to respond to the Dow Jones Sustainability Indices (DJSI) questionnaire, disclosing management objectives, strategies and practices in terms of the environment, society, and the economy / governance. In 2020, CAL was selected for the DJSI Emerging Markets for the fifth consecutive year and ranked third among the world’s airlines. CAL was the only airline in Taiwan that was selected for the index.

**2012 - 2020**

**Pacific Greenhouse Gases Measurement (PGGM)**

Since 2012, CAL has participated in the PGGM by installing the In-service Aircraft for a Global Observing System (IAGOS) in its aircraft cabins to collect trans-Pacific high-altitude gas data for global warming and climate studies conducted by science agencies around the world. As of December 31, 2020, CAL has collected high-altitude gas data from 12,810 flights.

**2012 - 2020**

**Carbon Disclosure Project CDP**

Aside from being Taiwan’s first service provider to independently review greenhouse gas emissions generated from its operations, CAL also stands as Taiwan’s first carrier to respond to the CDP questionnaire. Since 2012, CAL has conducted greenhouse gas inventory training and surveys of greenhouse gas emissions for its affiliates on a regular basis and disclosed its climate governance, strategies and risk management, indicators and goals, greenhouse gas emissions, and reduction and management performance. CAL is recognized as a benchmark enterprise. In the future, CAL will review and improve carbon management strategies through participation and feedback. In 2021, CAL received a management level from CDP for climate risk management in 2020.

**2012 - 2020**

**Earth Hour**

CAL started supporting the event in 2008, and extended participation to CAL value chain partners in 2020. In addition to taking real action, CAL uses advertising to call attention to the effects of global warming and climate change.

**2018 - 2020**

**Task Force on Climate-Related Financial Disclosures (TCFD)**

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

### Memberships

**Airline Development**

**Association of Asia Pacific Airlines (AAPA)**

**Founding Member**

**Role and Participation**

As a founding member of the AAPA, CAL worked with member airlines, leveraging the AAPA platform on advocacy related to the aviation industry in the Asia Pacific region.

**Contributions and Benefits**

- Participating in the global aviation industry’s discussions regarding ICAO CORSIA, environmental protection, improvements in sustainable fuel efficiency, development of biofuels, consumer rights, and competent authorities’ latest regulations.
- In 2020, AAPA worked with international aviation organizations to urge governments to adopt standard health measures against the coronavirus and make preparations for reopening industries.

**SkyTeam**

**Alliance Board and Executive Board Member**

**Role and Participation**

CAL became the fifteenth member of SkyTeam on September 28, 2011, and was the first airline in Taiwan that joined one of the global airline alliances.

**Contributions and Benefits**

- SkyTeam helps CAL expand its global network. Cooperation with other member airlines enables CAL to connect Taiwan and major destinations around the world.
- In response to traveler’s expectation related to hygiene and safety on air travel triggered by the COVID-19 pandemic in 2020, CAL participated in SkyCare & Protect. A joint effort with all SkyTeam members on collective health measures to keep travel safe.
IATA

International Air Transport Association (IATA)
Member of Sustainability and Environment Advisory Council, Cargo Advisory Council, CSR Working Group, CORSIA Working Group, and Air Cargo Carbon Footprint, and observer of IAAC (Industry Affairs Advisory Council).

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

Contributions and Benefits
• Assisting the Executive Committee under IATA plan, supervise and implement the policies and strategies for environmental management and sustainable development of the global aviation industry.
• Participating in the making of technical specifications of ICAO CORSIA and policies pertaining to sustainable aviation fuels and promoting industry training.
• Keeping updated with progress of international carbon control and sustainable aviation fuels and providing information for national legislation.

FSFT

Flight Safety Foundation - Taiwan (FSFT)
Managing Director, Technical Regulation Committee - Convener, Educational Training Committee - Convener

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

Contributions and Benefits
CAL is responsible for promoting and establishing mechanisms for collecting and studying laws and regulations, educational promotion related to international aviation safety and environmental sustainability, and for giving advice on amendments or countermeasures for improving national legislation and aviation industry competitiveness.

TAA

Taipei Airlines Association (TAA)
Director

Role and Participation
CAL is one of the founding members of TAA. Established in March 1990, TAA acts as an advisor and coordinator who connects the government and the industry. CAL participates in annual general meetings, as well as director, supervisory board meetings. CAL also participate in regular activities organized by TAA, including but not limited to government meetings, implementation of government policies etc.

Contributions and Benefits
• Listing the airline industry’s needs during the pandemic to urge TAA to lobby for more relief programs.
• Participating in regulatory forums and helped TAA get involved in 3 Ministry of Labor workshops. Making recommendations for future regulatory reviews.
• Helped TAA devise plans to develop a healthier airline industry in 2020, and proposed system and regulatory reform.

AAPT

Association of Atmosphere Protection in Taiwan (AAPT)
Executive Director

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

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

CCS

Center for Corporate Sustainability (CCS)
Advisory Director

Role and Participation
CAL acted as one of the advisory directors. CAL participated in CCS training and operation, and, depending on CCS training topics, served as a speaker to promote the company’s sustainability efforts. CAL also participated in a series of training courses on corporate sustainable competitiveness and seminars on the corporate sustainability report and related issues organized by CCS to improve its knowledge of industrial practice and latest trends.

Contributions and Benefits
The Advisory Council is the highest decision-making organization of the Center for Corporate Sustainability. Becoming a member and acting as a director of the Center for Corporate Sustainability allowed CAL to be aware of latest laws and regulations, policy review, technical regulations, and standards for sustainability and to have influence.
In 2020, countries implemented lockdown and quarantine measures that caused a large number of passenger flight cancellations and in turn a sharp decline in revenue. In addition to working closely with the health authority to implement health management procedures, CAL adopted a combination of operational counterstrategies:

**Building Momentum for Reopening of Cargo / Passenger Transport — Combination Strategies**

- **Calling for Relief Programs**
  The government announced a new bill that provided relief measures applicable to aviation industries. The measures included reduced stopover and landing fees, health supply allowances and subsidies, and guaranteed loans. CAL continued to apply for these measures to ease the burden on the business.

- **Maintaining Financial Stability**
  CAL executed adjustments of the administrative management and sales budgets, and cut nonurgent capital expenditures to keep tight control of cash flows. CAL also implemented flexible leaves to allocate human resources and save on labor costs. CAL had been accessing lines of credit since February 2020 in order to ensure ready access to cash.

- **Making Passenger Flight Changes as Needed**
  Depending on the quarantine and border measures in different countries, CAL changed and combined flights while continuing flights to key destinations. New and resuming flights were postponed to summer 2021. Capacity was allocated as needed to carry cargo and mail in the belly of passenger aircrafts as a means to increase revenue.

- **Increasing Revenue from Cargo Flights**
  CAL started carrying cargo on some passenger flights again in March 2020 in support of transport of global relief and medical emergency supplies. Capacity of cargo flights was raised and utilized fully to carry more and increase unit revenues from cargo.

- **Optimizing Fleet Size**
  747-400 passenger aircrafts were retired early due to the coronavirus in order to lower the operating costs further and achieve a better fleet size. The number of aircrafts was 12% smaller and the number of seats 11% smaller compared to 2019. The fleet size was modified as needed with ongoing replacement of old aircrafts with new ones to achieve optimized operations. CAL tried to reinvigorate aircraft assets by leasing out one previously stored 747-400F aircraft to generate cash inflows. In addition, CAL continues with end-of-life 737-800 aircraft sales and A330-300 sale-leasebacks.
1-6-1 Business Model and Value Creation

Capitals Input

- Financial Capital: 54,209.8 (Unit: TWD million)
- Manufactured Capital
- Social and Relationship Capital
- Human Capital
- Intellectual Capital
- Natural Capital
- Environmental protection expense 10.2
- Charitable activity expense 2.3
- Community activity expense 1.8
- Brand management expense 3.3
- Customer service management cost 2,074.0
- Industry-academia partnership cost 4.2
- Supplier ESG management expense 0.3
- Employee training cost 158.1
- Middle or top management training cost 0
- Product R & D funds 124.7
- Investment in process improvement or system research and development 35
- Investment in patents 0.017
- Research and development employee training 0.08
- Product and Services:
  - Employment expense 0.7
  - Employee benefits cost 28.5
  - Employee training cost 108.1
  - Middle or top management training cost 0
  - Infrastructure construction or maintenance expense 11,966.8

Depreciation / amortization expense 20,187.9

Business Model

- Fleet and Network:
  - Focusing on target markets / customers
  - Optimizing fleet size
  - Making passenger flight changes as needed
  - Maintaining partnerships with alliance members and code share partners
- Product and Services:
  - Strengthening cabin cleaning and disinfection
  - Simplifying the sales process for products
  - Digitalized in-flight services
  - Strengthening baggage health and safety measures
  - Increasing revenue from cargo flights

Governance:
- Enhancing employee professional competence and career goal development
- Maintaining financial stability

Sustainability Strategies:
- Enhancing employee professional competence and career goal development
- Maintaining financial stability
- Optimizing group multi-brands to satisfy different markets and passengers’ demands
- Serving for more airport usable land from the government

Opportunities and Risks

Stakeholder Material Issues

Trust Human Resources Cooperation Environment Society Corporate Governance

1-6 CAL’s Sustainability Value

- Becoming the preferred airline in Taiwan

- Enhancing employee professional competence and career goal development
- Maintaining financial stability
- Ensuring flight safety and sustainability performance
- Smart resilience
- Localized global operations
- Youth innovation

Six Sustainability Strategies
- Governance — Root sustainable concept in value chain to make positive influence
- Safety — Embed the safety culture into products and services
- Brand Awareness — Promote local brand and transportation friendly
- Fleet and Network — Promote highly efficient fleets and network to forward environmental friendliness
- Product and Services — Create sustainable services with sustainable value and technology
- Group Business — Spread sustainability to group business to improve cooperation and sustainable development

Correction of Data on Page 17 of the 2019 CSR Report

- Customer service management cost: 6,952.5
- Capital: 54,209.8
- Depreciation / amortization expense: 29,564.6

Correction Correction
### Value Creation

#### Financial
- Operating revenue: TWD 106,327 million
- Revenue reduced by 27% compared to 2019; the EBITA rate decreased by 0.06% compared to 2019

#### Manufactured
- Punctuality rate of high-level repair and maintenance service: 100%
- Number of incidents causing casualties or flight crashes: 0
- Number of existing destinations (including new ones): 77 passenger destinations / 36 cargo destinations
- Number of passengers / cargo worldwide: 8,016 million passengers/kilometer / 6,365 million ton-kilometers
- Achieved the target punctuality rate of high-level repair and maintenance service (100%)
- Promote a safety culture based on the spirit of “safety awareness, full participation, active management, and implementation” to achieve zero safety incidents
- No new passenger / cargo destinations in 2020
- Compared to 2019, global passenger transport decreased by 81.1% while cargo transport increased by 18.68%

#### Intellectual
- Revenue / number of passengers (seats) created by improved products or services: 7,809
- Number of cost-saving patents: 62
- Number of patents obtained: 1
- Number of R&D employees trained: 159
- Improved quality of cabin equipment and optimized quality of audio-visual programs and system stability on A330
- A330s cabin and equipment design
- The “portable onboard wireless streaming media” provided by the 738 fleet

#### Human
- Number of new employees: 208
- New hire / recruitment retention rate in 2020: 51.92%
- Retention rate of employees hired before 2020: 99.95%
- Employee turnover: 6.83%
- Total number of employee training hours: 34
- Total number of middle or top management training hours: Not implemented due to COVID-19
- Cost of employment decreased by 8.4% compared to 2019
- Compared to 2019, the retention rate of employees hired before 2020 increased by 2.47%
- Compared to 2019, the voluntary turnover dropped by 102 persons
- Related training was organized based on the needs of business operations
- Middle or top management training: Not implemented due to COVID-19

#### Natural
- Electricity consumption: 34,512,647 kWh
- Carbon reduction: 5,803,373,976 tons
- Waste reduction: 1,936,675 kg
- Water consumption: 126,77 thousand tons
- Number and percentage of green buildings: 2 / 66.67%
- Water saved through continuous water management: 3,164 tons
- Solar power voltaic investment: Power generated: 117,000 kWh
- Electricity saved through a sound energy management system: 254,407 kWh
- Carbon emission reductions achieved through various carbon reduction measures: 48,888 tons
- Diesel reduction achieved through improved waste management: 107,023 kg
- Water saved through continuous water management: 3,164 tons
- Elevator power recycled with power regeneration system: 1,177 kWh
- Power saved in 2020: 117,000 kWh

#### Social and Relationship
- Number of charitable activities: 6
- Number of beneficiaries: 25,398
- Number of community activities: 34
- Number of participants: 650
- Number of sponsorships: 11
- Result of brand promotion: TWD 0.7 million
- Passenger transport customer satisfaction rate: 88.6
- Number of passenger transport customer complaints: 729
- Freight customer satisfaction rate: 88.6
- Number of cargo complaints: 1
- Number of industry-academia partnerships: 22
- Number of industry-academia partnership projects: 5
- Number of participants: 110
- Coverage of sustainable supply chain management: 81.1%
- Revenue reduced by 27% compared to 2019; the EBITA rate decreased by 0.06% compared to 2019

#### Output
- Revenue reduced by 27% compared to 2019; the EBITA rate decreased by 0.06% compared to 2019

#### Outcome
- Achieved the target punctuality rate of high-level repair and maintenance service (100%)
- Promote a safety culture based on the spirit of “safety awareness, full participation, active management, and implementation” to achieve zero safety incidents
- No new passenger / cargo destinations in 2020
- Compared to 2019, global passenger transport decreased by 81.1% while cargo transport increased by 18.68%

### Corresponding Chapter
- 1.1 About China Airlines (P.14)
- 1.5 About China Airlines (P.14)
- 2.1 Trust (P.40)
- 2.2 Human Resources (P.59)
- 2.4 Environment (P.82)
1-6-2 True Value of China Airlines

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

True Value

According to the results, CAL’s traditional financial performance (EBITA) was reduced by 0.06% to TWD 28.35 billion in 2020 compared to 2019 due to the impact of the COVID-19 pandemic. The true earnings generated in economic, environmental, and social aspects came to around TWD 27.07 billion in 2020, reflecting a decrease of TWD 1.28 billion and TWD 2.37 billion compared to EBITA and true earnings in 2019 respectively due to the positive benefits created by the respective increases of 15% and 8% in “Renewable energy usage” and “Green fares.” In line with the characteristics of the aviation industry, “Greenhouse gas (GHG) emissions” and “Noise pollution” were the main sources of external costs. The negative benefits of GHG emissions and noise pollution were reduced by 2% and 34% respectively in 2020 from 2019, showing CAL’s active engagement in environmental sustainability initiatives such as “GHG reduction,” “Noise pollution,” “Renewable energy usage,” and “Green fares.” In CAL’s true earnings in 2020, environmental external costs totaled TWD 16.1 billion, and positive benefits created by additional economic value and social externalities totaled TWD 14.8 billion.

Procedures for Assessing True Value

1. Create the Impact Map
2. Set the Scope
3. Identify Impact Factors of Material Externalities
4. Collect Internal Data
5. Calculate Environmental and Social Externalities
6. Monetize External Costs and Benefits

True Value of China Airlines

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<tr>
<th>Unit: TWD thousand</th>
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<tr>
<td>2020 True Earning</td>
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<td>2019 True Earning</td>
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<tr>
<td>Economic Value-Add</td>
</tr>
<tr>
<td>Environmental Externalities</td>
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<tr>
<td>Social Externalities</td>
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</tbody>
</table>

- Employee expenditure and benefits
- Public expenditure
- Green procurement
- Renewable energy usage
- Water recycling
- Waste recycling
- Green fares
- GHG emissions
- Air pollution & emissions
- Water resource consumption
- Noise pollution
- Waste treatment
- Employee training
- Cooperative education
- Occupational injuries

Earning (EBITA): 28,358,999

Environmental Externalities: 39,724

Social Externalities: 14,822,277

True Earning Decrease 2.37 billion

Decrease 1.28 billion

28,377,290

16,141,928

14,822,277

1,330

1,449

27,078,954

29,457,853

16,141,928

1,330

1,449

27,078,954

29,457,853
# Achieving Sustainable Development Goals

## Sustainable Development Goals for Six Value Task Forces

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<th>Task Force</th>
<th>Corresponding SDGs</th>
<th>2020 Objectives</th>
<th>Illustration of Progress</th>
<th>Key Results and Performance</th>
<th>Plan for Improvement</th>
<th>Short-term Goals (2023)</th>
<th>Medium-term Goals (2025)</th>
<th>Long-term Goals (2030)</th>
</tr>
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<tbody>
<tr>
<td>Corporate Governance</td>
<td>- Governance and Integrity Management&lt;br&gt;- Risk and Crisis Management&lt;br&gt;- Financial Performance&lt;br&gt;- Brand Management&lt;br&gt;- Fleet Development and Management</td>
<td>Implementing operating mechanisms for SDGs</td>
<td>- Achieving 100% of sustainability tasks for the year and establishing the employee awareness improvement plan</td>
<td>- 1. Provided employee CSR awareness training&lt;br&gt;2. Conducted one sustainability vision training session for the affiliates to raise CSR awareness. A total of 5,140 people received the training</td>
<td>Providing ongoing employee CSR training</td>
<td>- Achieving 100% of sustainability tasks for the year and carrying out the employee awareness improvement plan</td>
<td>- Regularly reporting progress on CSR tasks to the Corporate Sustainability Committee and holding at least two CSR training sessions for affiliates</td>
<td>- Disclosing sustainable development of airline transport affiliates</td>
</tr>
<tr>
<td>Social Feedback and Engagement</td>
<td>- Social Feedback and Engagement</td>
<td>Organizing at least one long-term social welfare project</td>
<td>- The COVID-19 pandemic this year affected the overall aviation market. Due to operational and pandemic prevention considerations, this project could not be implemented. In response to international support initiatives for the global pandemic, CAL supported the central government and used its core resources to provide multiple flights for the transportation medical supplies and charter flights for the repatriation of citizens living in regions more affected by the coronavirus</td>
<td>- Investing business resources and taking advantage of CAL’s business strengths to help local brands gain international exposure</td>
<td>Regularly participating in charity activities that improve the international visibility of Taiwan</td>
<td>- Promoting economic growth and employment assistance in underdeveloped areas / developing countries</td>
<td>- Enhancing the benefits of sponsorships</td>
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## Sustainability Governance

### 1. Sustainability Management Overview

- **About China Airlines**
- **Sustainability Vision and Strategies**
- **Governance Framework**
- **Sustainability Management Structure**
- **Materiality Analysis and Stakeholder Engagement**

### 2. Value Creation

- **Public Health and Safety**
- **Flight Safety Management**
- **Passenger Service Management**
- **Freight Service Management**
- **Privacy and Information Security**
- **Sustainable Innovation and Development**
- **Market Competitiveness**
- **Customer Relationship and Satisfaction**

### 3. Sustainability Governance

#### Task Force Corresponding SDGs

<table>
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<tr>
<th>Corresponding Material Issues</th>
<th>2020 Objectives</th>
<th>Illustration of Progress</th>
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<th>Long-term Goals (2030)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implementing personal data management systems in accordance with GDPR and personal data protection laws</td>
<td>1. Created a personal information management system</td>
<td>1. Created a personal information management system</td>
<td>Planning the introduction of international standards into personal data protection</td>
<td>Implementing personal data management systems, in accordance with GDPR and personal data protection laws</td>
<td>Receiving ISO27701 Privacy Information Management certification in the collection, processing, and use of personal data in the Passenger Service Management Procedure (including Taiwan and EU headquarters)</td>
<td>Maintaining validity of ISO27701 Privacy Information Management certificate, and keeping a score of 90 or higher in the UISE personal data protection criteria</td>
<td></td>
</tr>
<tr>
<td>Increasing the Cargo service customer satisfaction rate to 88%</td>
<td>The Cargo service customer satisfaction rate was 88.5% in 2020</td>
<td>Continuing to update and upgrade the Cargo system</td>
<td>Cargo service customer satisfaction</td>
<td>88%</td>
<td>89%</td>
<td>90%</td>
<td></td>
</tr>
<tr>
<td>Introducing robotic process automation (RPA) to optimize internal operating procedures and customer service mechanisms; installing Chat Bots</td>
<td>1. Introduces robotic process automation and related applications</td>
<td>1. Promoting installation of RPA applications in CAL sales departments to increase depth and width of application services</td>
<td>Continuing to secure development of core business applications systems and launch innovative application services as needed</td>
<td>Continuing to secure development of core business applications systems and launch innovative application services as needed in order to increase revenue and reduce costs for the company and enable more efficient routines</td>
<td>Promoting smart airport: Establishing a smart airport terminal at Tainan International Airport; and improving customer satisfaction through digital innovation initiatives</td>
<td>Promoting smart tourism: Achieving horizontal and vertical integration of tourism-related industries to provide a one-stop smart travel eco-system</td>
<td></td>
</tr>
<tr>
<td>Continuously participating in aviation organizations and increasing influence</td>
<td>To reduce the infection risk at gatherings, aviation associations</td>
<td>Continuing participation in aviation associations to increase CAL’s influence in these associations</td>
<td>Performing aviation data study and analysis for future release</td>
<td>Publishing aviation study results to improve aviation industry technical capacity</td>
<td>Developing innovation initiatives with other airlines to drive innovation momentum</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strengthening the promotion of just culture</td>
<td>CAL completed the triennial all-hands safety management system (SMS) training, and conducted an all-hands safety culture questionnaire. A total of 11,403 people completed the training</td>
<td>The results of the 2020 all-hands safety culture questionnaire will be provided as a basis for the 2021 safety culture campaign.</td>
<td>Enhancing the SMS performance review culture</td>
<td>Strengthening the safety culture</td>
<td>Continuously enhancing SMS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organizing eight insider sharing sessions to provide an opportunity for internal cross disciplinary networking</td>
<td>Organizing eight insider sharing sessions (on topics including cargo / passenger transport, international alliances, aviation administration, and ground services). A total of 755 people attended the events</td>
<td>Continuing to hold the events and explore different topics</td>
<td>Organizing eight insider sharing sessions to provide an opportunity for internal cross disciplinary networking</td>
<td>Completing the establishment of all internal online training materials in various professional fields</td>
<td>Application to Taiwan’s aviation talent development</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Establishing CAL’s aviation management talent pool</td>
<td>Completed building talent pools for different levels of management (including a master talent pool, management training courses, and advanced management courses), and modified related training mechanisms to develop talent for the company over the long term and lay the foundation for passing on knowledge and experience</td>
<td>Working with trends in the airline industry and the demand for talent management, and optimizing aviation management talent training mechanisms</td>
<td>Optimizing CAL’s aviation management talent</td>
<td>Establishing the optimal CAL’s aviation management talent pool</td>
<td>Promoting Taiwan’s aviation talent development</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The percentage of female managers has risen to 27.24% in 2020</td>
<td>The percentage of female managers reaching 24.5%</td>
<td>Reviewing the percentage of female managers and making it part of the hiring plan</td>
<td>The percentage of female managers reaching 27%</td>
<td>24.75%</td>
<td>25%</td>
<td>27%</td>
<td></td>
</tr>
</tbody>
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### Human Resources

- **Labor Relations and Engagement**
- **Human Rights**
- **Sustainable Employment and Talent Attraction**
- **Occupational Safety and Health Management**

### Medium-term Goals (2025)

- **Optimizing CAL’s aviation management talent**
- **Establishing the optimal CAL’s aviation management talent pool**

### Long-term Goals (2030)

- **Promoting Taiwan’s aviation talent development**
- **Application to Taiwan’s aviation talent development**

### Medium-term Goals (2025)

- **Receiving ISO27701 Privacy Information Management certification**
- **Maintaining validity of ISO27701 Privacy Information Management certificate**
- **Continuing to secure development of core business applications systems**
- **Launching innovative application services as needed**

### Long-term Goals (2030)

- **Promoting smart airport: Establishing a smart airport terminal at Tainan International Airport**
- **Improving customer satisfaction through digital innovation initiatives**
- **Developing innovation initiatives with other airlines to drive innovation momentum**

### Developing innovation initiatives with other airlines to drive innovation momentum
### Task Force Corresponding SDGs

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</tr>
</thead>
<tbody>
<tr>
<td>Cooperation</td>
<td>Sustainable Supply Chain Management</td>
<td>Maintain SAQ Score at 85 points</td>
<td>1. No high risk suppliers were identified in the 2020 sustainability self-assessment questionnaire 2. The average annual score was 88.59 in 2020</td>
<td>Continuing to follow up and provide assistance in order to keep raising sustainability scores</td>
<td>Optimize risk management for sustainable supply chain, implement SAQ, and audit 30% of critical tier-1 suppliers by 2020</td>
<td>100% of critical tier-1 suppliers and audit 100% of critical tier-2 suppliers by 2025</td>
<td>Optimizing risk management for sustainable supply chain, implement the SAQ, and audit 70% of critical tier-1 suppliers and 50% of critical tier-2 suppliers by 2023</td>
<td>Improving annual aviation fuel efficiency by 1.5% and achieving CORSIA carbon-neutral growth from 2020 (CNG2020)</td>
</tr>
<tr>
<td>Environment</td>
<td>● Climate Change Mitigation and Adaptation</td>
<td>Reducing carbon emissions from ground operations by 38% as compared with 2009</td>
<td>Utilizing energy management systems in ongoing energy saving and carbon reduction activities</td>
<td>Continuing to implement the IATA LUCY strategy to reduce carbon emissions technology, operational efficiency, infrastructure, and economic measures</td>
<td>Reducing carbon emissions from ground operations by 39% compared to 2009</td>
<td>Reducing carbon emissions from ground operations by 44% (ground operations) and achieving CORSIA carbon-neutral growth from 2020 (CNG2020)</td>
<td>Reducing carbon emissions from ground operations by 44% (ground operations) and achieving CORSIA carbon-neutral growth from 2020 (CNG2020)</td>
<td>Reducing carbon emissions from ground operations by 50% (ground operations) and achieving CORSIA carbon-neutral growth from 2020 (CNG2020)</td>
</tr>
<tr>
<td></td>
<td>● Green Service Operations</td>
<td>Reducing general waste (non-recyclable) by 2% compared with 2018</td>
<td>Reducing general waste production from ground operations in relation to 2018</td>
<td>Reducing general waste production from ground operations in relation to 2018</td>
<td>Reducing general waste production from ground operations in relation to 2018</td>
<td>Reducing general waste production from ground operations in relation to 2018</td>
<td>Reducing general waste production from ground operations in relation to 2018</td>
<td>Reducing general waste production from ground operations in relation to 2018</td>
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<tr>
<td></td>
<td>● Environmental Management System Development</td>
<td>Reducing water consumption from ground operations by 13% compared with 2018</td>
<td>Reducing water consumption from ground operations by 13% compared with 2018</td>
<td>Reducing water consumption from ground operations by 13% compared with 2018</td>
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<td>Reducing water consumption from ground operations by 13% compared with 2018</td>
<td>Reducing water consumption from ground operations by 13% compared with 2018</td>
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<tr>
<td></td>
<td>● Energy Management</td>
<td>Reducing paper consumption by 5% compared with 2018</td>
<td>Reducing paper consumption by 5% compared with 2018</td>
<td>Reducing paper consumption by 5% compared with 2018</td>
<td>Reducing paper consumption by 5% compared with 2018</td>
<td>Reducing paper consumption by 5% compared with 2018</td>
<td>Reducing paper consumption by 5% compared with 2018</td>
<td>Reducing paper consumption by 5% compared with 2018</td>
</tr>
<tr>
<td></td>
<td>● Resource Management</td>
<td>Reducing water consumption from ground operations by 13% compared with 2018</td>
<td>Reducing water consumption from ground operations by 13% compared with 2018</td>
<td>Reducing water consumption from ground operations by 13% compared with 2018</td>
<td>Reducing water consumption from ground operations by 13% compared with 2018</td>
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<td>Reducing water consumption from ground operations by 13% compared with 2018</td>
<td>Reducing water consumption from ground operations by 13% compared with 2018</td>
</tr>
<tr>
<td></td>
<td>● Embargging Illegal wildlife species and prohibiting use of illegal species as food ingredients</td>
<td>Embargging Illegal wildlife species and prohibiting use of illegal species as food ingredients</td>
<td>Embargging Illegal wildlife species and prohibiting use of illegal species as food ingredients</td>
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<td>Embargging Illegal wildlife species and prohibiting use of illegal species as food ingredients</td>
</tr>
</tbody>
</table>

**Goal Exceeded**

**Goal Attained**

**Goal Not Attained**

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**Note 1:** The importance of material issues to CAL may correspond to more than one task force; and the table lists only most relevant task force.

**Note 2:** Material issues shown in red bold type are also key issues.
Trust

HIGHLIGHTS

Preemptive protective measures
CAL actively cooperates with the national disease prevention regulations in response to the COVID-19 pandemic. We implemented advanced preparation and protection measures to ensure the health and safety of passengers and crew members to jointly protect public safety and health.

ISMS and PIMS introduced to certify core information systems
The Company began implementing annual reevaluation of the core Information Security Management System (ISMS) and certification of the Privacy Information Management System (PIMS) in 2020 to ensure that the management system can effectively operate and control risks. The Company also obtained credit card transaction system data security certification in 2020 to ensure the security of the Company’s credit card transaction environment and protect passenger rights.

Improving distribution capability
CAL obtained certification for Level 4 New Distribution Capability of the International Air Transport Association (IATA) on August 20, 2020 and became the first airline company in Taiwan to obtain the certification. Level 4 certification signify improvements in technical capabilities. If it is widely adopted in commercial applications, it can effectively reduce the cost of booking fees for the global distribution system (GDS).

Hosted aviation security seminar
CAL, China Aviation Development Foundation, and CAA of MOTC co-organized an aviation security risk management seminar in 2020.

9th passed IOSA Certification
CAL has successfully passed the IATA Operational Safety Audit (IOSA) of the International Air Transport Association (IATA).
Zero accident is the foundation for creating sustainable value for customers. Therefore, providing reliable and safe service is not only the core value of CAL, but also our way to sustainability. As a professional transportation service provider, the sustainable operations of CAL depend on the quality of transportation service provided. To create sustainable value for customers, CAL is dedicated to protecting customers' privacy, providing premium service that meets their expectations and needs, and continuing optimizing the quality of service.

Flight safety is CAL’s most solemn and important commitment to customers and the public in its 61 years of history. We are committed to compliance with regulations and zero flight safety accidents and we pledge that we shall do all we can to ensure the safety of all passengers and cargo on each journey. We shall also uphold our consistent service ideals of "respect for customers" and "protecting customer rights" during the global COVID-19 pandemic by monitoring international development while complying with national policies and full consideration of customer interests to create a reliable and high-quality service experience. We have adopted a brand-new national flight team slogan during the pandemic — "We fly, we fight. We will all be fine." We shall continue to fulfill our corporate mission of "creating more wonderful moments through flying".

### Commitment and Long-term Goals

- **Commitment**
  Flight safety is CAL’s most solemn and important commitment to customers and the public in its 61 years of history. We are committed to compliance with regulations and zero flight safety accidents.

- **Long-term Goals**
  "creating more wonderful moments through flying".

### Objectives and Plans

#### Key Point | SPI (Note 1) / KPI | 2020 | 2021
<table>
<thead>
<tr>
<th></th>
<th>Objects</th>
<th>Performance</th>
<th>Achievement</th>
<th>Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Flight Safety</strong></td>
<td>Fatal and Hull Loss Accidents</td>
<td>0</td>
<td>0</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>Runway Excursions (RE)</td>
<td>0</td>
<td>0</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>Controlled Flight into Terrain (CFIT)</td>
<td>0</td>
<td>0</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>Loss of Control in Flight (LOC-I)</td>
<td>0</td>
<td>0</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Customer Service</strong></td>
<td>Overall Passenger Satisfaction</td>
<td>87.8</td>
<td>88.6</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>Overall Cargo Service Satisfaction</td>
<td>88.0</td>
<td>88.5</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>Overall Maintenance Satisfaction</td>
<td>8.40</td>
<td>8.57</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Note 1:** SPI refers to safety performance indicators.

**Note 2:** In response to the COVID-19 pandemic, the Chairman agreed, after discussions in the meeting for setting quality targets, that the overall customer satisfaction target for 2021 shall be the same as that of 2020.
CAL follows the requirements in the civil aviation regulations of Taiwan and references the guidelines in the International Civil Aviation Organization (ICAO) DOC. 9859 Safety Management Manual (SMM). CAL has implemented the Safety Management System (SMS) since 2007. After more than a decade, the benefits have started rolling in. The core of CAL SMS is safety risk management. CAL analyzes and manages operational risks systematically through continuous risk identification and management. We also set Safety Performance Targets (SPTs) to implement overall tracking and control, or mitigate risks.

### 2-1-1 Flight Safety

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

### Safety Management System (SMS)

CAL follows the requirements in the civil aviation regulations of Taiwan and references the guidelines in the International Civil Aviation Organization (ICAO) DOC. 9859 Safety Management Manual (SMM). CAL has implemented the Safety Management System (SMS) since 2007. After more than a decade, the benefits have started rolling in. The core of CAL SMS is safety risk management. CAL analyzes and manages operational risks systematically through continuous risk identification and management. We also set Safety Performance Targets (SPTs) to implement overall tracking and control, or mitigate risks.
2. Safety Reporting System

To enhance their awareness of flight safety, CAL encourages employees to use the Safety Reporting System to proactively identify potential risks and report possible safety issues in their daily work. Through risk reporting, CAL prevents unsafe incidents from occurring and increases its overall security level. In addition, CAL conducts risk analysis and assessments based on seasonality, trends of flight safety, and changes in internal and external environments. Making further effort to control risks, we also communicate safety-related discipline and conduct to our employees in announcements or meetings. The Company also established reward mechanisms to encourage employees to file reports. Although the number of flights has decreased significantly due to the impact of COVID-19 in 2020, employees remained committed and actively filed safety reports. A total of 1,058 safety reports were filed this year and rewards were presented 141 times, demonstrating the effectiveness of the active reporting system.

3. Safety Risk Management

Through risk identification, risk assessment, risk control, monitoring, and review, CAL not only mitigates risks to a level as low as reasonably practicable (ALARP), but also predicts potential safety issues in normal system operations and solves them early to prevent accidents from occurring. To instill the concept of risk management into the operation units and strengthen employees’ use of risk management, CAL has, since 2015, provided regular safety risk management (SRM) training and assigned frontline units to implement self-evaluations and execute risk management operations. They must implement safety risk management in accordance with internal and external information, changes in the operation environment, adjustment of regulations, and changes in procedures and equipment.

4. Flight Operations Quality Assurance

CAL utilizes Flight Operations Quality Assurance (FOQA) and the Flight Operations Quality Information System (FOQIS) developed by CAL to quickly identify the potential risks of the flight crew operations and promptly provide guidance for them to take corrective measures. Apart from producing monthly trend analysis report of FOQA for CAL’s fleet as references, CAL also conducts necessary investigation and analysis, takes corrective measures, and continuously monitors the effectiveness of subsequent improvements and corrective measures in accordance with the regulations for operations, thereby lowering flight operation risks and ensuring flight safety.

5. Fatigue Management

In addition to fatigue management regulations set forth in domestic civil aviation laws, CAL follows the Fatigue Management Guide for Airline Operators (2nd Edition) established by the International Air Transport Association (IATA), International Civil Aviation Organization (ICAO) and the International Federation of Air Line Pilots’ Associations (IFALPA) in 2015 to implement crew fatigue management mechanism using a prescriptive approach. In 2019, CAL incorporated the fatigue management system into the safety policy and introduced a new crew scheduling system (AIMS) and a flight crew fatigue management system (FRMSc-SAFE). Through predictive risk identification and proactive actions, CAL plans to optimize crew scheduling and fatigue management. Due to the impact of the pandemic in 2020, CAL referenced the IATA’s “Guidance for managing crew fatigue during a crisis (1st Edition)” to manage crew fatigue. CAL actively reviewed the fatigue conditions and changes in safety behavior to identify potential risks for evaluations and adopt suitable mitigation measures.
6. Alcohol Test Mechanism

According to the Aircraft Flight Operation Regulations of the Civil Aeronautics Administration, CAL has established the alcohol test mechanism to conduct alcohol tests for operations personnel, such as flight crew, cabin crew, flight dispatchers, and maintenance personnel, and increase their alertness of flight safety.

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

Due to the impact of the COVID-19 pandemic, the International Civil Aviation Organization (ICAO) published “The CART Take-off Guidance” (TOGD) in 2020 to provide the aviation industry with disease prevention guidelines for airports, flights, crew, and cargo. It requires airlines to adopt public health risk mitigation measures such as employee training, social distancing, facemask usage, regular disinfection, health examination, contact tracing, passenger health declaration, and virus tests. In response to the operational risks created by the pandemic, CAL referenced “The CART Take-off Guidance”, disease prevention regulations of Taiwan, and disease prevention guidelines published by civil aviation authorities of different countries to implement comprehensive flight safety risk management. We use comprehensive response mechanisms to mitigate to the impact and changes brought forth by the pandemic. In the post-pandemic era, we use risk management to control and manage the restoration (restart) of operations in each phase. Domestic and foreign units and overseas branches have completed a total of 66 risk management evaluations based on their work duties and implemented mitigation measures based on risk trends to ensure continuous safe operations.

Safety Promotion and Training

To ensure flight safety, CAL organizes educational and entertaining safety events every year to instill the significance of safety among all employees and constantly enhance their awareness of flight safety. Our safety events in 2020 were based on the themes of “safety identification, active implementation, participation, and continuous improvement”. We aimed to enable all employees to act safely through experiential learning and positive motivation together reinforcing the safety culture in CAL and achieve the highest flight safety standards.
1. Safety Management System Recurrent Training

CAL completed the safety management system (SMS) recurrent training, and conducted an all-hands safety culture questionnaire. The results of evaluations by external professional institutions help CAL learn about the safety culture of the Company and improve safety management. A total of 11,403 employees in domestic and foreign units completed the training.

2. Safety Promotion — "Safe Experience and Contests"

CAL organized the "Taoyuan Airport Safety Mini-Tour" to provide a learning experience for flight safety and collaboration with a walking tour for the safety operation contact person of each safety work group visited Taoyuan International Airport. To encourage employees to use the bow-tie analysis to identify hazards and formulate appropriate risk mitigation measures, we organized the Bow-Tie group contest for first-line operation units. The contest encourages them to use teamwork and share knowledge to improve employees' safety management skills.

3. Safety Promotion — Hosted Aviation Security Seminar


Flight Crew Management

Professional Training and Evaluation  

CAL differentiates risk factors and implements risk management mechanisms based on the three perspectives of "Prediction", "Proactive", and "Passive" through complete internal and external environmental change response trainings, such as training for new airports, routes, aircrafts, systems, protocol procedures, systematic flight training / qualification, flight operation quality assurance (FOQA), and periodic appraisal of trainers / examiners, pilots who graduate from our training programs are highly professional, reliable, and fully capable of safeguarding passenger safety.

1. Stringent Training and Objective Testing

In order to implement our commitment of flight safety with a surge of demand for flight crew on the global market, CAL strictly requires our cadet pilots to complete at least 10 months of training programs at well-known flight training schools in the United States or Australia. To ensure the flight training is solid, they must pass the performance evaluation at the training school and pass the training for new aircraft models, upgraded ranking, and switching between aircraft types.

CAL has introduced evidence-based training (EBT) to replace traditional recurrent training and tests. The EBT is guided by risk and crisis management, utilizing big data collection and analysis to enhance the ability of handling abnormal situation by individual behavior, fleet performance, operation sites, and historical record of events etc. Since January 1, 2018, CAL has implemented annual "Flight Crew EBT" refresher training and fitness tests and achieved 100% EBT for a total of 2,391 flight crew in 2020.

2. Professional Training Facilities

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

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

3. A Comprehensive Management System

The Integrated Pilot Training System (IPTS) was since 2014 to comprehensively E-training records and integrate training course information. In 2020, 348 CAL flight crew have participated in a variety of short- and long-term training courses. CAL also completed the system connection and integration for IPTS with the new crew scheduling system (AIMS) introduced in 2019 to ensure the effective management and use of training resources.

In response to the impact of the COVID-19 pandemic in 2020, CAL has arranged regular flight simulator training, tests, and actual flights for all pilots in accordance with civil aviation regulations. CAL also formulates and implements continuous simulator training programs for all pilots of B737-800 aircraft whose operations were most affected, and co-pilots of long-range aircrafts with fewer landings to maintain their flight familiarity and attain flight safety quality targets.
Health and Emotional Management

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

1. Life Management

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

2. Stress and Health Management

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

3. Alcohol and Drug Management

CAL has established strict regulations and test procedures to prohibit the use of alcohol and drugs. This includes alcoholic beverages and food containing alcohol, as well as narcotic drugs or other drugs that may affect the normal performance of employees. CAL flight crews are not allowed to drink alcoholic beverages 12 hours prior to a flight. Since April 11, 2017, CAL has conducted alcohol test for all flight crew in accordance with the regulations of the Civil Aeronautics Administration.

4. Improved Communication

To improve communication with crew members and cohesion between them, CAL organizes all types of meetings on a regular basis to streamline the channels of communication and quickly respond to and resolve their problems and needs during flight duty period. Through improved communication, we hope to provide a comfortable and secure work environment for all crew members. Since the outbreak of the COVID-19 pandemic in February 2020, CAL Flight Operations Division has implemented disease prevention measures so that the crew members can work in a safe environment. Related response measures are as follows:

1. Provide crew members with information on the pandemic and provide them with comprehensive disease prevention equipment when they are on duty.
2. Plan disease prevention arrangements for outstation stays and request branch office to provide assistance to ensure crew members stay in hotels in accordance with the Company’s disease prevention requirements. Protect crew members from being exposed to risks and prepare snack packages for them when they cannot go out and purchase food in outstations.
3. Establish real time communication channels in CAL real time communication application to ensure instantaneous communication regardless of the time zone.
4. With regard to crew members for whom quarantine at home is inconvenient, Flight Operations Division arranges them to reside at Company’s hotel as the home quarantine site.
Maintaining maintenance quality is an important foundation of flight safety. With the Company’s Reliability Control Program, we proactively manage the maintenance status of all aircraft. By compiling and analyzing data related to common abnormalities and technical parameters from daily operations, appropriate maintenance strategies and plans are developed; this allows us to maintain the reliability of all systems on the aircraft to enhance maintenance quality and flight safety.

1. Professional Maintenance Capacities
The Company’s maintenance organization is certified by 11 countries and regions, including the European Union, the US, and China. We have the largest modernized maintenance facilities, including two hangars that can accommodate 5 wide-bodied aircraft at once, as well as an Engine Test Cell with up to 120,000 lbs. of thrust capability. The Company’s maintenance capability can satisfy different level of maintenance checks for various type of aircrafts. To expand maintenance service to airlines in Southeast Asia and East Asia, CAL was approved as a repair station by the Philippines in April 2019. CAL will continue to expand maintenance services for customer aircrafts and third-party equipment and plans to obtain maintenance certificates from countries such as Japan in 2021.

2. Establishing a New Maintenance Training Center
In response to rapidly growing demand for maintenance service at home and abroad, CAL was certified to establish the CAL Technical Training Center (CTC) in 2015. In 2017, CTC also obtained certification from the Civil Aviation Administration of China. CTC was the first certified institution in Taiwan to provide aircraft maintenance training for CAL-EMO and other airlines. Since CTC’s foundation, a total of 152 training courses have been offered, and 1,706 trainees have completed training.

3. Elevating the Quality Management System
CAL has acquired ISO 9001 certification and continuously maintain the effectiveness of the system since 1996. In May 2017, the EMO became the first certified institution in Taiwan to provide aircraft maintenance training for CAL-EMO and other airlines. Since CTC’s foundation, a total of 152 training courses have been offered, and 1,706 trainees have completed training.

To implement national epidemic prevention policies in the cabin, CAL provides all crew members with personal epidemic prevention kits to ensure the health and safety of passengers as well as medical personnel and crew members. CAL also require crew members to measure and record their body temperature when reporting for duties, “wear comprehensive epidemic protective equipment provided by the Company after boarding”, and “wear facemasks at all times except when eating or drinking”. Cabin crew are also required to use hypochlorous acid solutions to wipe door knobs and disinfect the environment after passengers use the lavatory to enhance cabin hygiene and cleanliness.
Implement Disease Prevention Management Measures for Charter Flight from Shanghai

Source: MNA

Maintain Social Distancing Onboard, On-board Broadcast of Entry Regulations, Cabin Inspections, and Ensuring the Cleanliness of the Environment

CAL established the "Crew Health Management System" platform to strengthen crew members' health control measures. When crew members end their missions, CAL will help arrange quarantine hotels for those that have entered level 3: Warning areas, are required to measure their body temperature twice every day and fill out results on the aforementioned platform. When crew members report irregularities or fevers, the Cabin Crew Division actively contacts them and helps arrange medical services for them. It also reports to the Medical Affairs Department to create disease prevention records and implement health management of crew members.

In response to the impact of the pandemic, CAL monitors the development of the pandemic at all times. When airport operations are affected by the pandemic and airports adjust entry regulations such as the maximum number of inbound passengers per aircraft or crew member screening procedures, the System Operation Control Division will immediately deliver the latest information to all related units through the Company’s internal communication system and take prompt response measures. The System Operation Control Division also monitors aircraft and flight status at all times.

Implement Disease Prevention Management Measures for Charter Flight from Shanghai

Source: MNA
Key Disease Prevention Measures in 2020

Before Boarding

1. Monitor the development of the pandemic in different countries at all times. When countries adjust their entry regulations, collect the latest information and deliver it to related units to facilitate immediate response.
2. Monitor flight status in real-time to obtain information on the latest developments and initiate response operations.
3. When the pandemic first broke out, CAL immediately established and activated body temperature measurement and office separation mechanisms to protect the health of employees and retain sufficient manpower to maintain the normal operations of the Company in the unfortunate event of disease transmission in the Company.

During Flight

1. Fully implement real-name registration when passengers change seats.
2. Request passengers to maintain social distancing after taking their seats.
3. Increase broadcasts of information on related entry regulations and compliance matters.

Arrival in Taiwan

1. Cooperate with Taiwan Taoyuan Airport (TPE) in implementing mandatory disinfection for all inbound baggage.

1. Provide a digital menu for business class and premium economy class passengers to browse and choose their meal after booking.
2. Promote the use of the eCheck-In system.
3. Regularly remind passengers to maintain social distancing in the airport and wear facemasks throughout the process.
4. Measure body temperature before boarding. If a passenger’s body temperature is over the threshold, the passenger will not be permitted to board the aircraft and will be requested to receive medical attention at a local medical institution.

1. Fully implement real-name registration when passengers change seats.
2. Request passengers to maintain social distancing after taking their seats.
3. Increase broadcasts of information on related entry regulations and compliance matters.

1. When crew members return from level 3: Warning areas, CAL arranges Quarantine hotels for them and requires them to measure their body temperature twice every day and fill out results on the “Crew Health Management System” platform.
2. When crew members report irregularities or fevers, the Cabin Crew Division actively contacts them and helps arrange medical services for them. It also reports to the Medical Affairs Department.

1. Flexibly adjust meal arrangements based on the development of the pandemic in different parts of the world and the regulations of governments.
2. Implement mandatory requirements for crew members to measure and record their body temperature when reporting for duties.
3. Crew members shall wear personal protective equipment provided by the Company at all times during the flight.
4. Crew members must wear face masks throughout the flight (except when eating or drinking).
5. Simplify catering service procedures to reduce the contact risks with passengers.
6. Increase the frequency of cabin cleaning.
7. Use hypochlorous acid solutions to wipe door knobs and disinfect the environment after passengers use the lavatory.

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1. Monitor the development of the pandemic in different countries at all times. When countries adjust their entry regulations, collect the latest information and deliver it to related units to facilitate immediate response.
2. Monitor flight status in real-time to obtain information on the latest developments and initiate response operations.
3. When the pandemic first broke out, CAL immediately established and activated body temperature measurement and office separation mechanisms to protect the health of employees and retain sufficient manpower to maintain the normal operations of the Company in the unfortunate event of disease transmission in the Company.
Integrate Passenger Transport Aircraft Resources of CAL Group

As the COVID-19 pandemic gradually fell in Taiwan in July 2020, we integrated passenger transport aircraft resources of CAL Group to satisfy demand for the transportation of residents of offshore islands and travel demand during the peak season in summer. We made full use of CAL’s B738 aircrafts, Mandarin Airlines’ E190 and ATR72 aircrafts, and Tigerair Taiwan’s A320 aircrafts to increase the number of flights to Penghu and Kinmen. According to statistics, the total number of available seats increased by 114% for flights to and from Penghu and increased by 32% for flights to and from Kinmen from July to October compared to the same period in 2019. The total number of passengers on flights to and from offshore islands increased by approximately 80% compared to the same period in 2019.

Customer Relations Management

Providing customer-oriented and quality service is the key to earn customer trust. CAL has established the quality policy and has designated a unit in charge of service quality control. Every year, the quality review meeting is held to set annual objectives and review service performance. Moreover, CAL has introduced the ISO 9001 Quality Management System and the TABLEAU big data analysis system to process and analyze customer satisfaction questionnaires to ensure the quality of service beyond passengers’ expectations. In 2020, CAL recovered 53,801 passenger satisfaction questionnaires which accounted for approximately 2.3% of the total number of passengers. The overall satisfaction rate was 88.6%.

Service Quality Management Mechanism

ISO 9001 Quality Management System

Internal Control — Quality Review Meeting

Third-party Audit

Customer Satisfaction Survey

Ahead of other domestic airlines, CAL has set up a variety of communication platforms for different groups of customers, including Customer Service on Facebook and bulletin board on the Instagram and WeChat, to collect problems which passengers encounter during their journeys and provide the updated information. By responding to customers’ needs with empathy and sincerity, we endeavor to improve their travel experience. To better understand customers’ needs, CAL integrates all customer feedback through the Customer Service System (CSS) (in 2020, 42.6% of customer feedback was provided via CAL’s website and 57.4% provided in other ways) and has units in charge of responding to customers within a given time limit in the hope of becoming passengers’ most trusted airline.

Communication Channel

Service Hotline

Regular Mail

Comment Form

Facebook

CAL has created a fan page on Facebook to understand customers’ needs and problems instantly and improve service quality accordingly. It is expected to increase adhesion among members and fans and develop new customers.

E-mail

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

Customer Feedback — Online Feedback System

Customer Satisfaction Survey

Connect with the Innovative Generation with Youthful Thinking

The Company continues to implement the “Youth Innovations” action plan to pursue the goal of increasing “Brand Awareness” in the sustainability strategy. We have launched innovative and unique promotional campaigns and products as we continue to engage the younger generation. The “#WhatTravelBringsYou” campaign launched in 2019 described the meaning of travel in a humorous manner and it has received 24 major domestic and international awards. We also published the “National Team of the Sky” video on YouTube and Facebook to provide records of CAL flights for transporting medical supplies and citizens, which struck a chord with many people. CAL adopted the “XIAO-HUA” as its avatar on social media. It was used to continuously remind passengers to pay attention to disease prevention during the pandemic and share information on CAL’s sustainable development achievements. We also worked with high-quality local companies in launching sustainable products such as the “CAL Foldable Platinum Silicone Cups” which won two “Buying Power Awards” presented by the Ministry of Economic Affairs.
Customer Health and Safety and Sustainability

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

Food Safety
Customer Health and Safety and Sustainability

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

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

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

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- CAL implements a maintenance plan for potable water facilities according to the manufacturer manual

Local Procurement
CAL plans and designs meals in line with the “Responsible Consumption and Production” goal and moves toward renewable energy, carbon reduction, and local procurement to achieve “Decent Work and Economic Growth”. From 2019 to 2020, we actively used local brands and high-quality agricultural products such as the procurement of large bottles of mineral water from renowned domestic brands. In 2021, we purchased small bottles of mineral water from domestic brands, domestic meat products, and beverages and frozen products made with fresh domestic vegetables. These measures help support local cultural and creative industries as well as quality agriculture in Taiwan as we seek to attain the goals of responsible consumption and production and environmental protection by reducing the carbon footprint, and fulfill our social responsibility to the earth.

Enhanced Disease Prevention in Airports
1. Safe Flight Plan
To effectively reduce the amount of time passengers spend at the airport, Passengers are advised to complete eCheck-in operations before arriving at the airport. Online check-in services can be used for all CI / AE flights departing from applicable airports to reduce the risks of virus transmission during the journey.

2. Social Distancing
CAL sets up signs in airports to remind passengers to maintain social distancing. The Company has produced posters and images on the flight information display system (FIDS) to remind passengers to maintain social distancing. We also requested the employees at check-in counters and boarding gates of different airports to set up posters or use screen displays to post notices for reminding passengers to maintain social distancing.

3. Wear Facemasks and Measure Body Temperature
In response to the COVID-19 pandemic, passengers must wear facemasks at the check-in counter, waiting room, and the cabin at all times in accordance with the government’s disease prevention measures and instructions to ensure the safety of all passengers, ground staff, and flight crew. They must complete body temperature measurement before boarding. The standard for forehead temperature measurement is 37.5 degrees Celsius (99.5 degrees Fahrenheit). If the passenger’s body temperature exceeds the standard, the passenger will be requested to receive a health inspection at a local medical institution.

4. Baggage Disinfection Upon Entry in Taiwan
Starting from the end of March 2020, all inbound baggage at Taiwan Taoyuan Airport (TPE) must be disinfected. All inbound baggage shall be disinfected with chemical sprays in the basement before they are loaded on the baggage carousel to reduce the risks of infections.

5. VIP lounge Disease Prevention Measures
Although the VIP lounges were temporarily closed due to the pandemic, the Company restarted VIP lounge services at Taoyuan Airport in September 2020 to continue to provide high-end VIP services for passengers. The Company formulated disease prevention catering procedures for VIP lounges on the basis of protecting the health of passengers and employees. During the pandemic prevention period, employees must wear facemasks and gloves, measure the temperature of VIPs,
and provide disinfection alcohol solutions. The VIP lounges canceled the buffet and adopted the "meal box" service in which an employee personally presents the meticulously designed box with nine partitions to each VIP.

Ninety percent of the dishes in the box with nine partitions are made with ingredients sourced in Taiwan. The famous chef of Novotel painstakingly designed and used unique food materials from different places in Taiwan to create different delicacies. The main dish “tea fragrance roast chicken” was marinated with “Alibang Black Tea” tea leaves sourced from Shihmen and Caoling, New Taipei City in Taiwan. The tea leaves used are the “hardcore red heart” parts of the tea, which is one of the four famous tea leaves. The tea buds bathed in the heat of the sun and its color turns dark red after a series of complicated procedures including withering, twisting, and fermentation. The taste is warm and tender and the texture is rich and sweet. It gives off a delectable fruity fragrance after the marinated chicken is roasted. The rice used in the meal box was also carefully selected and the local “Taoyuan No. 3 rice” variety was used. The Taoyuan No. 3 rice has always been known as the “new fragrant rice” which is chewy and gives off a hint of taro fragrance. Its taro-like texture leaves a lasting fragrance in the mouth.

The VIP lounges in Taoyuan Airport provided VIPs with delicious meals and paid closer attention to the disinfection and sanitation of the meal environment. They have fully dedicated themselves to providing passengers with a safer meal environment.

In 2020, CAL introduced a number of innovations and employee training programs to passenger services to improve service quality. In addition, CAL continuously studied sustainable practices in order to maintain customer service to the highest standards and stay in a leading position in the aviation industry, relevant achievements are listed below:

2. Outstanding Customer Satisfaction

In 2020, we upheld the ideals of respect for customers and disease prevention, and provided high-quality services, disease prevention products, and protective measures to all passengers to ensure that passengers can travel safely. The results are shown in our customer satisfaction scores.

2-1-3 Cargo Service

Building Momentum for Reopening of Cargo / Passenger Transport — Combination Strategies

CAL cargo services devised response strategies soon after the pandemic started. The team made full use of the cargo transport capacity provided by 18 747-400F aircrafts, and scheduled flights and allocated space as needed. The team also promoted customized cargo charters, and tried to expand in express delivery, e-commerce shipping, and temperature-controlled goods. Meanwhile, the belly capacity of passenger aircrafts was increased, and passenger cabins were repurposed to transport cargo. These measures allowed CAL to maintain a cargo capacity of more than 8.8 billion freight revenue ton kilometers (FRTK), which was an increase of approximately 10% from the previous year (2019). The shipment volume reached 6.36 billion FRTK which was an increase of almost 20% from the previous year (2019).

The impact of the pandemic has caused CAL’s overall cargo response strategy to change as time progressed. The outbreak of the pandemic in early 2020 quickly spread to different countries which imposed lockdown of cities / countries. The belly capacity of passenger aircrafts on the market dropped drastically and CAL began organizing large-scale cargo flights to China / Hong Kong to transport medical and disease prevention supplies as
the demand for such products rapidly increased. Due to the restrictions in the disease prevention measures of different countries and Taiwan’s disease prevention regulations for crew members, CAL reduced long-haul cargo routes by concentrating on the Luxembourg route for the European routes and concentrating on the Los Angeles and Chicago Airports for the American routes to reduce manpower consumption. CAL also actively made use of idle transportation capacity for charter flights to help different countries transport disease prevention materials.

The tourism market could not recover quickly in the second quarter and the short-term market capacity continues to be limited. However, the increase in the demand of disease prevention supplies increased freight rates on the market and the crash of oil prices reduced operating costs. CAL adjusted its business strategy and actively increased cargo aircraft flights to airports in Western United States, Europe, and other regional routes to an average of more than one thousand flights each month. CAL added passenger and cargo flights to Oceania to help transport local agricultural and fishery products and effectively replenish emergency imports for these areas. Due to changes in the policies of China and the United States on disease prevention supplies, the export supply of disease prevention supplies such as facemasks gradually shifted from China to Southeast Asia towards the end of May, and the Company also began expanding passenger and cargo flights to Southeast Asia in June.

The passenger transport market was devastated by the pandemic but demand for cargo transport has remained strong. CAL maintains a positive outlook on the cargo transport market and plans to retain certain 747-400F cargo aircrafts, which were set to be replaced when 777F cargo aircrafts arrive, for a period of time to make full use of the market capacity continues to be limited. However, the increase in the demand of disease prevention materials.

of May, and the Company also began expanding passenger and cargo flights to Southeast Asia in June.

The passenger transport market was devastated by the pandemic but demand for cargo transport has remained strong. CAL maintains a positive outlook on the cargo transport market and plans to retain certain 747-400F cargo aircrafts, which were set to be replaced when 777F cargo aircrafts arrive, for a period of time to make full use of the market opportunities. CAL will continue to adjust the aircraft replacement schedule based on changes in the future cargo market.

Quality Cargo Service

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

1. Special Cargo Service

CAL cargo aircrafts fly around the world and have a wealth of experience in carrying general goods, precision instruments, large equipment, precious antiques, live animals, and other special goods. CAL makes good use of the Boeing 747-400F cargo aircrafts to transport special-sized goods to provide safe and professional transportation services under the close supervision of dedicated CAL personnel. CAL often helps transport critical national cultural relics and relief supplies. With its diverse experience in transportation and excellent quality of service, CAL has promoted cultural exchanges.
between Taiwan and other countries. In response to the pandemic, CAL also provides new service models such as cargo flights with passenger aircrafts and using the passenger cabin for cargo transport. These measures help ensure employee safety and support disease prevention policies as we actively develop a variety of flexible cargo transport business models to ensure continuous operations of international logistics.

2. Upgraded Cold Chain Service
In response to increased demand for air transport of temperature-controlled goods (such as pharmaceuticals and vaccines), CAL has significantly improved its cold chain service. This included transportation of temperature-controlled containers, SOP for active / passive temperature-controlled cargo, and upgraded refrigeration / freezing equipment. In April 2019, Taipei Taoyuan passed for caught and obtained the CEIV Pharma certification, making CAL Taiwan’s first airline to earn this certification.

In the future, CAL will offer customized, refined cold chain service to provide diversified and quality temperature-controlled cargo service for customers around the world.

CAL actively prepares cold-chain transportation for vaccines and pharmaceuticals. With comprehensive risk assessment and personnel training as well as compliance with the regulations of domestic and foreign civil aviation authorities and the aircraft manufacturers, CAL began relaxing restrictions on the maximum amount of dry ice permitted for various aircrafts and developed active / passive temperature-controlled container products for the transportation of vaccines under safe conditions. CAL actively provides major vaccine and pharmaceuticals manufacturers with logistics solutions to contribute to the protection of citizens’ health. This demonstrated the innovation and flexibility of the CAL cargo transport team and demonstrated to customers CAL’s commitment and strength for becoming the “National Team of the Sky”.

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

4. e-Air Waybill & e-Freight
CAL promotes the e-air waybill and exchanges information with forwarders through electronic transmission, which reduces the operating costs of airlines and forwarders and avoids delays caused by input errors and missing documents. According to the latest e-AWB penetration rate released by IATA in 2019, CAL achieved its annual target ahead of schedule and ranked among the world’s top 10 airlines.

In 2020, CAL continued to carry out paperless operations and e-air waybills for cargo service to / from Hong Kong, Singapore, Frankfurt, and the Americas. Starting from April, CAL expanded paperless operations for cargo service to / from Kuala Lumpur, Penang, Tokyo, Osaka, Fukuoka, Nagoya, and Amsterdam. CAL also gradually reduces the use of any documents for cargo on board the aforementioned routes to fulfill our responsibility for environmental sustainability.

5. Apron Mobility
Through wireless transmission, all cargo information and loading statuses are instantly transmitted to mobile devices for users to monitor cargo status after shipment from the warehouse and load cargo correctly.

The apron mobile plan was launched in 2017 and mobile system was used starting from August 2018. Before the launch, GHAs were trained and the programs and procedures were modified based on test results to avoid loading errors and omissions when pallets / containers are loaded onto aircrafts. By using handheld mobile device as a channel of communication with GHAs, CAL has reduced the idle time of field supervisors and improved cargo service personnel’s productivity.

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

7. Embargo on Illegal Animals and Plants
CAL supports IATA and UN’s Sustainable Development Goals by signing the Buckingham Palace Declaration. CAL has also taken the following four concrete actions to fight against illegal wildlife trade and achieve environmental and ecological sustainability: “Expression and demonstration of agreement to tackle the illegal wildlife trade,” “Information sharing and detection,” “Practical measures to stop the transportation of illegal wildlife products,” and “New mechanisms tackling illegal wildlife trade.”

8. Authorized Economic Operator (AEO)
Being an authorized economic operator (AEO) helps CAL stay competitive in expanding business in the international trade supply chain and to cooperate with trading partners. After earning the AEO certification on January 19, 2012, CAL has carried out self-inspections based on safety evaluation items and certification standards every year and applied to the Customs for a field certification and audit every three years. Next year marks the ninth year after the certification. Starting from September 2020, the Cargo Sales, Marketing & Service Division has formed a management committee comprising the Cargo Sales, Marketing & Service Division, Corporate Safety Office, Human Resources Division, Information Management Division, Administration Division, Cargo Sales & Service, Taiwan, Engineering Division, and Inflight Supply Chain & Marketing Division to carry out annual self-inspections. A team from Taipei Customs of the Customs Administration conducted on-site inspections at CAL on December 1, 2020. CAL has applied for the calibration for the authorized economic operator (AEO) and was found to meet regulations in the review.

2–1-4 Information Security Management

Cyber Security Framework
CAL IT operations meet the standards of international cyber security standards and domestic cyber security regulations which are implemented in regular ICT operations. For this purpose, CAL has established the CAL Cyber Security Team with the Vice President of the Information Management Division as the Brain. The chairmen reports the status of cyber security management conditions to the Board of Directors every year. Chairman Su-Chien Hsieh is well qualified and has extensive experience in management and cyber security. He has earlier served as the chairman of Sabre Travel Network Taiwan Ltd. (Sabre), and is familiar with cyber security governance. He implements timely monitoring of information operations from an independent and objective perspective.
1. Regular Evaluations and Exercises

CAL conducts risk assessment of information and communication systems every year in accordance with the Cyber Security Management Act, and evaluates the cyber security responsibility levels of the core information and communication systems in aspects of confidentiality, integrity, availability, and compliance. We also develop a business continuity plan for the core information and communication systems and conduct business continuity exercises at least semi-annually to ensure that the Company can rapidly and effectively restore normal operations and minimize potential losses. In addition, we also review and evaluate the business continuity plan to ensure the availability and integrity of the plan.

2. Cyber Security Education and Training

Each year, at least 4 cyber security and information technology personnel shall receive the cyber security professional program training or the cyber security competence training for not less than 12 hours. All employees must receive at least 3 hours of cyber security training every year and at least one social engineering exercise is implemented every 6 months to strengthen information security awareness. By using diverse methods for cyber security training, the Company also incorporates ethical management into employee performance evaluations and human resources policies. CAL has established a clear and effective rewards and disciplinary system to ensure compliance and implementation with the code of conduct for the workplace. The Information Management Division conducts self-inspections and compliance assessments every six months. Audits are carried out by the audit unit independently to ensure the operations of overall mechanism.

3. Notification of Cyber Security Incidents

The cyber security incident notification and response mechanism is initiated based on the level of cyber security incidents, and emergency preparedness, notification and response procedures are in place to control their impact and post-incident recovery. In this regard, CAL develops the security incident notification & contingency drill plan at the beginning of each year and completes internal cyber security exercise by the end of each year.

Cyber Security Certification and Audit

The Company has established a more comprehensive management system to maintain the effectiveness of the certification. The Company implemented the annual Information Security Management System (ISMS) re-inspection for the core ICT systems in 2020 in accordance with ISO/IEC 27701:2013. The Company also made first attempt to implement the ISO/IEC 27701:2019 Privacy Information Management System (PIMS) standards that ISO released in August 2019. We expanded the requirements and implementation of the PIMS on the existing ISMS and obtained the certification in November 2020. Per examination by the Information Management Division in 2020, neither the monitoring nor warning information from the defense system, which detects threats to information security, was confirmed to be a security incident caused by hacker intrusion or virus infection.

Measures for Responding to the COVID-19 Pandemic

In response to the COVID-19 pandemic, Information Management Division of the Company established the “Office Isolation and Employee Home Isolation Information Operation Response Regulations” in February 2020. It also established the “Information Management Division Major Pandemic Response Regulations” and “Application System Operations and Maintenance Major Pandemic Response Regulations” so that if employees in Taiwan and abroad working from home encounter cyber security incidents or other disasters that cause the information system or network to fail, they can immediately report the failure and implement response measures. The Information Management Division regularly inspects firewall records and supervises network usage of VPN connections in accordance with company regulations. It also removes accounts without usage records, expired accounts, and accounts of transferred / former employees to reduce cyber security risks.
CAL is committed to protecting personal data and customer privacy. We fully comply with the Personal Data Protection Act of the Republic of China, General Data Protection Regulation (GDPR), California Consumer Privacy Act (CCPA), and other relevant personal data protection regulations. This is expressly provided in the “Privacy Protection Policy and Statement” on the Company’s official website. The applicable scope includes all employees of the Company as well as cases where the Company provides the personal data of a party to specific third parties. The Company shall also require such third parties to abide by the aforementioned “Privacy Protection Policy and Statement”. CAL also established operation quality documents to regularly evaluate third-party contractors and audit personal data protection.

### Personal Data Management Framework

To enhance our internal audit and personal data management, we have appointed a Data Protection Officer (DPO). We established the Data Protection & Quality Management Office in 2019 and created a personal data management system to implement, operate, monitor, review, maintain, and improve the Company’s personal data protection targets and policies and ensure compliance with regulations. The Company has established a personal data management organization in accordance with the Personal Data Management System. The convener organizes the establishment of the Personal Data Management Committee to take charge of the implementation of the personal data management system. The organization of the aforementioned Personal Data Management Committee is shown in the figure. The responsibilities of the units are described in the operation quality documents for the procedures and operations of the Company’s Personal Data Management Committee.

The Privacy Protection Policy and Statement on the Company’s official website specifies how CAL collects, processes, or uses personal data in a reasonably secure manner within the specific purpose authorized by each customer, there is no secondary use other than the purposes authorized by customers and ensures that the customer can exercise their rights to inquiries, amendment, removal, restriction of personal data use, and withdrawal of consent under the applicable data protection law / regulation. Where a customer wishes to exercise any of the aforementioned personal data rights, the customer may use the “Enquiry and Request for Personal Data” online form or the DPO mailbox (DPO@china-airlines.com). The Company shall assign a designated unit based on the internal division of duties to process the case, and respond to the customer’s request as soon as possible within the statutory period specified in the applicable data protection law / regulation.

### Personal Data Risk Assessment Mechanisms

In order to implement legal compliance and identify the related risks in processing of personal data, the Company established operation quality documents to visualize and document all personal data processing. The members of the execution team formulate, review and update the business information framework and personal data inventories for the aforementioned personal data inventory operations each year. They also regularly review the categories of personal data held by the Company, execute risk assessments every year, and propose improvement plans based on the results of the assessment.

### Personal Data Incident Response Mechanisms

For theft, alteration, leakage or loss of data, CAL has also prescribed a contingency plan and sound personal data protection mechanisms in accordance with the Regulations Governing Personal Information File Security Maintenance Plan and Processing Method for the Civil Air Transport Enterprise to ensure the accuracy and security of personal data.

CAL executed desktop personal data incident simulations and exercises in 2020 to ensure that related units handle personal data incidents in accordance with procedures in a prompt and appropriate manner. We also use the results of the exercise to review the effectiveness of operating procedures and the horizontal communication and response capabilities between units.

### Personal Data Internal Audit and Training

The Company established the “Personal Data Audit and Continuous Improvement Management Procedures” to review whether the personal data management targets, management procedures, and safety management systems are fully implemented in accordance with plans, and ensure the effectiveness of the personal data management system. The personal data audit standards are established in accordance with the Personal Data Protection Act of the Republic of China, GDPR, Regulations Governing Personal Information File Security Maintenance Plan and Processing Method for the Civil Air Transport Enterprise, local personal data law / regulation, the “requirements for
properties of customers or external providers (including personal data) in Article 8.5.3 of ISO 9001: 2015 Quality Management System, and related operation quality documents of the Data Protection & Quality Management Office for the execution of personal data audits. An internal audit is performed every year for auditing domestic personal data. The Company also audits overseas branch offices based on the personal data inventory progress. The “Corrective Action Response Form” issued based on the results of the audit is submitted to the “Personal Data Management Committee” for review. The Committee also tracks the corrective and preventive measures and the improvements for the results of risk assessments.

The Company provides all employees with regular training to enhance their personal data protection knowledge and code of conduct. The internal assessment teams regularly receive training for personal data management and audits. The Company organized personal data protection e-learning training in 2020 and more than 10,000 flight crew, ground staff, and maintenance personnel completed training. The Company also publishes personal data newsletter every quarter to update latest news / information and case studies with employees.

### Privacy Protection Policy and Statement

1. **Expansion of personal data protection to domestic and foreign branches**
2. Completed personal data inventory, internal audit, and risk assessment across divisions / departments in Taiwan and foreign countries
3. Organized personal data protection training for all employees
4. Carried out regular contingency drills on personal data incidents
5. Held annual personal data management review meeting

### 2020 Personal Data Protection Milestones

- Expansion of personal data protection to domestic and foreign branches
- Completed personal data inventory, internal audit, and risk assessment across divisions / departments in Taiwan and foreign countries
- Organized personal data protection training for all employees
- Carried out regular contingency drills on personal data incidents
- Held annual personal data management review meeting

### Annual Personal Data Incidents

- **Internal:** 0
- **External:** (leak of customer data) 1

Note: The contingency team has been formed by relevant departments / divisions to handle personal data accident in accordance with Personal Data Accident Contingency Management Procedure. It effectively prevents damage within the required time and proposes review and improvement plans after the accident.

### Future Plans

#### Flight Safety

1. **Renewing Flight Safety Certifications**

   After obtaining the IATA Operational Safety Audit (IOSA) certification in 2005, CAL has participated in revaluation every two years in accordance with IATA regulations to ensure flight safety. The Company passed the IOSA revaluation for the ninth time in 2020. Due to the pandemic, the revaluation was a comprehensive inspection performed through a remote audit. However, as the IOSA Remote Audit certificate is only valid for one year, the Company will organize the tenth IOSA Renewal Audit this year (2021) to continue to meet the highest international safety standards and offer passengers quality and reliable services.

2. **Enhancing Resilience to Abnormal Flight Operations**

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

3. **Improving Weather Forecast Effectiveness and Enhancing Resilience to Abnormal Flight Operations**

   The Company signed a contract with Weathernews Inc. (WNI), a Japanese weather information company, for the purchase of an exclusive early warning system for volcanic ash clouds. The objective and accurate third-party information is used as the basis for dispatching and assigning flights. We also continue to enhance the professional weather knowledge of flight management personnel to ensure flight safety.

4. **Improve Internal Communication Efficiency**

   The Company makes full use of its internal communication system to enhance the delivery of flight information and changes to all units. We established a communication platform on Team+ at the beginning of the pandemic to quickly announce flight Information and changes to all units.

#### Flight Safety

- **Renewing Flight Safety Certifications**
- **Enhancing Resilience to Abnormal Flight Operations**
- **Improving Weather Forecast Effectiveness and Enhancing Resilience to Abnormal Flight Operations**
- **Improve Internal Communication Efficiency**

#### Passenger Service

1. **Enhancing Mobile Devices and Official Website Services**

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

2. **Cabin Management System Upgrade and CRM**

   To effectively monitor flight and important passenger information and increase overall customers’ satisfaction, we have upgraded the Cabin Mobile Service Management System (CS 2.0) and incorporated special remarks and other basic information of passengers and flights. The data is processed through backstage management and screening and the CRM system uses big data analysis to convert the data into effective information which can be used by related units.
3. Upgraded Airport Services
To promote touchless services, reduce contact between airport personnel and passengers, and increase the security control level, the Company activated facial recognition boarding services with airport equipment in airports in the Americas such as San Francisco (SFO) and New York (JFK). Passengers can use the facial recognition system for boarding. If passenger data cannot be accessed by the facial recognition system, passengers can still obtain assistance from personnel on duty at the gate.

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

Cargo Service

1. Adjusting Capacity Flexibly in Response to Market Needs
CAL will continue to develop the network adjustment plan and optimize crew scheduling based on market needs to improve labor-management relations.

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

3. Continuously Promoting Premium Air Freight Cargo & Customized Service
With extensive cargo handling experience and B777F features, CAL aims to deliver more precision equipment, aviation supplies, temperature-controlled cargoes, and other high-priced cargoes, add more value to sales with excellent service, and promote revenue diversification.

2. Personal Data Protection Audit
The Company shall continue to execute the personal data protection audits for all domestic units. As the personal data protection audits in foreign countries are affected by the COVID-19 pandemic, the Company shall adjust the 2021 personal data audits for offshore sites in accordance with the government’s disease prevention policies, and execute the personal data protection audits in the form of document reviews.
2-2

Human Resources

HIGHLIGHTS

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

TWD 13.92 billion
Invested in salary and benefits.

99.43% union participation
99.43% of employees participating in labor unions.
We view our employees as family. We are always willing to communicate with respect and strive to reach a mutual understanding through negotiation. We endeavor to create a more harmonious work environment based on an equitable, cooperative, and mutually respectful relationship. In such a work environment, labor and management reach a consensus through open, transparent negotiations and are more willing to communicate on collective agreement issues.

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

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

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

- **Long-term Goals**
  - **Commitment**
  - **Long-term Goals**

  **2023**
  1. Organizing eight insider sharing sessions to provide an opportunity for cross disciplinary networking
  2. Optimizing CAL’s aviation management talent training mechanisms
  3. Percentage of female managers reaching 24.75%

  **2025**
  1. Completing the establishment of all internal online training materials for all specialties
  2. Establishing the optimal learning path for CAL’s aviation management talent pool
  3. Percentage of female executives reaching 25%

  **2030**
  1. Applying to Taiwan’s aviation talent development
  2. Promoting Taiwan’s aviation talent development
  3. Percentage of female managers reaching 27%
Regulations and Procedures on Human Rights

Employee Code of Conduct

Employees should support company policies on human rights, fairly treat and respect for every employee, avoid infringing on the rights of others or become accomplice to human rights abuses. We not only implement policies to protect the human rights of employees, but have also established a management mechanism to ensure employee care. We do not use forced labor. We do not adopt race, gender, age, family, political affiliation or religious beliefs as the criteria for employee assignment, performance evaluation or promotion.

Human Resource Manual / Employee Complaints Regulation / Sexual Harassment Complaints and Disciplinary Actions Regulation

- Proclaimed employee human rights protection includes basic stipulations, freedom of employment, humane treatment, and prohibition of discrimination or sexual harassment.
- In August 2020, e-Learning on sexual harassment prevention was held, and 9,768 employees completed the training (100% completion rate).

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

Hiring people younger less than 16 years old is strictly prohibited to fully compliant with legal minimum age for employment. To safeguard the physical and psychological health and safety of employees whose age are below 18, hazardous assignments are strictly prohibited.

Supplier Code of Conduct

Human rights standards were specified in the Supplier Code of Conduct include:

Anti-discrimination Policies and Courses

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

In addition to complying with CAL Group’s human rights policies, Mandarin Airlines and Tigerair Taiwan have incorporated management measures for equality and anti-discrimination and whistle-blowing channels into their regulations and organize training on a regular basis. In 2020, Mandarin Airlines organized a “Mandarin Airlines and Me” workshop on sexual harassment prevention, and a total of three sessions were held and attended by 33 employees. In September 2020, Tigerair Taiwan organized a seminar on Prevention of Sexual Harassment in the Workplace, in which 34 employees participated.

Procedures for Identifying Material Human Rights Issues

1. Identify the framework based on CAL Human Rights Policy
2. Human Resources Task Force Identifies and Reviews Human Rights issues of CAL Value Chain
3. Corporate Sustainability Committee Verifies identified issues
4. Unit in Charge Develops Improvement Measures
5. Human Resources Task Force Implements following Improvement
6. Disclose Identification Results and Improvement Actions
Human Rights Risks Identification Results

CAL has identified human rights risks independently in accordance with the United Nations Guiding Principles on Business and Human Rights. The Human Resources Task Force first selects material human rights issues of the year through internal and external stakeholder engagement and issues risk identification questionnaires to stakeholders in the value chain. In 2020, it analyzed the material human rights risks of the year based on 258 valid questionnaires, while reviewing the occurrence nodes of human rights risks and material risk issues throughout the value chain in order to perform human rights due diligence and develop mitigation and remedial measures. The overall human rights risk level for CAL in 2020 was low, but we are still responding to three relatively major risk issues, including the right to privacy, right to health, and the protection of labor condition.

Material Human Rights Issues Identified

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

Upstream (Supply Chain Partners)

Regarding the human rights management of upstream supply chain partners, CAL has gradually established a risk management mechanism of the sustainable supply chain since 2015. The management mechanism includes risk identification, on-site review, and tracking and improvement, while the management dimension includes governance, environment, society, and the general aspect. Among them, the human rights risk issues are the main management focus of the aspect of society. CAL has launched human rights issues that need to be managed in accordance with the Sustainable Supply Chain Management Policy and Supplier Code of Conduct. In addition to issues, such as child labor, discrimination, and freedom of association, the protection of labor condition and occupational safety and health issues related to the right to health are all the focus of CAL’s evaluation and audit. As for the right to privacy, it is related to the information security management issues in the general aspect, which is also an existing management item in CAL’s sustainable supply chain risk management mechanism. Each year, CAL adopts a periodic sustainable supply chain management mechanism to keep abreast of the management situation of various human rights risk issues by supply chain partners and their mitigation and improvement approaches in the case of high-risk situations. In 2020, in response to the COVID-19 pandemic, CAL required its suppliers to provide a healthy, safe, and hygienic workplace to promote overall safety for the workforce. For more sustainable supply chain management measures, please refer to Chapter 2-3-2 Sustainable Supply Chain Management in the Cooperation section of this report.

Midstream (CAL’s Operations)

In terms of employee privacy management, the Company has set up a “personal information management system.” By implementing the maintenance and management of personal data files, the impact of personal data file violations can be reduced. The labor conditions of employees are all focused on moving towards being superior to the laws and regulations, as well as industry standards. Various committees with labor participation are run regularly to continuously improve and ensure the labor rights of employees. With regard to the management of employees’ right to health, CAL has set up the Occupational Safety and Health Committee and introduced the ISO 45001: 2018 and TOSHMS occupational health and safety management systems to identify and control occupational accident risks in the workplace based on the level of the risks, to ensure employees’...
safety and health at work. For more details on the management measures of employees' labor conditions and right to health, please refer to Chapters 2-2-2 Recruitment and Retention, 2-2-4 Employee Rights, and 2-2-5 Healthy and Safe Workplace.

In addition to the material human rights risks identified in 2020, CAL upholds an open attitude toward employees’ joining in the union. As each CAL employee is an ex-officio member of the corporate union, they can participate in various union affairs or be directly selected as leaders in the union. CAL regularly holds negotiation meetings with the corporate union to listen to the voice of the union; employees can also join occupational unions outside the Company according to their own wishes, and CAL maintains an equally open attitude toward employees’ joining of external occupational unions and does not resist substantive negotiations with any union.

CAL has established diversified communication channels, including regular labor-management negotiation meetings, an employee care mailbox, a sexual harassment mailbox and associated grievance hotline, the “Speak Your Mind” Employee Portal, and Team+, an internal messaging software so that employees can put forward their opinions or suggestions. In addition, CAL has formulated the Employee Grievance Regulations. When employees’ rights and interests are infringed or handled improperly, they can file a complaint in accordance with the regulations. If they disagree with the results of the complaint, they can re-file the complaint to protect their own basic rights. In 2020, there were eight complaints filed. CAL employees, mainly related to disciplinary matters, all of which have been responded to and closed. As of the end of December 2020, there was one case of a workplace violation complaint filed by three complainants to Tigerair Taiwan, namely verbal abuse and psychological violence complaints, which were reviewed and handled in accordance with the procedures.

We pledge ourselves to put an end to sexual harassment. Continuing education on sexual harassment prevention is conducted annually for new recruits and existing employees, and course materials are available for employee access on the CAL website. CAL also puts up posters in duty rooms, communicating definitions and types of sexual harassment, as well as grievance channels, to frontline employees. Employees can file sexual harassment grievances via the sexual harassment mailbox, hotline, or e-mail account. If the sexual harassment perpetrator is a CAL employee, the Human Resources Division will initiate an investigation and convene a meeting of the Complaint Review Committee within 7 days after receiving the grievance. No less than half the members of the Complaint Review Committee are female. If the incident is defined as a case of sexual harassment, disciplinary actions or other measures will be taken; and, depending on each incident, psychological counseling may be arranged for both the perpetrator and the victim. If the perpetrator of the incident is not a CAL employee, CAL will assist the victim with legal aid. Mandarin Airlines has published a statement about the ban on sexual assault and harassment and posted information on sexual harassment prevention on the EIP website. An annual report on grievances regarding sexual harassment is made by the end of every year for follow-up. Besides Mandarin Airlines, Tigerair Taiwan also takes sexual harassment seriously. Every new employee of Tigerair Taiwan is required to complete the training course on regulations concerning sexual harassment prevention and grievances through the regulations which disclosed on the employees’ public portal. There were no sexual harassment cases in 2020 for CAL, Mandarin Airlines, or Tigerair Taiwan.

### Grievances against Sexual Harassment from 2018-2020

<table>
<thead>
<tr>
<th>Item</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improper behavior - Administrative disciplinary actions</td>
<td>3</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Improper behavior - Administrative disciplinary actions</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Administrative disciplinary actions</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Downstream (Customers)

For customer privacy protection, CAL has hired an external professional consultant team to serve as the consultant for CAL’s personal information protection mechanism, introduced the personal information management system, and set up the Personal Information Management Committee for maintenance and management of personal data files. Each division / department of CAL has also completed personal information risk assessments in 2020 and formulated the Privacy Protection Policy and Statement regarding the collection, use, acquisition, or change of customers’ personal data, revision of privacy protection/security statement and commitment to maintaining confidentiality of information, which are all publicly disclosed on the Company’s official website. Regarding the customers’ right to health, CAL has long been aiming at zero flight accident. As early as since 2007, it has implemented the “safety management system” to ensure and improve the safety level of its products and services through risk identification as well as analysis and management. CAL also has a “Flight First-Aid Advisory System,” which allows customers to obtain professional medical advice if they are feeling unwell during check-in, boarding, or flight. In response to the COVID-19 pandemic in 2020, a series of
preventive measures have been implemented from check-in to arrival at the destination to protect passengers’ health. These measures include requiring passengers to wear masks throughout the flight, maintaining social distances, adjusting flight arrangements, and adjusting the in-flight catering to meet passengers’ dietary needs. For more management measures to ensure customers’ right to health, please refer to Chapter 2-1-1 Flight Safety in the Trust section of this report.

2-2-2 Recruitment and Retention

Human Resource Management System

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

Functional Needs

Placement

• Performance Evaluation and Management
• Promotion and Rotation

Training

• Orientation Training
• Professional Training
• Management Training

Retention

• Remuneration Management
• Employee Benefits
• Employee Communication

Selection

• Manpower Requirements
• Recruitment

Workforce Structure of CAL Group

As of the end of 2020, the total number of employees of CAL, Mandarin Airlines, and Tigerair Taiwan were 11,390, 951, and 728, respectively. The number of employees employed by the three airlines is in compliance with the regulations (details Workforce Structure tables in the Appendix).

Gender Equality and Diversity

We place great importance in gender equality. In 2020, female employees of CAL accounted for 48.33% of the total CAL workforce and 27.24% of all managerial positions were held by females. At Mandarin Airlines, female employees accounted for 51.63% of the total workforce, and 25.51% of the managerial positions were held by females. At Tigerair Taiwan, female employees accounted for 55.36% of the total workforce, with female managers representing 44.83% of all managerial positions. Due to the nature of the aviation industry, CAL has a higher demand for professionals in certain fields of expertise, leading to a male / female gap that is common in society. CAL is committed to providing a comfortable work environment that is conducive of balanced career development for all employees, regardless of gender. In order to safeguard the well-being and right to work of female employees, when a female flight attendant is pregnant, she may apply for unpaid leave or request a transfer to ground services. Upon completion of maternity leave, she may then apply to resume her duties as a flight attendant. In addition, two breastfeeding rooms have been set up at CAL Park for female employees to use at any time. We also provide our male employees benefits that are better than required by the Act of Gender Equality in Employment. A male employee may apply for 5-day paternity leave with full pay during childbirth. In addition, to help our employees achieve work-life balance, CAL has signed agreements with 10 daycare centers and kindergartens in 2020 to provide special discounts for CAL employees. CAL values diversity in the workforce. In 2020, CAL employed 79 (0.69%) indigenous employees and 108 (0.95%) employees with disabilities. In addition to our commitment to expanding employment among indigenous people, we have employed staff with disabilities at a higher proportion than prescribed by law since September 2015. CAL received the Excellency Award at the Golden Wingspan Awards in 2016. We have redesigned job descriptions for employees with disabilities with a focus on improving working conditions and making adjustments to job requirements and career development. We also provide shuttle buses and regularly-scheduled health examinations for our employees with disabilities. In addition, we have signed long-term service contracts with visually impaired massage therapists to provide employees with free on-site massages, thereby providing job opportunities for the visually impaired and enhancing our employees’ health at the same time.
Local Employees

The flight network of CAL spans across the globe, and a large number of job opportunities are available. This results in contributions to local employment and economic development. About 86.63% of all CAL employees are based in Taiwan. The composition of CAL's international employees includes foreign pilots from 20 countries, and flight attendants from Vietnam, Japan, and Thailand. We also employ local employees at our 159 destinations cities in 29 countries around the world. CAL endeavors to provide a friendly work environment for our international employees, with equal opportunities and benefits to our Taiwanese employees.

Recruitment

Due to CAL Group’s business growth and fleet / flight network expansion in recent years, we have recruited in various areas to meet the requirements of our growing business. To fulfill our commitment to social responsibility, we continue to promote industry-academia collaboration programs and employ people with disabilities. In 2020, CAL recruited 208 employees, including 129 full-time employees and 79 contract employees, accounting for 1.83% of the total workforce. Mandarin Airlines recruited 44 full-time employees, 41 of whom are flight service personnel, accounting for 4.63% of the total workforce. Tigerair Taiwan also employed 47 full-time employees and 39 contracted employees, accounting for 11.81% of the total workforce.

Workforce Diversity of CAL Group in 2020

Local Employment of CAL Group in 2020

<table>
<thead>
<tr>
<th>Company</th>
<th>Region</th>
<th>Employees</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taiwan</td>
<td>98.80%</td>
<td>100.00%</td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>97.22%</td>
<td>44.74%</td>
<td></td>
</tr>
<tr>
<td>Asia</td>
<td>93.31%</td>
<td>47.37%</td>
<td></td>
</tr>
<tr>
<td>Americas</td>
<td>66.22%</td>
<td>32.50%</td>
<td></td>
</tr>
<tr>
<td>Europe</td>
<td>45.56%</td>
<td>33.33%</td>
<td></td>
</tr>
<tr>
<td>Oceania</td>
<td>63.16%</td>
<td>23.58%</td>
<td></td>
</tr>
<tr>
<td>Taiwan</td>
<td>100.00%</td>
<td>100.00%</td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>91.18%</td>
<td>16.18%</td>
<td></td>
</tr>
<tr>
<td>Taiwan</td>
<td>96.70%</td>
<td>100.00%</td>
<td></td>
</tr>
<tr>
<td>Asia</td>
<td>100.00%</td>
<td>100.00%</td>
<td></td>
</tr>
</tbody>
</table>
Employee Turnover

Over the past three years, the average employee turnover of CAL has been 6.11%. Each of our employees is safeguarded by an employment contract, and each contract clearly sets forth provisions regarding rewards, disciplinary actions, and employment termination. In addition, rules concerning termination of employment and the number of days required for a notice of resignation comply with the Labor Standards Act. With respect to locations where employee turnover rates are relatively high, we evaluate local labor-related regulations and wage levels and refer to comments made by resigning employees and local supervisors to see whether adjustments are needed in our salary and benefit practices. We also utilize internal systems and incentive programs to reduce turnover rates (please refer to the appendix Employee Turnover Rate table).

At CAL, the employee turnover in 2020 increased by 1.21% compared to that in 2019, and the involuntary separation rate increased by 22.71% compared to that in 2019 mainly due mainly to the heavy impact of the COVID-19 pandemic. There were 59 employees who left due to human resources streamlining management and expiration of contracts in 2020. No significant difference in turnover was reported in other separation categories. Voluntary turnover numbers dropped significantly by 102 people compared to 2019. CAL will continuously optimize internal management to maintain low turnover.

At Mandarin Airlines, employee turnover in 2020 arose by 0.08% compared to 2019, mainly due to seasonal short-term demand for labor, then after the employees’ contracts expired there was no contract renewal due to a lack of demand for labor; some resigned due to personal career plans. In the future, Mandarin Airlines will provide a variety of communication channels for existing employees and improve employee benefits to retain staff.

Tigerair Taiwan’s turnover decreased by 1.91% in 2020 over 2019, primarily due to personal career plans. In addition, due to the impact of the pandemic this year, 15 trained flight attendants also terminated their training. Tigerair Taiwan will continue to focus on improving its competitive advantages, and provide diversified work environment and opportunities to retain outstanding employees.
**Employee Retention**

Periodic Performance Evaluations Conducted on a Fair and Objective Basis

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

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

A two-way assessment scheme has been formulated for evaluating the performance of all flight attendants. Flight attendants who have worked for more than one year are evaluated and assigned ratings based on their attendance, reward / disciplinary actions, and performance within a reasonable range and based on employee classification to avoid subjective impressions which could detract from the impartiality of the performance evaluation.

**Sound Remuneration System**

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

**Training Framework**

<table>
<thead>
<tr>
<th>Skill Type</th>
<th>Orientation Training</th>
<th>On-the-job Training</th>
<th>Advanced Training</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic Skills</td>
<td>Organized ad hoc based on CAL’s business operations and strategic development needs</td>
<td>Basic training for each professional position (flight operations / maintenance / service / ticketing / Cargo)</td>
<td>Model / class training</td>
</tr>
<tr>
<td>Professional Skills</td>
<td>• Instructor training</td>
<td>• Annual retraining for each professional position</td>
<td>Advanced job training (pilot in command / cabin manager / supervisor)</td>
</tr>
<tr>
<td>Management Skills</td>
<td>• New manager training</td>
<td>Management skill training</td>
<td>Executives training / seminars</td>
</tr>
<tr>
<td>General Skills</td>
<td>“CAL and me” orientation training</td>
<td>Career experience camp</td>
<td>General aviation management training</td>
</tr>
</tbody>
</table>

**2-2-3 Employee Development**

Sound Training System and Framework

CAL has established a sound training system and framework to develop aviation professionals. We adopt diversified training methods, including on-site and online training courses, invest in training hardware and software. CAL values the functional development of employees and integrates fundamental aviation training with hands-on practice. In addition, CAL organizes business strategy and management related training for all managerial levels and employees with potential on a regular basis to improve their horizons and expertise.

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

CAL has established the Talent Development Committee, chaired by the President, with senior vice presidents serving as members. The Talent Development Committee is responsible for regularly reviewing and improving training for potential talents. Each department refers potential talents to the Talent Development Committee, which then determines their qualifications and development paths. During training, potential talents are provided with appropriate job rotations and management skill training, in order to build their management capacity and experience. For a long time, both at home and abroad, CAL has sought out and successfully trained many potential talents to serve as unit chiefs. CAL will continue to provide them with opportunities to develop their careers, in hopes of achieving corporate sustainability.

In 2020, CAL invested about TWD 158 million in employee training and development (the average amount is about TWD 14,000). The total number of training hours (including onsite and online courses) exceeded 350,000 (the average hours is about 34.5), and the completion rate of training reached 99.36% (please refer to the appendix Training Statistics of CAL Group tables).
Sound Internal Recruitment and Rotation System

CAL is committed to upholding the principle of assigning each staff member to a proper position. We offer regular job rotations and internal training courses to improve employees’ job skills and overall productivity. Each department determines whether to rotate employees, based on their labor needs; in addition, we have established an internal recruitment system, so that employees can participate in the selection processes in accordance with their wishes and ambitions. This allows CAL to utilize its human resources in a flexible manner and ensures that employees are assigned to the most proper positions, resulting in a win-win situation for both parties. Due to coping with the heavy impact of COVID-19, CAL had adjusted business strategy, so that employees can participate in the selection processes in accordance with their wishes and ambitions. This allows CAL to utilize its human resources in a flexible manner and ensures that employees are assigned to the most proper positions, resulting in a win-win situation for both parties.

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

Human Capital ROI

Through education and training, employees can grow along with CAL’s strategic and business goals. Meanwhile, corporate assets will also accumulated in value and provide CAL with a solid foundation for long-term viability. CAL has recently adopted the Human Capital Return on Investment (HCR0) metric as a benchmark tool. In addition to estimating earnings from investing in human capital, the metric can also be included in Company’s long-term performance indicators. Although the COVID-19 pandemic significantly reduced revenue from passenger transport in 2020, CAL has effectively controlled related operating costs and achieved higher revenue from cargo transport compared to 2019. The overall ROI was therefore higher than 2019.

<table>
<thead>
<tr>
<th>Year</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROI</td>
<td>1.09</td>
<td>1.00</td>
<td>1.26</td>
</tr>
</tbody>
</table>

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

Details of Employee Development Programs to Accommodate the Company’s Business Objectives for 2020

<table>
<thead>
<tr>
<th>Employee Development Program</th>
<th>Business Benefits</th>
<th>Quantitative Impact of Business Benefits</th>
<th>Proportion of Employees Participation in the Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strengthen Passenger Transport Revenue Management Skills</td>
<td>1. Improve the professional skills and knowledge of passenger and cargo transport marketing personnel</td>
<td>2. Improve the accuracy of passenger transportation resources utilization to increase passenger transportation revenue</td>
<td>Proportion to total employees: 1.0%</td>
</tr>
<tr>
<td>Add on Cargo Revenue Related Training</td>
<td>1. Strengthen cargo operation personnel’s related cargo transport professional knowledge</td>
<td>Enhance cargo marketing effectiveness and fleet capacity to increase cargo aircraft revenue</td>
<td>Cargo aircraft revenue for 2020 increased by TWD 26,793 million compared to 2019</td>
</tr>
</tbody>
</table>

Industry-Academia Collaboration

CAL has promoted its campus talent development program since 2013 by taking advantage of its abundant practical experience and sound aviation training facilities and courses. In response to the government’s policy on industry-academia collaboration and talent development, CAL has cooperated with colleges and universities nationwide to offer internship programs that last for six months to one year in variety fields. CAL also offers interns scholarships and allowances and arranges training courses for them. To start an internship, interns are required to pass the training courses first. In 2020, for the tenth consecutive year since 2011, CAL was awarded as a Top 20 Youngsters’ Favorite Brand by Cheers magazine. Through industry-academia collaboration, CAL will continue to provide students with opportunities to gain aviation expertise and make their career plans, and thus help CAL recruit potential talents.

In 2020, a total of 110 students participated in the industry-academia collaboration programs and summer internship programs.
CAL attaches great importance to the opinions and well-being of our employees. In addition to regular reviews of employees' salary and benefit and labor-management meetings, CAL has established a number of communication channels and activities to enhance cohesion. CAL also respects the independence of labor unions in accordance with the law and promotes positive communication with labor unions.

## Employee Care

### Salary and Benefits

CAL firmly believes that employees are the most valuable assets and that it is important to protect both employee benefits and shareholders' equity. For these reasons, CAL provides competitive salaries and benefits for all employees. The salary and benefit package of each employee will not differ according to gender, race, religion, political affiliation, or marital status. Whenever the minimum wage of a particular global location is raised, we promptly review our salary standards and make necessary adjustments in a timely manner. In 2020, CAL adjusted salaries by 1.67% on average. Employees who are required to work overtime due to the nature of their employment receive reasonable overtime pay, in accordance with regulations. No employee is forced to work against his or her will.

### Male / Female Salary Ratio of CAL Group in 2020 (Female Salary is 1)

<table>
<thead>
<tr>
<th>Category</th>
<th>Company</th>
<th>Business Operations</th>
<th>Flight and Cabin Crews</th>
<th>Maintenance Personnel</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground Services (1-year term)</td>
<td>Chung Yuan Christian University; Yuan Ze University; Soochow University; Kainan University; Vanung University; Shih Chien University; National Taipei University of Business; Fu Jen Catholic University</td>
<td>1.30</td>
<td>2.04</td>
<td>1.11</td>
<td>1.21</td>
</tr>
<tr>
<td>Ground Services (short-term)</td>
<td>Chang Jung Christian University; National Chung Hsing University; National Formosa University; National Kaohsiung University of Science and Technology; Feng Chia University</td>
<td>1.25</td>
<td>3.36</td>
<td>1.12</td>
<td>1.20</td>
</tr>
<tr>
<td>Cargo Transport (6-month term)</td>
<td>Chung Yuan Christian University; Meikuo University; National University of Kaohsiung; National Kaohsiung University of Science and Technology; National Yulin University of Science and Technology; National Chi Nan University; Feng Chia University; I-Shou University; Shih Chien University (Kaohsiung Campus); Providence University</td>
<td>1.03</td>
<td>1.23</td>
<td>1.03</td>
<td>1.04</td>
</tr>
<tr>
<td>Kaohsiung Office (6-month term)</td>
<td>Fu Jen Catholic University; Tamkang University</td>
<td>1.05</td>
<td>2.17</td>
<td>1.52</td>
<td>1.24</td>
</tr>
<tr>
<td></td>
<td>Ming Chuan University; Heising Wu University</td>
<td>1.39</td>
<td>3.24</td>
<td>0.10</td>
<td>1.36</td>
</tr>
<tr>
<td></td>
<td>Male / Female Salary Ratio of CAL Group in 2020 (Female Salary is 1)</td>
<td>2.42</td>
<td>2.80</td>
<td>3.53</td>
<td>2.07</td>
</tr>
</tbody>
</table>

Note 1: Female salary is 1 in this Salary Ratio Table.
Note 2: Flight and cabin crews include pilots and flight attendants, pilots were mostly male, while flight attendants were mostly female. Pilots' salaries are higher than flight attendants', resulting in a large difference in the male / female salary ratios; others include executives higher than the rank of vice president, auditors, accountants, information technology personnel, and other employees that are not within the aforesaid categories.
Note 3: Base salary: basic pay; bonus: pay outside base pay.
Note 4: The maintenance personnel of Tigerair Taiwan are all male.

In accordance with the Taiwan Stock Exchange Corporation Rules Governing the Preparation and Filing of Corporate Social Responsibility Reports by TWSE Listed Companies, the Company disclosed its number of full-time employees not in a managerial position as 10,035 in 2020 a decrease of 283 from the previous year. The total salary of full-time employees not in a managerial position was TWD 15,087.426 million, an decrease of TWD 1,985.101 million year-over-year, the average salary of full-time employees not in a managerial position was TWD 1,503 million in 2020, an decrease of TWD 0.152 million, and the median salary of full-time employees not in a managerial position was TWD 0.99 million in 2020, an decrease of TWD 0.231 million.
Unpaid Parental Leave

CAL has set up a sound unpaid parental leave system, allowing employees to take care of their families while retaining their positions with CAL. To encourage qualified employees to apply for unpaid parental leave, CAL guarantees that applicants will not receive a performance evaluation below an "A" grade for the year. Male employees are also entitled to unpaid parental leave, including the option to apply for 5-day paternity leave with full pay before and after childbirth. If the period of paternity leave coincides with a business trip or a regular day off or public holiday, paternity leave may be taken within 15 days following the business trip or holiday. CAL offers better leave than that stipulated in the Gender Equality in Employment Act. After analyzing instances of unpaid leave taken by employees in recent years, we found that the majority of the employees who did not return to their duties or who returned to work but worked for less than a year did so because of the need to care for family members or due to changes in their career plans (please refer to the appendix Unpaid Parental Leave of CAL Group tables).

Pension Scheme

CAL attaches great importance to the rights and interests of our employees. CAL reports the management of the pension reserve fund to the Labor Pension Reserve Supervisory Committee on a quarterly basis. Prior to the end of each year, CAL allocates the amount required for the following year based on actuarial calculations and relevant laws and regulations. In terms of allocation rates, the rate for the new labor retirement plan is 6%; the rate for the old labor retirement plan is 15%, which reaches the statutory upper limit, and this amount has been fully allocated in accordance with Paragraph 2, Article 56 of the Labor Standards Act to ensure that employees receive the retirement benefits to which they are entitled.

Salary, Benefits and Pension Reserve Fund of CAL Group in 2020

<table>
<thead>
<tr>
<th>Company</th>
<th>Item</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salary</td>
<td></td>
<td>1,580</td>
<td>1,998</td>
<td>13,659</td>
</tr>
<tr>
<td>Benefits</td>
<td></td>
<td>203</td>
<td>213</td>
<td>261</td>
</tr>
<tr>
<td>Pension Reserve Fund</td>
<td></td>
<td>6,184</td>
<td>6,347</td>
<td>6,241</td>
</tr>
<tr>
<td>Salary</td>
<td></td>
<td>780</td>
<td>864</td>
<td>850</td>
</tr>
<tr>
<td>Benefits</td>
<td></td>
<td>6.79</td>
<td>6.88</td>
<td>3.69</td>
</tr>
<tr>
<td>Pension Reserve Fund</td>
<td></td>
<td>384</td>
<td>352</td>
<td>390</td>
</tr>
<tr>
<td>Salary</td>
<td></td>
<td>724</td>
<td>870</td>
<td>720</td>
</tr>
<tr>
<td>Benefits</td>
<td></td>
<td>3.65</td>
<td>4.85</td>
<td>4.29</td>
</tr>
<tr>
<td>Pension Reserve Fund</td>
<td></td>
<td>1.90</td>
<td>2.53</td>
<td>1.54</td>
</tr>
</tbody>
</table>

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

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

Year-end Bonuses / Dividends
At the end of each year, a year-end bonus is allocated from CAL earnings. Employee dividends are also distributed in accordance with employee performance and CAL's yearly management goals.

Retiree Portal (Retiree Association)
CAL has assisted its retirees and employees in establishing a global retiree association and the CAL Retiree Portal. Every year, the Retiree Association organizes one to two quarterly activities to promote interchange between retirees. CAL also offers grants to the Retiree Association to provide positive assistance and encouragement.

Employee Benefits
Employee benefits include wedding cash gifts, childbirth cash gifts, disaster subsidies, travel allowances, scholarships, allowances for the elderly, emergency loans, birthday cash gifts, Labor Day gift vouchers/cash gifts, and allowances for funerals.

Annual Leave Scheme
CAL offers annual leave better than that stipulated in the Labor Standards Act.

Childcare
CAL has entered into preferential childcare contracts with 10 daycare centers across Taiwan to assist employees with childcare arrangements.

Group Health Insurance
Group health insurance covers medical, accident and serious illness insurance. Dependents may also be enrolled in the group insurance scheme at favorable rates.

Commuting
Apart from regular commuter shuttles at fixed sites, there are also shuttle buses for shift workers, cabin crew members, and employees with disabilities stretching from Keelung, Taipei City and New Taipei City to Taoyuan and Zhongli.

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

Employee Stock Ownership Trust
Participation is voluntary. For employees who agree to join the employee stock ownership trust, a fixed amount is deducted from their monthly salary based on their pay grade.

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

Unpaid Leave

Care for Dependents
Applicable when an employee’s spouse or direct relative is seriously ill or when necessary.

Illness
Applicable when an employee is seriously ill and has not recovered after taking relevant leave in accordance with regulations.

Advanced Education
All employees, regardless of school or discipline, must be enrolled in a discipline that is relevant to their current position or meets the needs of the company and is recognized by the Ministry of Education of the Republic of China.
Employee Communication

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

Labor Unions

CAL cooperates with different labor unions and remains committed to maintaining open communications in order to negotiate reasonable agreements. We show the same respect to all unions in accordance with law. After 2019, CAL did not have any major labor disputes or strikes in 2020, thanks to active communication with labor unions. In particular, the China Airlines Employees Union (CAEU), which has the highest participation rate of CAL employees, is a member of the Chinese Federation of Labor. There are six subordinate branches under CAEU, which are classified based on the location of members / business:

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

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

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

All employees of CAL, with the exception of the top-level executives as stipulated in the union constitution, have joined the CAEU, which is the first of its kind in Taiwan’s aviation industry, and is governed by a collective agreement signed by both parties in 2002. In January 2017, Mandarin Airlines entered into a collective bargaining agreement with the MDAEU. The CAL / Mandarin Airlines collective agreement pertains to union assistance; 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 agreement is subject to renewal every three years in accordance with the law. CAL is now renewing the collective agreement with CAEU to maintain stable labor-management relations.

CAL / Mandarin Airlines cooperates and communicates with CAEU / MDAEU through various channels as a partner and based on mutual dependence, and the two parties have established various channels of communication over the years. All resolutions will be handled once they are reported. In addition, meeting minutes taken at labor-management meetings held at the Head Office

Versatile Communication Channels

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

2. Supervisor Mailbox
   CAL encourages employees to express opinions and give suggestions through the Level 1 supervisor mailbox.

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

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

5. Team+
   This internal company messaging system is offered to employees for free, to facilitate two-way communication and instant reporting to supervisors.
are published and made available to all employees on CAL’s website / Mandarin Airlines’ website. CAL / Mandarin Airlines is dedicated to maintaining harmonious labor-management relations through open, efficient channels of communication. In 2020, due to the pandemic, CAL and the CAEU reached an agreement to hold two labor-management meetings in writing at the beginning of the year when the pandemic was at the most severe. A total of six meetings were held throughout the year to take into account both labor-management communication and joint pandemic prevention.

Union Participation Rate of CAL and Mandarin Airlines

<table>
<thead>
<tr>
<th>Company</th>
<th>Item</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Participants</td>
<td>10,500</td>
<td>10,201</td>
<td>9,811</td>
<td></td>
</tr>
<tr>
<td>Participation Rate</td>
<td>99.20%</td>
<td>99.48%</td>
<td>99.43%</td>
<td></td>
</tr>
<tr>
<td>Number of Participants</td>
<td>856</td>
<td>851</td>
<td>852</td>
<td></td>
</tr>
<tr>
<td>Participation Rate</td>
<td>92.84%</td>
<td>90.72%</td>
<td>96.49%</td>
<td></td>
</tr>
</tbody>
</table>

Note 1: The number of CAL participants refers to the number of people being members of CAEU in the year (including employees in Taiwan). Hourly-basis employees, interns, contracted employees, and executives higher than the rank of vice president are not included.

Note 2: The number of Mandarin Airlines participants refers to the number of people being members of MDAEU in the year (including employees in Taiwan below the rank of vice president (inclusive) and expatriate executives in Mainland China). Hourly-basis employees and contracted employees are not included.

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

Note 4: The collective bargaining coverage rate of CAL / Mandarin Airlines is equal to the labor union participation rate.

Employee Engagement

CAL has established diversified and unobstructed communication channels to listen to employees’ suggestions attentively in line with its belief that employees are the Company’s most important asset. Through an employee satisfaction survey, CAL understood employees’ opinions of and needs for the Company and each unit, which served as a reference for CAL to provide a stable work environment. This would further increase employees’ work efficiency and create a virtuous circle-based excellent corporate culture. CAL conducted the employee satisfaction survey in 2019. The survey covered six major dimensions, including Organizational Health, Corporate Culture, Leadership, Job & Career, Working Environment, and Compensation and Benefits (effective response rate was 6.4, of which 6.5 for males and 6.2 for females, with no significant difference). For details, please refer to page 67 in the 2019 China Airlines Corporate Sustainability Report). The employee satisfaction survey is conducted every two years in principle, and was originally intended to be conducted again in 2021, but was postponed to 2022 due to the pandemic. In 2020, CAL will continue to invest in a number of enhancements and improvements for its employees, as shown in the table below.


<table>
<thead>
<tr>
<th>Relevant Improvements</th>
<th>Corresponding Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Organizational Health</td>
<td>• Corporate Culture</td>
</tr>
</tbody>
</table>

In order to increase the contact between cabin crew and the office during the pandemic, and to meet the needs of related message promotion, five microfilms were shot to optimize the message transmission and gain the attention of the employees.

Protection of Employees’ Rights during the COVID-19 Outbreak

Due to the impact of COVID-19 pandemic in 2020, the global aviation industry has suffered significant losses, and many international airlines have responded by laying off employees. In order to take good care of its employees, CAL has implemented various policies to streamline its workforce after harmonious communication between employers and employees (temporary hiring delay, relaxation of unpaid leave rules, workforce adjustment, special leave, and reduction of working hours). CAL also assisted employees in applying for government subsidies during the reduced working hour period (Peace of Mind Employment and Recharge and Training programs). In addition, CAL constantly reminds employees of the relevant pandemic prevention information, and provides frontline personnel with pandemic prevention equipment. CAL is committed to protecting the health of the employees and their rights at work by implementing various pandemic prevention measures in accordance with relevant government regulations.
2-2-5 Healthy and Safe Workplace

CAL has established an Occupational Safety and Health Committee in accordance with law. The committee is tasked with the objective of preventing occupational hazards and protecting the safety and health of all employees by reviewing, coordinating, and making recommendations pertaining to safety and health related matters. The President acts as the chairperson. One deputy chairperson and one executive secretary are appointed. Members consist of Level 1 managers, occupational health and safety employees, engineers, and medical personnel from the designated divisions / departments as well as representatives appointed by labor unions. A meeting is held once every three months to review and analyze occupational incidents. All incidents are followed up and reported to the management so that related health management solutions can be subsequently developed. In 2020, a total of 12 safety and health proposals were reviewed and discussed, all of which have been closed. Meeting minutes were published on the EIP website; a total of 125 occupational safety reports were compiled, all 125 were improved and closed with an achievement rate of 100%.

Five Major Goals of CAL’s Occupational Safety and Health

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

Dual International Certification of Occupational Health and Safety

To implement safety and health management more efficiently, systematically, and in accordance with both international trends and domestic and foreign standards, CAL has established an independent safety and health management system and enhanced risk controls in line with international standards. On April 20, 2019, CAL obtained ISO45001: 2018 and TOSHMS certifications for our safety and health management system, which adopts the PDCA model. Through the risk management mechanism, risk classification management is carried out according to each type of operation and job category into the following three categories:

<table>
<thead>
<tr>
<th>Category</th>
<th>Hazard Risk Classification</th>
<th>Job Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 1</td>
<td>Significant Occupational Risk</td>
<td>For example: flight crew, cabin crew, cargo loading personnel</td>
</tr>
<tr>
<td>Category 2</td>
<td>Moderate Occupational Risk</td>
<td>For example: engineering personnel, machinery and equipment operators</td>
</tr>
<tr>
<td>Category 3</td>
<td>Low Occupational Risk</td>
<td>For example: office administrators</td>
</tr>
</tbody>
</table>

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

A total of 873 safety and health inspections were conducted at each work site, and 116 faults were found, all of which were coordinated with the relevant units for improvement. The internal audit of each unit is performed once a year, and the external audit is entrusted to SGS once a year.

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

In 2020, the disabling injury frequency rate (FR) was 1.93; the disabling injury severity rate (SR) was 42; the frequency-severity indicator (FSI) was 0.28; and the absence rate was 0.92%. According to analysis, most occupational hazard incidents were caused by unsafe employee...
conduct. However, CAL’s FR and SR were lower than the air transport industry average FR (4.14), SR (1.02), and FSI (0.65) from 2016 to 2018. No student occupational hazard incidents in industry-academia collaboration programs or summer internship programs were reported at CAL workplaces, and no occupational hazard incidents occurred to contracted agents in 2020. We will continue to implement the promotion of occupational hazard prevention and related education and training (please refer to the Appendix for detailed table Comparing the Frequency-Severity Indicator and Occupational Injury Statistics Over the Past 3 years, and Occupational Hazards Statistics of CAL Group).

Comparing the Frequency-Severity Indicator Over the Past 3 Years

Strengthening Epidemic Prevention Measures in Response to Emerging Epidemics

1. Establish an Emergency Response Mechanism

In response to the various emerging epidemics in recent years, and to prevent unresolved uncertainties brought about by future epidemics, the Company has established a cross-unit mobilization mechanism by level, command system, and operational procedures to integrate relevant units to respond together and remind employees to raise their alertness. At any time, according to the scale of the outbreak, the Company’s response mechanism will be activated sequentially, and the Corporate Safety Department will coordinate various prevention and control actions and hold epidemic prevention meetings from time to time.

2. Enhance Risk Management Awareness

Establish a health management reporting system for employees with higher risk of exposure (crew members), as well as abnormal tracking and handling mechanism; work on the primary mechanism to and from work, or adjust the office layout, or business travel method; strengthen various epidemic prevention promotion; establish a cooperation mechanism with relevant departments; set up a cross-unit team + group contact platform to ensure consistency of information; activate diversified channels to provide real-time information; and actively encourage employees with fever or acute respiratory symptoms to rest at home until their symptoms improve and then return to work.

3. Enhance Knowledge on Biological Pathogen Hazard Prevention

For general employees, provide education and training on infection prevention for everyone; for employees with higher risk of exposure, provide education and training on the proper use of personal protective equipment; we require contractors to strengthen epidemic prevention measures and notification of abnormalities; we are extra vigilant with body temperature measurement and record keeping; maintain proper indoor ventilation and regularly replace filters; disinfect work sites; provide related hygiene and health promotion; and provide personal protective equipment and other self-management measures.

4. Management of Epidemic Prevention Supplies

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

5. Mental Health Support / Employee Assistance Program

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

Future Plans

1. Recruitment

In 2021, CAL will continue to recruit flight crew members, promote industry-academia collaboration programs, and employ more people with disabilities, in order to achieve our commitment to corporate social responsibility.

2. Diversification

Over the past three years, CAL’s female employees have accounted for 48.00% of the total workforce. The 2021 target is also set at 48.00%. In terms of CAL’s female managers, the proportion has increased year by year over the past three years. In 2023, the target is set at 24.75%.

3. Employee Training

2021 marks CAL’s 61st anniversary. In addition to strengthening company products and services, CAL will continue to provide professional training that covers all fields of expertise. Out of a desire to transmit our corporate culture and values, CAL will base our overall employee training goals on Care, Communication, and Pass on experiences, and implement training through Effective Management, Case Studies, and Follow-Up. CAL plans to organize a total of 12 training courses, including general management skills training, with employee problem identification, employee care and communication, management seminars, and group cohesiveness; professional training for instructors and human resources personnel; and general training for all employees, including general aviation management, upward communication, and career experience camps. In addition, we have purchased career development courses for all employees to take as needed.

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

By establishing graded safety and health management practices, CAL expects to apply the concepts of occupational safety and health to work and enhance employees’ skills to maintain these concepts. Enhance the safety and health management system, and safety and health audits to reduce occurrence of occupational hazards.
CAL’s vision of “becoming the preferred airline in Taiwan” has firmly established it in Taiwan and around the world. We are committed to the pursuit of sustainable development. We understand that truly sustainable development and value can only be achieved through collaboration with our business partners. Thus, we have formulated the sustainable supply chain management policy, according to international standards and guidelines such as the United Nations Global Compact (UNGC), International Labour Organization (ILO), and ISO 26000:2010 Guidance on Social Responsibility. The sustainable supply chain management policy is applicable to the suppliers and contractors of CAL and its subsidiaries and joint ventures. Hence, we urge that the principles of sustainable development be implemented as part of our overall supply chain management to jointly fulfill our corporate social responsibility.
Commitment and Long-Term Goals

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

- We are committed to
  1. Conducting risk and impact assessments to ensure supply chain sustainability and establish fair, transparent mechanisms for supplier management.
  2. Selecting economic and acceptable products and services by considering their environmental and social effects.
  3. Adhering to ethical business standards by eliminating leakages, vested interests, and corruption.

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

Long-term Goals

2023
1. Maintain SAQ Score at 86 points
2. Optimize risk management for sustainable supply chain, implement the SAQ, and audit 70% of critical tier-1 suppliers and 50% of critical tier-2 suppliers by 2023

2025
1. Maintain SAQ score at 87 points
2. Expand the scope of supply chain management, implement SAQ audits, audit 100% of critical tier-1 and tier-2 suppliers by 2025

2030
1. Maintain SAQ score at 89 points
2. Provide supply chain training, improve assistance mechanisms, and continuously implement a SAQ
Compared to other industries, the aviation industry is fairly unique regarding safety concerns. As of 2020, the CAL Group had established 31 joint ventures extending across business sectors including air transport, ground handling service, tourism, aerospace technology, air transport support, and logistics and warehousing. By integrating strengths from each component, the Group expects to optimize its overall quality of service, competitiveness, and value chain.

Material Procurement Types

- **Aviation Materials**: Aircraft Parts (588 / 14)
  - Description: Aviation materials are keys to flight safety. Therefore, aviation materials must have certificates of qualification, and their airworthiness must be confirmed by related units, divisions, or departments.
  - Critical Supplier’s Definition: Irreplaceable suppliers and yearly accumulated procurement amount is over certain percentage.

- **Aviation Fuel**: Fuel Required for Flight (20 / 5)
  - Description: Fuel is vital for flight and its cost of procurement forms one contributor to operating costs.
  - Critical Supplier’s Definition: Irreplaceable suppliers or the procurement amount is accounted for over certain jet fuel cost in whole year.

- **In-Flight Catering**: In-Flight Meals Offered to Passengers (29 / 7)
  - Description: In-flight catering stands as one of CAL’s crucial quality services. CAL provides passengers with a complete in-flight experience based on the needs of long-haul and short-haul passengers and nationality requirements.
  - Critical Supplier’s Definition: Suppliers offer long-haul service, including the China Pacific Catering Services at Taipei Station.

- **Ground Handling Service**: Airport Manpower (57 / 1)
  - Description: CAL provides excellent airport services, and improves passengers’ satisfaction throughout the journey with the help of its ground staff and agents.
  - Critical Supplier’s Definition: Irreplaceable suppliers, exclusive ground handling agent which is not affiliated with airlines, and yearly flights handling by the suppliers are accounted for over certain total flights of CAL.

- **General Products**: Goods Required for Overall Operations (240 / 36)
  - Description: General products refer to basic supplies required for business operations to improve operational efficiency and quality.
  - Critical Supplier’s Definition: Irreplaceable suppliers or yearly accumulated procurement amount is over certain number.

**Category**

- **Upstream**
  - Aircraft Manufacturing
  - Aircraft Leasing

- **Midstream**
  - Ground Handling Service
  - Air Transport Support
  - Logistics and Warehouse
  - Aerospace Technology

- **Downstream**
  - Airlines
  - Investment and Leasing Business Group
  - Tourism and Leisure

**Note:** Material procurement types are defined by the volume of procurement.
2-3-2 Sustainable Supply Chain Management

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

2020 Achievements

1. Performance of Supply Chain Sustainability

Green Procurement

Recently, CAL has not only introduced energy efficient passenger aircrafts including A350-900 and B777-300ER but also shifted to adopt energy-saving equipment such as choosing lightweight materials for onboard equipment. Moreover, CAL has also introduced electric vehicles to gradually replace traditional ground vehicles, thus reducing their fuel consumption and carbon emissions. To reduce the use of plastic as a raw material, we have also supplied environmental-friendly paper towels and magazines printed by FSC-certified paper in all CAL’s flights. In addition, CAL also prioritizes the use of local ingredients to reduce the food miles and carbon footprint of food ingredients during transport. Although the total amount of green procurement in 2020 decreased by 47% in comparison with that in 2019 due to the effect of COVID-19 and a significant decrease in flight frequency, CAL will continue to promote and implement green procurement to reduce the impact on the environment.

Local Procurement

Except for certain aviation equipment, components, and some procurement that are subject to international standards, CAL has been dedicated to sourcing from local suppliers (Taiwan, Penghu, Kinmen, and Matsu) to boost the local economy. For example, the juice for business class passengers is sourced from local Taiwanese produce, which can reduce carbon footprints for environmental protection. A significant decrease in the local procurement in 2020 compared to 2019 was due to the impact of COVID-19. However, the rate of purchasing products from local suppliers gradually rose to 98.79%, indicating that CAL still used the limited budget to promote local procurement during the epidemic.

### Amount of Green Procurement

<table>
<thead>
<tr>
<th>Year</th>
<th>Unit: TWD million</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>11.73</td>
</tr>
<tr>
<td>2018</td>
<td>15.76</td>
</tr>
<tr>
<td>2019</td>
<td>19.26</td>
</tr>
<tr>
<td>2020</td>
<td>10.20</td>
</tr>
</tbody>
</table>

### Amount of Local Procurement

- **2017**: 1,036.81 TWD million (70.99%)
- **2018**: 709.99 TWD million (73.98%)
- **2019**: 966.43 TWD million (73.98%)
- **2020**: 239.64 TWD million (25.43%)

Note: Green procurement includes Category I, Category II, and Category III eco-products specified in the "Regulations for Priority Procurement of Eco-Products (January 15, 2001)."
To strictly control supply chain sustainability risk, CAL has conducted a survey for supply chain sustainability risk and formulated our Sustainability Assessment Questionnaire (SAQ) since 2015 based on international initiatives and evaluations such as the GRI Standards, ILO, UNGC, Dow Jones Sustainability Index (DJSI), CDP, and the Universal Declaration of Human Rights. CAL also established a sustainable supply chain management system to improve the accuracy of the results of the SAQ in 2017, the functions of which include specifying the definition of critical suppliers, conducting the Sustainability Assessment Questionnaire (hereinafter SAQ), formulating regulations for review and designing relevant forms, setting different goals for short-term, mid-term, and long-term reviews, and improving the follow-up tracking mechanism. To strengthen the supply chain management, CAL started to identify supplier risks at the beginning of the year, conducted due diligence in the middle of the year, and reviewed the improvements at the end of the year. Supplier training courses were also organized to fully control suppliers with high risks, and relevant reviews were conducted to further reduce supply chain sustainability risks.

As for the SAQ, CAL conducted the SAQ with 79 suppliers (including 63 critical tier-1 suppliers) in 2020, accounting for 68.49% of the total procurement amount of all tier-1 suppliers with a response rate of 81.01. The result of the SAQ shows that the average score of the suppliers was 88.59 in 2020. The average scores in the four dimensions (please refer to the note) were above 84 respectively, showing that most of the suppliers have incorporated the concept of sustainability into these four dimensions. The average score in the environmental dimension was under 80, but CAL has noticed the result and invested more resources in 2019 to enhance its suppliers' environmental performance so it gained a significant growth in 2020. Moreover, CAL achieved the stage target in 2020, auditing 30% of critical tier-1 suppliers.}

2. Risk Assessment of Supply Chain Sustainability

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Moreover, CAL introduced the correct concept to suppliers for work through two-way interactions partners in total) on December 24, 2020. In the conference, experts shared the global trends of to improve.

Convene Annual Supplier Conference
CAL convened the fifth annual sustainable supplier conference with 33 participating suppliers (44 dimensions, still two suppliers haven’t formulated regulations for fair transaction mechanisms and haven’t established a mechanism for avoiding any conflict of interest, which CAL will provide guidance and urge them to take corrective measures.

Improvement Action
CAL will continuously evaluate suppliers with the SAQ to examine their performances in each dimension and will expand the current range of risk assessment surveys in the hope of precisely identifying suppliers with high risks and comply with the current review systems to further understand suppliers’ problems, thereby helping them improve. In addition, CAL will keep providing the relevant information and education and training about sustainable development and current epidemic situations to enhance suppliers’ performances in supply chain sustainability.

3. Sustainable Supply Chain Audit
There are 2 overall high-risk suppliers in the 2020 SAQ analysis results, and there are no overall high-risk suppliers in the 2021 SAQ analysis results after the China Airlines follow-up audit. To better control the current conditions of suppliers’ sustainable supply chain, CAL has set up different audit plans in different stages for sustainable supply chain management and has completed 30% of the audit target of critical tier-1 suppliers in 2020. The audit methods that CAL adopted were conducted on site or through written document and communication reviews based on locations and nature of suppliers and border controls for COVID-19. The audit survey in 2020 showed that suppliers didn’t establish an environmental management system (EMS), formulate relevant measures of classification and recycling for recyclable waste to monitor suppliers’ environmental performance, provide regular education and training courses on environmental management and regulations, etc. The abovementioned is what suppliers need to improve in the environmental dimension. After receiving the training, follow-up tracking, and guidance provided by CAL, half of the critical tier-1 suppliers have progressed significantly in the environmental dimension. In the future, CAL will redouble its efforts to enhance the environmental dimension and social dimension and will keep tracking suppliers and request them to improve.

4. Assisting Suppliers Reduce Risks
Convene Annual Supplier Conference
CAL convened the fifth annual sustainable supplier conference with 33 participating suppliers (44 partners in total) on December 24, 2020. In the conference, experts shared the global trends of sustainable development and supply chain management; CAL also elaborated on how it promoted the sustainable supply chain for the year and its future goals and plans for sustainable supply chain. Moreover, CAL introduced the correct concept to suppliers for work through two-way interactions in the workshops. CAL will also place more emphasis on the environmental dimension and social dimension based on the result of the 2021 SAQ and will prioritize what should be improved for suppliers as the theme in the following supplier conferences.

In Alignment with the Global Trend, Continuing Education and Training Courses on Sustainability
CAL will continue to promote sustainable education and training for procurement personnel to further enhance their knowledge about sustainability, which is one of CAL’s important goals for sustainability. In 2020, relevant procurement personnel not only continued to participate in training on the sustainable supply chain to better understand the international supply chain standards and to align with the trend, thus handling the current situations, but also focus on how to adjust its current approaches due to the tremendous impact of COVID-19 and the future direction of sustainable management. It is hoped that the personnel can combine the latest information and trends with the knowledge of sustainability through the training and can appropriately adjust the sustainable supply chain. Moreover, CAL will continue inviting external experts to provide education and practical training courses on sustainability audits for all procurement personnel in the hopes of that future procurement can be conducted in accordance with CAL’s sustainable supply chain management approaches and operations of the management system.

Future Plans
CAL will continuously strengthen sustainable supply chain management mechanisms aside from further understanding suppliers’ sustainable management conditions through annual surveys. To further enhance sustainable management mechanisms, CAL also set a goal to complete the tier-2 supplier review and its risk assessment in 2023. CAL will continue to achieve 100% reviews of critical tier-1 suppliers by 2025.

As for internal management, CAL will ask procurement personnel to attend three external sustainability education and training courses or seminars; As for external management, CAL will continue to provide education and training on sustainability for suppliers to help them and the personnel further understand sustainability. Apart from the goal of this year that is to consolidate suppliers’ concept of sustainability such as the ESG concept through two-way exchanges with suppliers in the annual conference, CAL will continue its fruitful results in 2020 to strengthen suppliers’ governance and will focus on the impact caused by the epidemic on its sustainable supply chain to deepen mutual exchanges.

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## Environment

### HIGHLIGHTS

| **5th Time** | selected in DJSI, and got highest scores in environmental reporting and policies, management systems, and climate strategies. |
| **7th Time** | in TCSA Climate Leadership Award. Awarded in TCSA Climate Leadership Award for seven consecutive years since 2014. |
| **9th consecutive year** | in response to CDP. The Company has actively participated in the CDP climate questionnaire for nine consecutive years since 2012 and actively communicates with stakeholders. |
| **1st Taiwanese airlines to publish TCFD disclosures** | First airline in Taiwan to publish climate related financial disclosures (TCFD). |
| **1st Airlines in Taiwan to receive Carbon Label and Carbon Reduction Label** | Mandarin Airlines of CAL group passed the 3rd party carbon footprint verification again, and became the first airlines to receive the Taiwan EPA "carbon label" and "carbon reduction label" with over 30% carbon reduction. |
| **Buying Power — Special Environmental Sustainability Award** | Worked with Zen Zhou to develop “CAL Foldable Platinum Silicone Cups”, which was awarded a special prize in the environmental sustainability category and a first prize in the procurement category of the Buying Power Awards by SMEA of Taiwan MOEA. |
Management Approach

1. Improving annual aviation fuel efficiency by 1.5% and achieving CORSIA CNG2020
2. Reducing carbon emissions from ground operations by 50% compared with 2009
3. Facilitating Taiwan’s sustainable aviation fuel strategy
4. Reducing general waste production from ground operations by 12% compared with 2018
5. Achieving a recycling rate of industrial waste of 50%
6. Reducing paper consumption by 30% compared with 2018
7. Reducing water consumption from ground operations by 7% compared with 2018
8. Embargoing illegal wildlife species and prohibiting use of illegal species as food ingredients

Commitment and Long-term Goals

Commitment
CAL is committed to abiding by relevant regulations in civil aviation, environmental protection, and energy, strengthening risk management mechanisms, actively participating in and responding to environmental sustainability-related organizations and initiatives at home and abroad, continuing to strengthen and optimize its own environmental sustainability as its momentum, reducing environmental impact, and cherishing the limited resources on the planet while creating sustainability. With its own role, CAL will lead the aviation industry to jointly protect our home planet for future generations.

Long-term Goals

2023
1. Improving annual aviation fuel efficiency by 1.5% and achieving CORSIA carbon-neutral growth from 2020 (CNG2020)
2. Strengthening decision-making mechanisms to integrate climate-related financial disclosure (TCFD) information
3. Reducing general waste production from ground operations by 5% compared with 2018
4. Achieving a recycling rate of industrial waste of 43%
5. Reducing water consumption from ground operations by 3.6% compared with 2018
6. Embargoing illegal wildlife species and prohibiting use of illegal species as food ingredients

2025
1. Improving annual aviation fuel efficiency by 1.5% and achieving CORSIA CNG2020
2. Reducing carbon emissions from ground operations by 44% compared with 2009
3. Implementing and optimizing internal carbon pricing operations
4. Reducing general waste production from ground operations by 7% compared with 2018
5. Achieving a recycling rate of industrial waste of 45%
6. Reducing paper consumption by 20% compared with 2018
7. Reducing water consumption from ground operations by 5% compared with 2018
8. Embargoing illegal wildlife species and prohibiting use of illegal species as food ingredients

2030
1. Improving annual aviation fuel efficiency by 1.5% and achieving CORSIA CNG2020
2. Reducing carbon emissions from ground operations by 50% compared with 2009
3. Facilitating Taiwan’s sustainable aviation fuel strategy
4. Reducing general waste production from ground operations by 12% compared with 2018
5. Achieving a recycling rate of industrial waste of 50%
6. Reducing paper consumption by 30% compared with 2018
7. Reducing water consumption from ground operations by 7% compared with 2018
8. Embargoing illegal wildlife species and prohibiting use of illegal species as food ingredients

Unit in Charge
Corporate Sustainability Committee — Environmental Task Force (Corporate Environmental Committee)

Management Mechanism
- The Board of Directors and its Risk Management Committee convene a meeting every quarter
- The Corporate Sustainability Committee convenes a meeting at least twice every year
- The Corporate Environmental Committee convenes a meeting every quarter on a regular basis
- CAL conducts ISO 14001, ISO 50001, and ISO 14064-1 3rd party audit and verification every year
- CAL responds to DJSI, FTSE and CDP on a regular basis

Grievance Mechanism
CSR — E-Mail: csr@china-airlines.com
<table>
<thead>
<tr>
<th>Task</th>
<th>2020</th>
<th>2021 Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Objectives</strong></td>
<td><strong>Performance</strong></td>
<td><strong>Achievement</strong></td>
</tr>
<tr>
<td>Optimizing Corporate Environment and Energy Management</td>
<td>Implemented transition to ISO 50001:2018 and updated relevant SOP</td>
<td>100%</td>
</tr>
<tr>
<td>• Optimizing energy and resource information management for subsidiaries</td>
<td>• Completed the environmental risk and opportunity assessment, data compilation, and amendment of questionnaires for subsidiaries</td>
<td>100%</td>
</tr>
<tr>
<td>• Continuing to getting involved external evaluation and policy engagement</td>
<td>• Responded to GRI, COP, and customers on environmental issues</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Completed six external evaluations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Implementing corporate environmental management and launching 69 environmental protection and energy conservation action plans</td>
<td>Completed 73 environmental protection and energy conservation action plans</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improving fuel efficiency to 0.2349 ton / 1,000 RTK</td>
<td>Achieved fuel efficiency of 0.2586 ton / 1,000 RTK</td>
<td>90%</td>
</tr>
<tr>
<td></td>
<td>Target for ground operations Scope 1 GHG emissions 4,745 tons of CO2e</td>
<td>Actual ground operations scope 1 GHG emissions 3,051 tons of CO2e</td>
</tr>
<tr>
<td></td>
<td>Target for ground operations Scope 2 GHG emissions 17,308 tons CO2e</td>
<td>Actual ground operations scope 2 GHG emissions 17,572 tons of CO2e</td>
</tr>
<tr>
<td></td>
<td>Building capacity for TCFD</td>
<td>• Completed the climate opportunity and impact assessment and published climate-related financial disclosures</td>
</tr>
<tr>
<td></td>
<td>Implementing ISO 14064-1 transition</td>
<td>• Completed the EU ETS and CORSIA MRV works</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Formulated the MRV mechanism under CORSIA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Completing ISO 14064-1 transition training and amendment of procedures</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Completing ISO 50001:2018 transition</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Expanding the ECO Travel Carbon Offsetting Program</td>
</tr>
<tr>
<td>Building Capacity for Value Chain Environmental Management</td>
<td>• Constructing the first stage of environmental management mechanism for value chain</td>
<td>• Helped important affiliates establish environmental protection policies</td>
</tr>
<tr>
<td></td>
<td>• Setting goals for value chain environmental management</td>
<td>• All core subsidiary companies have set two goals for environmental management</td>
</tr>
<tr>
<td></td>
<td>• Organizing value chain environmental management training programs and meetings</td>
<td>• Organized two value chain environmental management training programs and meetings</td>
</tr>
<tr>
<td></td>
<td>• Promoting carbon reduction label for domestic flights</td>
<td>• MDA Received the carbon label and carbon reduction label from the EPA</td>
</tr>
<tr>
<td>Strengthening Awareness and Brand Image of Corporate Environmental Protection</td>
<td>• Organizing corporate environmental and energy management training</td>
<td>• Organized three sessions of environmental and energy management training</td>
</tr>
<tr>
<td></td>
<td>• Organizing annual environmental training and satisfaction survey for all employees in 2020</td>
<td>• Organized environmental seminars, environmental education quizzes, and satisfaction surveys for all employees</td>
</tr>
<tr>
<td></td>
<td>• Continuing to encourage employee for environmental proposal</td>
<td>• Supported three environmental experience-sharing meetings organized by external associations/foundations</td>
</tr>
<tr>
<td></td>
<td>• Promoting diversified channels of customer communication of environmental protection</td>
<td>• Published environmental news and articles in the inflight magazine</td>
</tr>
<tr>
<td></td>
<td>• Joining and implementing environmental protection initiatives</td>
<td>• Broadcasted eco-friendly videos on board</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Shared three push notifications on Facebook</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Implemented cross-industry exchange</td>
</tr>
</tbody>
</table>
## 2-4-1 Governance of Environmental Sustainability

### Improving the Policy and Structure of Environmental Governance

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

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

The Company continues to uphold the six major strategies for sustainability including “Fleet and Network” and “Brand Awareness”. CAL is committed to the creation of an efficient fleet network and resilient operations to combat extreme weather and changes in the business environment. We seek to create a sustainable brand that protects the environment and improves internal and external brand awareness. Overall, CAL has built a sound corporate environment and energy management model in the aspects of policy, organization and management system based on international trends and risk management practices. From a life cycle perspective, CAL takes into account the context of the organization operations (including day-to-day operations of the Company and existing or new products and services), internal / external issues, and needs and expectations of stakeholders and manages environmental, energy, and climate risks and opportunities appropriately. CAL aims to lead affiliate companies of the Group, suppliers, contractors, and other value chain partners to work together in promoting environmental protection operations and ensure that the environmental sustainability policy is implemented. In the future, CAL will introduce TCFD step by step to strengthen the connotation of environmental management. For more information, please refer to Environmental Governance - China Airlines Corporate Sustainability Site.

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

### 2020 Environmental Performance

#### Improving the Policy and Structure of Environmental Governance

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### 2020 Environmental Performance

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<table>
<thead>
<tr>
<th>Item</th>
<th>Unit</th>
<th>Emissions / Consumption / Generated</th>
<th>Amount Saved / Recycled</th>
<th>Percentage of Savings / Recycling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 1 GHG Emissions (ORIG Scope 1)</td>
<td>Tons CO₂e</td>
<td>5,790,852</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Category 2 GHG Emissions (ORIG Scope 2)</td>
<td>Tons CO₂e</td>
<td>17,572</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Category 3-6 GHG Emissions (ORIG Scope 3)</td>
<td>Tons CO₂e</td>
<td>3,109,822</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Air Pollutants (SOx)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Passenger Aircraft</td>
<td>Ton</td>
<td>30.41</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Cargo Aircraft</td>
<td>Ton</td>
<td>14.58</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Air Pollutants (NOx)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Passenger Aircraft</td>
<td>Ton</td>
<td>317.03</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Cargo Aircraft</td>
<td>Ton</td>
<td>152.04</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Aviation Fuel (Non-Renewable Energy)</td>
<td>Ton</td>
<td>1,829,328</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Electricity</td>
<td>MWh</td>
<td>34,523</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Renewable Power (Solar Photovoltaic)</td>
<td>MWh</td>
<td>117</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Elevator Power Regeneration</td>
<td>KWh</td>
<td>-</td>
<td>1,177</td>
<td>-</td>
</tr>
<tr>
<td>Water Resources</td>
<td>Thousand tons</td>
<td>126.77</td>
<td>8.64</td>
<td>6.8%</td>
</tr>
<tr>
<td>Wastewater (Organic &amp; Heavy Metals)</td>
<td>Thousand tons</td>
<td>19.34</td>
<td>2.32</td>
<td>12%</td>
</tr>
<tr>
<td>Cabin Waste</td>
<td>Kg</td>
<td>1,285,318</td>
<td>341,366</td>
<td>26.56%</td>
</tr>
<tr>
<td>Ground Waste (Excluding Hazardous Industrial Waste)</td>
<td>Kg</td>
<td>647,317</td>
<td>229,971</td>
<td>35.53%</td>
</tr>
<tr>
<td>Ground Waste (Including Hazardous Industrial Waste)</td>
<td>Kg</td>
<td>659,974</td>
<td>229,971</td>
<td>34.85%</td>
</tr>
</tbody>
</table>
Implementing Environmental and Energy Management Systems

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

### Sustainability Governance

#### 1. Sustainability Management Overview

- **Overview**
  - Implementing Environmental and Energy Management Principles and Policies
  - China Airlines Corporate Social Responsibility and Sustainable Development Best Practice Principles

<table>
<thead>
<tr>
<th>Standards for CAL's Environmental Management Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standard</strong></td>
</tr>
<tr>
<td><strong>Scope</strong></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

#### 2. Value Creation

- **2-1 Trust**
- **2-2 Human Resources**
- **2-3 Cooperation**
- **2-4 Environment**
- **2-5 Society**

#### 3. Implementing Environmental and Energy Management Principles and Policies

**Environmental and Energy Principle**

- Compliance with Environmental Laws and Regulations
- Promoting environmental and energy conservation education to foster employees' awareness
- Implementing green supply chain management to raise overall eco-efficiency
- Creating a low-carbon operating environment to establish continual improvement of environmental protection and energy efficiency
- Supporting green design and procurement to promote sustainable development

**Strategy**

- Enforcing compliance obligations to fulfill the company's responsibilities in environmental protection and energy conservation
- Establishing environmental and energy management systems, including performance indicators to verify compliance with established policies
- Promoting environmental and energy conservation education to foster employees' awareness
- Implementing green supply chain management to raise overall eco-efficiency
- Creating a low-carbon operating environment to establish continual improvement of environmental protection and energy efficiency
- Supporting green design and procurement to promote sustainable development

**Action Plan**

1. **Environmental and Energy Policy**
   - Enforcing compliance obligations to fulfill the company's responsibilities in environmental protection and energy conservation
   - Establishing environmental and energy management systems, including performance indicators to verify compliance with established policies
   - Promoting environmental and energy conservation education to foster employees' awareness
   - Implementing green supply chain management to raise overall eco-efficiency
   - Creating a low-carbon operating environment to establish continual improvement of environmental protection and energy efficiency
   - Supporting green design and procurement to promote sustainable development

2. **Environmental and Energy Principle**
   - Compliance with Environmental Laws and Regulations
   - Promoting environmental and energy conservation education to foster employees' awareness
   - Implementing green supply chain management to raise overall eco-efficiency
   - Creating a low-carbon operating environment to establish continual improvement of environmental protection and energy efficiency
   - Supporting green design and procurement to promote sustainable development

3. **Strategy**
   - Enforcing compliance obligations to fulfill the company's responsibilities in environmental protection and energy conservation
   - Establishing environmental and energy management systems, including performance indicators to verify compliance with established policies
   - Promoting environmental and energy conservation education to foster employees' awareness
   - Implementing green supply chain management to raise overall eco-efficiency
   - Creating a low-carbon operating environment to establish continual improvement of environmental protection and energy efficiency
   - Supporting green design and procurement to promote sustainable development

4. **Action Plan**
   - Enforcing compliance obligations to fulfill the company's responsibilities in environmental protection and energy conservation
   - Establishing environmental and energy management systems, including performance indicators to verify compliance with established policies
   - Promoting environmental and energy conservation education to foster employees' awareness
   - Implementing green supply chain management to raise overall eco-efficiency
   - Creating a low-carbon operating environment to establish continual improvement of environmental protection and energy efficiency
   - Supporting green design and procurement to promote sustainable development

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5. **Compliance with Environmental Laws and Regulations**
6. **Promoting environmental and energy conservation education to foster employees' awareness**
7. **Implementing green supply chain management to raise overall eco-efficiency**
8. **Creating a low-carbon operating environment to establish continual improvement of environmental protection and energy efficiency**
9. **Supporting green design and procurement to promote sustainable development**
### Identification of Environmental Risks and Opportunities

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

<table>
<thead>
<tr>
<th>Material Environmental Risk Topic</th>
<th>Risk</th>
<th>Opportunity</th>
<th>Management Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Aviation carbon emission management</td>
<td>Increasingly strict international carbon emissions regulations will increase the Company’s operational costs</td>
<td>Grasp the development trend of carbon rights and manage properly to increase revenue</td>
<td>Actively participate in international conferences to keep abreast of latest developments; strengthen the management system and the carbon management team’s response capabilities</td>
</tr>
<tr>
<td>2. Climate change adaptation</td>
<td>Increasing frequency of extreme weather events will impact the Company’s daily operations</td>
<td>Proper response will strengthen corporate resilience and reputation</td>
<td>Continue to improve the Company’s ability to predict and respond to climate change, as detailed in 2.4.2 Climate Change Mitigation and Adaptation</td>
</tr>
<tr>
<td>3. Aircraft energy efficiency improvement</td>
<td>Accelerate the introduction of new generation energy-efficient aircraft and fuel-saving technologies which will increase operational costs</td>
<td>Improve aircraft fuel efficiency while reducing fuel consumption and carbon emissions, which will reduce operational costs</td>
<td>Replace aircraft, introduce fuel-saving technologies / sustainable fuels, improve the passenger load factor, as well as optimize routes and air traffic management operations, as detailed in the GSE website</td>
</tr>
<tr>
<td>4. Ground operations energy management</td>
<td>Strict regulations on the use of renewable energy will increase costs</td>
<td>Improve energy efficiency in office and ground operations, which will reduce operational costs</td>
<td>Formulate an annual improvement plan, and its effectiveness should be evaluated by the Environmental Committee quarterly</td>
</tr>
<tr>
<td>5. Aircraft takeoff and landing noise control</td>
<td>Stricter regulations will increase the cost of fees</td>
<td>Proper response will strengthen corporate resilience and reputation</td>
<td>Introduce new models of aircraft to reduce noise pollution and optimize aircraft approaches</td>
</tr>
<tr>
<td>6. Cabin waste control</td>
<td>The use of disposable plastic products and food waste management have gained prominence in many countries while the complexity of operations has increased compliance cost and the response to the COVID-19 pandemic has created public sanitation and waste management issues</td>
<td>Systematic inventory and planning for alternative products and improvement of operating procedures to reduce the risks of violations of regulations and compliance cost, and improve company reputation</td>
<td>Establish a (in-flight) Waste Task Force to monitor management trends and market development of alternatives and engage suppliers for the optimal response solutions; enhance source quality and quantity management and improve terminal processing standards</td>
</tr>
<tr>
<td>7. Ground water resources control</td>
<td>The shortage of water resources affects the Company’s operations and increases the cost of the purchase of water and alternatives as well as business interruption risks</td>
<td>Properly manage water resources to reduce operational costs and improve the resilience for continuous operation</td>
<td>Improve water resources management mechanisms, continuously optimize equipment and improve operating procedures / production processes, and increase the use of recycled rainwater and sewage and efficiency of water usage</td>
</tr>
<tr>
<td>8. Toxic and chemical substance control</td>
<td>Strict regulations increase compliance costs Leakage of toxic and chemical substances will cause harm to operating personnel and the environment</td>
<td>Proper response and management will strengthen corporate resilience and reputation</td>
<td>Establish an operational control mechanism, which should be reported to the Environmental Management Committee quarterly</td>
</tr>
<tr>
<td>9. Waste water and sewage control</td>
<td>Strict regulations will increase compliance costs</td>
<td>Proper response and management will strengthen corporate resilience and reputation; zero pollution increases brand trustworthiness</td>
<td>Strengthen operational control and equipment inspection, strengthen the knowledge and ability of dedicated personnel, as well as implement management system risk identification and performance review</td>
</tr>
</tbody>
</table>

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- 0 Preface
- 1 Sustainability Management Overview
  - 1.1 Introduction
  - 1.2 Goals
  - 1.3 Definitions
  - 1.4 How This Report is Organized
  - 1.5 Scope
  - 1.6 Calculations and Assumptions
  - 1.7 Risks
  - 1.8 Employee Involvement
  - 1.9 Reporting Frequency
- 2 Value Creation
  - 2.1 Trust
  - 2.2 Human Resources
  - 2.3 Cooperation
  - 2.4 Environment
- 3 Sustainability Governance
  - 3.1 Board Engagement
  - 3.2 Sustainability Committee
  - 3.3 Stakeholder Engagement
  - 3.4 Reporting Process
- Appendix

**Material Environmental Risk Topic**

- 1. Aviation carbon emission management
- 2. Climate change adaptation
- 3. Aircraft energy efficiency improvement
- 4. Ground operations energy management
- 5. Aircraft takeoff and landing noise control
- 6. Cabin waste control
- 7. Ground water resources control
- 8. Toxic and chemical substance control
- 9. Waste water and sewage control

**Opportunity**

- Grasp the development trend of carbon rights and manage properly to increase revenue
- Proper response will strengthen corporate resilience and reputation
- Improve aircraft fuel efficiency while reducing fuel consumption and carbon emissions, which will reduce operational costs
- Improve energy efficiency in office and ground operations, which will reduce operational costs
- Proper response will strengthen corporate resilience and reputation
- Systematic inventory and planning for alternative products and improvement of operating procedures to reduce the risks of violations of regulations and compliance cost, and improve company reputation
- Properly manage water resources to reduce operational costs and improve the resilience for continuous operation
- Proper response and management will strengthen corporate resilience and reputation
- Proper response and management will strengthen corporate resilience and reputation; zero pollution increases brand trustworthiness
Recognizing the direct impact and importance of climate issues on the aviation industry, CAL has actively implemented various climate change mitigation and adaptation measures and has set three phase goals in flight operations and ground operations in response to the voluntary carbon reduction initiatives of the International Civil Aviation Organization (ICAO), the International Air Transport Association (IATA), and ‘the Civil Aeronautics Administration (CAA)’ of the Republic of China (Taiwan). We also established a carbon reduction strategy on this basis and adopted appropriate climate adaptation actions to reduce the negative impact of climate change on the Company and grasp derived opportunities. We conducted a comprehensive review of the Company’s climate risks and opportunities, and optimized related software and hardware facilities, control and management measures, and response procedures. CAL supported international initiatives and became Taiwan’s first airline to publicly sign and adopt the Task Force on Climate-Related Financial Disclosures (TCFD) in 2018. CAL works actively to make TCFD a part of the company’s management system. The Company helped complete the translation of TCFD guidelines into traditional Chinese and participated in multiple advocacy campaigns with the industry, government, and academia in 2019. We compiled an independent “Climate-Related Financial Disclosure Report” in 2020 and published it in January 2021 to demonstrate the results of internal management.

Climate Governance Framework

CAL established a TCFD Task Force composed of multiple units in 2019 and used the Corporate Sustainability Committee and Environmental Committee to monitor climate-related risks and opportunities. We report key results to the Board of Directors each year for supervision and management. CAL’s climate governance framework is shown in the figure below.

![Climate Governance Framework Diagram]

**The Board of Directors Level Risk Supervision**

- **Supervision**
- **Report**

**Board of Directors**

- **Supervise the material risks and material capital expenditures of climate-related issues on the Company and Group level.**
- **Provide guidance for the management strategy, important action plans, annual budgets, target achievement status, etc.**

**The Management Level Risk Management**

- **Management**
- **Report**

**Corporate Sustainability Committee**

- **Review the management risks of the Company’s senior management and cross-unit management.**
- **Incorporate climate risks into the operation mechanisms of the Corporate Sustainability Committee and Environmental Committee.**

**Corporate Environmental Committee**

- **Establish management strategies, indicators, and targets based on the identification of climate risks and opportunities for the President to supervise the implementation results in every period (quarter).**

**The Working Level Risk Control**

- **Strategy Units, Finance Units, Flight Control Units, Business Units, Administrative Maintenance Units, and Service Units**

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

Note 2: Y-axis represents the degree of impact and opportunity of the issue on CAL.
## Analysis of the Impact of Climate on Company Operations

CAL has referenced the IPCC Fifth Assessment Report (AR5) and analyzed and identified related risks and opportunities that may affect the cost of operations or revenue under 2°C and 4°C scenarios based on global operations and destinations, company assets (including aircrafts, offices, and plants), upstream supply chain, and downstream customers. The analysis results are as follows:

### Compilation of Qualitative Evaluation Results

#### Low-carbon Transfer Policies, Regulations and Agreements
- Governments and ICAO
  - Regulatory requirements increase demand for carbon rights/offsetting credits and increase carbon prices
  - Increased cost for the development and use of sustainable aviation fuel
  - Cost of fleet renewal
  - Cost of flood prevention for headquarters and offices
  - Disappearance of routes to small islands
  - Development of renewable energy fuel
  - Promotion of the ECO Travel Carbon Offsetting Program to cater to customer groups that favor low-carbon consumption
  - The customer suggestion system (CSS) helps CAL continue to improve in sustainability, environment, and climate change issues

#### Replacement by Land and Sea Transport
- Stakeholders increase their environmental awareness and promote replacement of air transportation with land transportation (including rail transportation)
- Increased demand in developing countries
- Population increase and economic growth expand the demand for logistics
- Development of ESG investment
- Consumers pay close attention to the development of low-carbon tourism

#### Increased Cost or Reduced Revenue
- Potential Opportunities
  - Improving the Company’s operation strategy may create opportunities for increasing revenue by increasing passenger load factor
  - Using more fuel-efficient aircrafts effectively reduces operating costs
  - Using sustainable aviation fuel to satisfy ICAO’s carbon reduction requirements and respond to carbon reduction policies of foreign countries
  - Opportunities for investments in renewable energy to produce carbon assets
  - Promotion of the ECO Travel Carbon Offsetting Program to cater to customer groups that favor low-carbon consumption
  - The customer suggestion system (CSS) helps CAL continue to improve in sustainability, environment, and climate change issues

#### Rising Cost of Materials
- Large electricity users use renewable energy for 10% of their consumption
- Extreme weather may cause supply chain interruptions and companies must increase inventory in response

#### Increase Fuel Efficiency
- Supply Chain (Raw Materials)
  - Increase in the demand for next-generation aircrafts with better fuel efficiency
  - Development of next-generation aircrafts
- Suppliers (Aircraft Companies)
  - Increase in the demand for next-generation aircrafts with better fuel efficiency
  - Development of next-generation aircrafts

#### Potential Alternatives
- Launch of Low-carbon Travel Flights
- Newcomers in the market
- Stakeholders
  - Stakeholders increase their environmental awareness and promote replacement of air transportation with land transportation (including rail transportation)
  - Increased demand in developing countries
  - Population increase and economic growth expand the demand for logistics
  - Development of ESG investment
  - Consumers pay close attention to the development of low-carbon tourism
Development of Electric Aircrafts
(lithium-ion batteries / hydrogen fuel cells)

Newcomers in the market

Governments and ICAO

Increased Cost or Reduced Revenue

- Regulatory requirements increase demand for carbon rights / offsetting credits and increase carbon prices
- Development and use of sustainable aviation fuel
- Extreme weather increases the cost of the suspension of flights, redirected flights, or delayed takeoffs
- Extreme weather increases the cost of flight safety, hull damages, and repairs
- Cost of fuel renewal
- Cost of flood prevention for headquarters and offices
- Disappearance of routes to small islands.
- Depletion of water resources and spread of diseases

Potential Opportunities

- Improving the Company's operation strategy may create opportunities for increasing revenue by increasing passenger load factor
- Using more fuel-efficient aircrafts effectively reduces operating costs
- Using sustainable aviation fuel to satisfy ICAO's carbon reduction requirements and respond to carbon reduction policies of foreign countries
- Opportunities for investments in renewable energy to produce carbon assets
- Promotion of the ECO Travel Carbon Offsetting Program to cater to customer groups that favor low-carbon consumption
- The customer suggestion system (CSS) helps CAL continue to improve in sustainability, environment, and climate change issues

Increased Cost or Reduced Revenue

- Support the development and promotion of alternative fuel to realize carbon removal / low-carbon operations
- Incorporate carbon tax and carbon offsetting requirements to attain carbon removal / low-carbon operations
- Introduction of mandatory renewable energy usage
- Collection of energy expenses and fossil fuel fees

Rising Cost of Materials

- Large electricity users use renewable energy for 10% of their consumption
- Extreme weather may cause supply chain interruptions and companies must increase inventory in response

Increase Fuel Efficiency

- Increase in the demand for next-generation aircrafts with better fuel efficiency
- Development of next-generation aircrafts

Supply Chain (Raw Materials)

Suppliers (Aircraft Companies)

CAL

Issues of Concern to Stakeholders

- Stakeholders increase their environmental awareness and promote replacement of air transportation with land transportation (including rail transportation)
- Increased demand in developing countries
- Population increase and economic growth expand the demand for logistics
- Increased frequency and intensity of extreme weather affect flight safety and the normal operations of flights (typhoons, blizzards, visibility, torrential rain, buoyancy, and sea level rise)
- Development of ESG investment
- Consumers pay close attention to the development of low-carbon tourism
- Changes in the water environment
- Public health

Replacement by Land and Sea Transport

Stakeholders

Rising Cost of Materials

Carbon Transfer Policies and Regulations

- Governments and ICAO support the development and promotion of alternative fuel to realize carbon removal / low-carbon operations
- Governments and ICAO incorporate carbon tax and carbon offsetting requirements to attain carbon removal / low-carbon operations
- Governments and ICAO introduce mandatory renewable energy usage
- Governments and ICAO collect energy expenses and fossil fuel fees

Government and ICAO

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1 Sustainable Management Overview

2 Value Creation

3 Sustainability Governance

Appendix
Financial Impact Analysis of Short, Medium, and long-term Climate-related Risks and Opportunities

CAL uses the identification, assessment, response, and review operating procedures in the internal risk management mechanisms for critical climate risk matrix analysis under 2°C and 4°C scenarios in the first phase (as shown in the figure below). The financial impact (as shown in the table below) is measured in the second phase. Please refer to the "China Airlines Climate-Related Financial Disclosure Report".

Long-term Risks and Risk Distribution under the 2°C Scenario

Long-term Risks and Risk Distribution under the 4°C Scenario

Climate Risk Management

CAL has incorporated TCFD operating procedures into the Company’s management mechanisms and established internal TCFD operating procedures. We also proposed multiple implementation measures for governance, strategy, risk management, and indicators and targets to continuously improve and overall climate-related risk and opportunity management.

Climate scenario changes
Key functions and resource requirements
Financial and non-financial impact analysis
Climate risk / opportunity impact measurement

Continuous Improvement

Note: Green bubbles correspond to transformational risks; orange bubbles correspond to physical risks.
Climate Change Targets and Mitigation and Adaptation Strategy

<table>
<thead>
<tr>
<th>Response Item</th>
<th>Target and Specific Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Governance</strong></td>
<td></td>
</tr>
<tr>
<td>Strengthen Climate Governance</td>
<td>Continue to submit climate governance reports to the Board of Directors</td>
</tr>
</tbody>
</table>
| Enhance Management Supervision and Cross Departmental Operations            | 1. Implement corporate governance and green finance and introduce TCFD and SASB standards and requirements  
2. Implement rolling management to improve the short, medium, and long-term ESG performance |
| **Strategy**                                                                 |                            |
| Enhance TCFD Capabilities                                                    | 1. Increase the comprehensiveness and depth of quantified financial information  
2. Establish a cross-unit operation information platform |
| Climate Response Strategies and Management                                   | 1. Incorporate climate risks and opportunities into the Company’s overall strategies and plans and implement related response actions  
2. Incorporate discussions of the impact of climate change in the Company’s flight plans, business performance management, and other operations and formulate response strategies and business operation adjustments when necessary |
| Participate in Important Engagements                                         | 1. Participate in the international and Taiwan’s important climate policy engagement platforms, monitor policy development trends, and gain influence  
2. Lobby the industry, government, and academia to create a development strategy for sustainable aviation fuel in Taiwan |
| Strengthen the Risk Management Mechanisms for the Corporate Value Chain      | Combine the CAL value chain and the environmental risk management mechanism, continue to implement and expand greenhouse gas inventory and climate and energy risk assessments of key suppliers, strengthen the detection of climate risks and opportunities as well as management, and enhance the capability of continued operations in response to extreme weather |
| Strengthen the Existing Enterprise Risk Management Mechanism                 | Incorporate climate factors into the existing enterprise risk management mechanism to strengthen climate risk / opportunity detection, response, and control capabilities in all units |
| Respond to International Carbon Transformation Risks                         | 1. Participate in the carbon offsetting and reduction plans of the international aviation industry  
2. Continue to enhance MRV capacity for EU ETS and CORSIA mechanisms  
3. Study and perform carbon rights / credit transaction |
| Implement Carbon Reduction and Energy Transformation                         | 1. Install dedicated electricity meters on equipment / processes with high energy consumption risks to monitor electricity consumption  
2. Continue to perform replacement and renewal of high-energy-consuming facilities  
3. Evaluate the installation of renewable energy facilities  
4. Enhance energy management systems and improvement of their effectiveness |
| **Risk Management**                                                          |                            |
| Continuously Optimize Green-house Gas Inventory                              | Conduct an inventory of greenhouse gas emissions ISO 14064:2018 categories greenhouse gas emissions inventory every year to grasp the greenhouse gas emissions information |
| Implement Carbon Emission Reduction Targets and KPIs                        | Implement short-, mid-, and long-term carbon reduction targets and establish around 60 KPIs in environmental protection and carbon emission reduction each year; review the performance at the meeting of the Corporate Environmental Committee convened by the President quarterly |
| Attain Flight Carbon Reduction Objectives                                   | 1. Continue to promote plans for fleet update, aircraft weight reduction, flight optimization, and O&M improvement  
2. Implement fleet plans in accordance with medium and long-term business growth and carbon reduction trends  
3. Continue to improve aviation fuel efficiency, increase loading rate, and focus on the development of new technologies and new low-carbon aircrafts for purchase at an appropriate time |
| Increase Fuel Efficiency                                                     | 1. Continue to promote aviation fuel-saving operations to increase 1.5% fuel efficiency each year  
2. Optimize route planning and develop the most suitable passenger / cargo fleet in response to the epidemic and market development trends |
2-4-3 Achievements in Environmental Sustainability

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

Task 1 — Optimizing Corporate Environment and Energy Management

In 2017 and 2019, CAL completed the transition to the ISO 14001:2015 standard and ISO 50001:2018, incorporating the “life cycle thinking”, “stakeholder engagement,” and “risk and opportunity management” into day-to-day operations to continue to enhance environmental and energy performance tracking and management in order to attain the short-term goals for carbon reduction in ground operations and SDGs in 2020. However, the COVID-19 epidemic in 2020 has affected environmental and energy performance. We implemented measures to support disease prevention requirements such as adding air-conditioning ventilation, organizing work in separate regions / periods, removing certain water conservation faucets, using disposable utensils, and canceling carpool measures, which exacerbated the burden of the environment in operations.

Nevertheless, CAL remains committed to the spirit of “no resource wasting and precision management” while prioritizing disease prevention. We implemented resource conservation operations across the Company including continuous replacement of lighting equipment, increasing the sources of intermediate water recycling, setting up regional for rotation demands and reduce the burden of the environment. In addition to continuous collection of data on outstation business activities, we also use the opportunity to strengthen resource management and performance evaluation of the system. We implemented measures included the decommissioning of B747-400 passenger aircrafts, installation of electricity meters for major energy usage, installation of water meters at water consumption points, tracking solar energy power generation efficiency, and full inventory and deployment of resource recycling facilities as we prepare for the recovery of demand in the future.

As a benchmark air transportation service provider in Taiwan, CAL is tasked with the critical mission of with supporting border security and strengthening disease prevention tasks for passengers and crew members. CAL complies with related regulations of the Central Epidemic Command Center (CECC) and provides passengers and crew members with suitable protective equipment and takes part in discussions and cooperation on IATA waste operations for disease prevention. We process cabin waste in accordance with high standards in domestic and international regulations. CAL also works with suppliers to actively develop cabin service products that meet disease prevention and environmental protection requirements to protect passengers’ health and the environment.

Resource Management

Use of Energy

CAL carried out 60 environmentally friendly energy conservation measures and the fuel management team implemented 13 fuel-saving programs in 2020. The planed carbon reduction target was 58,057 tons. However, the reduced number of flights due to the epidemic resulted in a lower achievement rate for fuel conservation. The park air-conditioning / lighting equipment replacement project was also postponed. The actual carbon reduction in 2020 was 48,888 tons and the achievement rate was 84%. . CAL consumed 34,523 kWh of electricity in 2020, which was a 1.28% increase from 2019 (34,088 kWh). The main cause is the epidemic. We implemented separate regions or separate periods for certain office areas to reduce clustering. We also increased external air exchange volume for the air-conditioning system to ensure the circulation of air. Therefore, the electricity consumption increased significantly starting from the third quarter. However, CAL continued to replace existing equipment and lighting equipment and enhanced the energy conservation awareness campaigns in the office, maintained the operation efficiency of the electricity recovery system of the elevators, and increased the efficiency of solar renewable energy equipment during the epidemic. We also obtained 117 renewable energy certificates issued by the Ministry of Economic Affairs in 2020 to maintain a certain level of building energy efficiency while satisfying disease prevention requirements.
CAL takes the following measures to reduce the impact of noise on local communities and front-line employees during takeoff and landing without compromising flight safety:

**Noise Management**

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

2. Implement flight operations following the Noise Abatement Procedures posted by each airport.

3. Encourage the flight crew to employ the continuous descent approach (CDA) to lower noise level and reduce fuel consumption.

4. Pay noise charges according to regulations of each country's airports on noise prevention.

5. Collect international information through international exchange platforms, such as IATA to continue to carry out noise reduction.

CAL’s water resources are supplied by Taiwan Water Corporation or Taipei Water Department based on the region. China Airlines Park and Engineering & Maintenance Organization (EMO) Park are located in areas with medium to high water resource risks. We fully incorporated with water conservation label products and rainwater recycling systems into the initial design and construction of China Airlines Park. The system provides water for watering plants and toilet flushing in the Park and we also added multiple intermediary water recycling pipelines after the completion of construction, including condensed water from the air-conditioning system and drainage from training swimming pools as we seek to minimize the consumption of water resources. The water consumption in the in the EMO Park mainly occurs in the maintenance process, wastewater processing, and aircraft cleaning operations. The wastewater includes domestic sewage and industrial wastewater. The former is processed by the Taoyuan Airport Sewage Treatment Plant while the latter is processed by the two wastewater treatment plants in the EMO Park due to the nature of the wastewater. The treatment plants process organic and galvanization wastewater (including heavy metals such as chromium and cadmium). They are also regularly inspected to ensure that the effluent meets related regulations of the Environmental Protection Administration. We recycle and reuse the processed organic wastewater for washing cars and watering garden plants. The remaining effluent is discharged into Nankan River.

**Use of Water Resources**

CAL’s water resources are supplied by Taiwan Water Corporation or Taipei Water Department based on the region. China Airlines Park and Engineering & Maintenance Organization (EMO) Park are located in areas with medium to high water resource risks. We fully incorporated with water conservation label products and rainwater recycling systems into the initial design and construction of China Airlines Park. The system provides water for watering plants and toilet flushing in the Park and we also added multiple intermediary water recycling pipelines after the completion of construction, including condensed water from the air-conditioning system and drainage from training swimming pools as we seek to minimize the consumption of water resources. The water consumption in the in the EMO Park mainly occurs in the maintenance process, wastewater processing, and aircraft cleaning operations. The wastewater includes domestic sewage and industrial wastewater. The former is processed by the Taoyuan Airport Sewage Treatment Plant while the latter is processed by the two wastewater treatment plants in the EMO Park due to the nature of the wastewater. The treatment plants process organic and galvanization wastewater (including heavy metals such as chromium and cadmium). They are also regularly inspected to ensure that the effluent meets related regulations of the Environmental Protection Administration. We recycle and reuse the processed organic wastewater for washing cars and watering garden plants. The remaining effluent is discharged into Nankan River.
<table>
<thead>
<tr>
<th>Water Usage Area</th>
<th>Water Shortage Level 1</th>
<th>Water Supply Unit</th>
<th>Wastewater Processing Unit (Level)</th>
<th>Effluent Site</th>
<th>Effluent Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAL Park</td>
<td>Located in Taoyuan City with high water resource risks</td>
<td>Taiwan Water Corporation</td>
<td>Domestic sewage: Taoyuan Airport Sewage Treatment Plant (secondary treatment)</td>
<td>Nankan River (River with Category C terrestrial surface water)</td>
<td>pH: 6 ~ 9, COD: &lt; 100 mg / L, BOD: &lt; 30 mg / L, SS: &lt; 30 mg / L</td>
</tr>
<tr>
<td>EMO Park</td>
<td></td>
<td></td>
<td>Industrial wastewater: CAL’s first and second wastewater treatment plants (tertiary treatment)</td>
<td></td>
<td>pH: 6 ~ 9, COD: &lt; 100 mg / L, SS: &lt; 30 mg / L, Cadmium: &lt; 0.03 mg / L, Total chromium: &lt; 2 mg / L</td>
</tr>
<tr>
<td>Taipei Branch</td>
<td>Located in Taipei City with low water resource risks</td>
<td>Taipei Water Department</td>
<td>Dihua Sewage Treatment Plant (secondary treatment)</td>
<td>Tamshu River (River with Category D terrestrial surface water)</td>
<td>pH: 6 ~ 9, COD: &lt; 100 mg / L, SS: &lt; 30 mg / L, NH3-N: &lt; 10 mg / L</td>
</tr>
<tr>
<td>Songshan Office</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note 2: There were no violations of regulations regarding wastewater or sewage in 2021.

With regard to water resources, the Company’s water withdrawal volume in 2020 was 126,774 tons which was a 13.46% reduction from 2019. In response to disease prevention requirements in 2020, we removed water conservation measures for faucets in certain areas to ensure cleaning effectiveness. However, the Company still actively installs internal water meters and intermediary water recycling pipelines and promotes conservation of water used for watering plant. We implement the ECO SHINE environmentally friendly aircraft cleaning technology that saves water and other measures. We sought to minimize the consumption of water resources in the system while ensuring disease prevention.

(Unit: thousand tons)

<table>
<thead>
<tr>
<th>Water Usage Area</th>
<th>Water Withdrawal 1</th>
<th>Water Consumption</th>
<th>Water Discharge</th>
<th>Water Recycling</th>
<th>Recycling Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAL Park</td>
<td>54.95</td>
<td>54.47</td>
<td>57.49</td>
<td>49.10</td>
<td>21.56</td>
</tr>
<tr>
<td></td>
<td>Domestic: 10.32</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>Industrial: 19.34</td>
<td>Industrial: 2.32</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EMO Park</td>
<td>69.22</td>
<td>75.88</td>
<td>70.25</td>
<td>59.78</td>
<td>30.12</td>
</tr>
<tr>
<td></td>
<td>Domestic: 6.30</td>
<td>NA</td>
<td></td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Industrial: 2.32</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taipei Branch</td>
<td>6.50</td>
<td>5.80</td>
<td>5.83</td>
<td>5.41</td>
<td>2.37</td>
</tr>
<tr>
<td>Songshan Office</td>
<td>10.59</td>
<td>12.07</td>
<td>12.93</td>
<td>12.48</td>
<td>5.48</td>
</tr>
<tr>
<td>Total</td>
<td>141.26</td>
<td>148.22</td>
<td>146.50</td>
<td>126.77</td>
<td>59.53</td>
</tr>
</tbody>
</table>

Note 1: Scope covered by water meters: CAL Park, maintenance plants, Songshan Office, and Taipei Branch.
Note 2: The water consumption volume is calculated based on the actual water consumption ratio in the air-conditioning system.
Note 3: Only 19.34 thousand tons of industrial wastewater from the Engineering & Maintenance Organization is discharged into the terrestrial surface water in accordance with regulations. The remaining 47.9 thousand tons of wastewater is discharged into urban sewage treatment plants in accordance with regulations.
Pollution Prevention

Air Pollution

Among the gases emitted by aircraft engines, nitrogen oxides (NOx) and sulfur oxides (SOx) have a significant impact on the local air quality. Despite the impact of the epidemic in 2020 on the Company’s operations and emissions performance, CAL continues to reduce the impact on ground air quality during aircraft takeoff / landing mainly through introducing low-pollution new aircraft, encouraging the shutdown of one to two auxiliary power units (APUs) during taxiing, and improving the efficiency of ground power units. CAL’s 14 A350-900 aircrafts have been delivered and have replaced the A340-300 and 747-400 aircrafts in flights. We plan to purchase six 777F cargo aircrafts from 2020 to 2023 and two aircrafts have been delivered as of the end of 2020. CAL provides passenger and cargo transportation services with a brand-new fleet of aircrafts. Mandarin Airlines has fully updated its fleet and has purchased nine ATR72-600 aircrafts from 2017 to the end of 2020. Tigerair Taiwan already has eleven A320neo aircrafts and will lease-purchase fifteen additional A320neo aircrafts which are expected to commence operations in 2021. By introducing these next-generation new fleets, CAL continuously improves fuel efficiency and reduces NOx emissions at takeoff and landings.

### SOx and NOx Emissions of CAL Group

<table>
<thead>
<tr>
<th>Item</th>
<th>Unit</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Passenger Aircraft</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOx Emissions</td>
<td>Ton</td>
<td>57.67</td>
<td>58.28</td>
<td>58.95</td>
<td>30.41</td>
</tr>
<tr>
<td>NOx Emissions</td>
<td>Ton</td>
<td>601.20</td>
<td>607.47</td>
<td>614.49</td>
<td>317.03</td>
</tr>
<tr>
<td>Emission Efficiency</td>
<td>g / RTK</td>
<td>0.0125</td>
<td>0.0122</td>
<td>0.0122</td>
<td>0.0133</td>
</tr>
<tr>
<td>Emission Efficiency</td>
<td>g / RTK</td>
<td>0.0152</td>
<td>0.0150</td>
<td>0.0149</td>
<td>0.0400</td>
</tr>
<tr>
<td><strong>Cargo Aircraft</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOx Emissions</td>
<td>Ton</td>
<td>13.23</td>
<td>13.72</td>
<td>13.09</td>
<td>14.58</td>
</tr>
<tr>
<td>NOx Emissions</td>
<td>Ton</td>
<td>137.88</td>
<td>143.02</td>
<td>136.48</td>
<td>152.04</td>
</tr>
<tr>
<td>Emission Efficiency</td>
<td>g / RTK</td>
<td>0.0028</td>
<td>0.0029</td>
<td>0.0031</td>
<td>0.0030</td>
</tr>
<tr>
<td>Emission Efficiency</td>
<td>g / RTK</td>
<td>0.0294</td>
<td>0.0301</td>
<td>0.0321</td>
<td>0.0317</td>
</tr>
</tbody>
</table>

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

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

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

Note 4: Mandarin Airlines and TigerAir Taiwan have no cargo aircraft.

Note 5: Mandarin Airlines revised the 2018-2019 emission data in accordance with the adjustment of flight information system and adoption of RPK to calculate NOx efficiency.

Note 6: Tigerair Taiwan revised the 2018-2019 emission data in accordance with the adoption of RPK to calculate NOx efficiency.

### Waste Management

Despite the challenge of the global pandemic in 2020, international attention and control on issues of single-use plastic (SUP) products and leftover food reduction are still ongoing. CAL implements waste management based on the characteristics and output of the waste produced in the operation process, including general domestic waste from office operations, hazardous / general industrial waste in maintenance operations, and recyclable resources and kitchen waste from transportation services, in accordance with five major principles: refuse, reduce, reuse, recycle, and repair. CAL’s objective is to recycle 100% of waste, reduce waste volume, and increase the waste recycling rate year after year.

<table>
<thead>
<tr>
<th>Waste Management Principle</th>
<th>Strategic Objective</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refuse</td>
<td>Reducing the use of resources and disposing of waste through green design and procurement</td>
<td>Work with suppliers to develop and purchase non-disposable plastic products (e.g. wooden Stirrers), increase green purchases</td>
</tr>
<tr>
<td>Reduce</td>
<td>Reducing end-of-life waste, and implemented electronic teaching materials and operations to save paper consumption for training and communication</td>
<td>Plan business and service supplies precisely to reduce consumption; improved maintenance processes to reduce end-of-life waste, and implemented electronic teaching materials and operations to save paper consumption for training and communication</td>
</tr>
<tr>
<td>Reuse</td>
<td>Increasing the reuse of usable industrial waste (e.g. waste plastic buckets)</td>
<td>Increase the reuse of usable industrial waste (e.g. waste plastic buckets)</td>
</tr>
<tr>
<td>Recycle</td>
<td>Increasing the reuse of waste and reducing it through workflow improvement</td>
<td>Support the Environmental Protection Administration’s plastic wrap recycling platform to enhance the reuse of plastic wraps</td>
</tr>
<tr>
<td>Repair</td>
<td>Repair passenger / freight transport equipment (e.g. containers, pallet nets etc.) for reuse</td>
<td>Repair passenger / freight transport equipment (e.g. containers, pallet nets etc.) for reuse</td>
</tr>
</tbody>
</table>

### Air Pollution

- Mandarin Airlines revised the 2018-2019 emission data in accordance with the adoption of RPK to calculate NOx efficiency.
- Tigerair Taiwan revised the 2018-2019 emission data in accordance with the adjustment of flight information system and adoption of RPK to calculate NOx efficiency.
- CAL provides passenger and cargo transportation services with a brand-new fleet of aircrafts.
Our business revenue was affected by the epidemic in 2020 and the overall waste output decreased significantly by 62% compared to 2019. The change in employee and inventory was and inflight services were realigned to meet disease prevention requirements, such as inflight catering services: We provide single-use packaging materials for inflight catering to prevent contamination of crew members and also provide them with suitable protective equipment such as masks and protective suits. These measures have increased the waste volume of single-use items and reduced the recycling ratio from 30.27% in 2019 to 29.37%. Nevertheless, the Company still strengthened the collection of related data, compliance audits, and supply chain management during the epidemic to ensure adequate waste disposal. We also developed strategies to reduce plastic and surplus food through the (in-flight) Waste Task Force established in 2019 and prepare for the future recovery of the aviation industry.

### Waste Information

<table>
<thead>
<tr>
<th>Item</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Domestic Waste</td>
<td>134,594</td>
<td>120,771</td>
<td>113,196</td>
</tr>
<tr>
<td>Recycling</td>
<td>64,672</td>
<td>260,855</td>
<td>219,381</td>
</tr>
<tr>
<td>Kitchen Waste / Waste Materials</td>
<td>526,125</td>
<td>658,270</td>
<td>282,627</td>
</tr>
<tr>
<td>Hazardous Industrial Waste</td>
<td>16,434</td>
<td>18,814.5</td>
<td>12,657</td>
</tr>
<tr>
<td>Non-hazardous Industrial Waste</td>
<td>108,867</td>
<td>113,308</td>
<td>99,650</td>
</tr>
<tr>
<td>Total</td>
<td>4,684,656</td>
<td>5,123,655</td>
<td>1,945,293</td>
</tr>
</tbody>
</table>

Note 1: All methods of disposal consist of appointing a qualified third-party company to remove the waste for offsite disposal.

Note 2: Scope of statistics from service segments: EMO, CAL Park, Kaohsiung Branch, VIP lounges of four stations (Taoyuan, Songshan, Kaohsiung and Tainan), and Taoyuan Airport inflight services.

To gain a more comprehensive understanding of the composition and volume of inflight waste, CAL invited suppliers to collect information and inventory the waste production on certain short and long-haul flights in December 2019. We also established a baseline for waste production based on the number of passengers and number of meals provided as the basis for improving on-board waste management. According to statistics, the average waste produced per person on flights that provide 1, 2, and 2.5 meals was approximately 0.43kg, 0.74kg, and 0.86 kg, which was lower than the international average of 0.52kg for short flights and 0.63 - 1.81kg for medium to long-haul flights. (Note) In addition, we also actively promote the reduction of plastics used in inflight services through the Waste Task Force operation platform while meeting food safety, convenience, comfort, and cost requirements. We use products that can be repeatedly used, seek alternatives or products/materials that passed environmental protection certification, establish appropriate recycling mechanisms, and strengthen passengers’ environmental protection awareness to respond to international initiatives and management trends.

### Implementation Strategy and Results

**Key Achievement**

CAL has formed a Waste Task Force in the third quarter of 2019, inviting services, supplies, planning, and quality assurance units, as well as supplier partners in catering and cabin cleaning, to establish a regular communication platform. We adopted green design, waste reduction, and passenger communication as our three main operation guidelines and actively reduces the external environmental cost from inflight services and medium to long-term compliance risks.
Follow-up Operation Plans
The Waste Task Force shall continue to promote onsite waste quantity and composition inventory. It shall also use products that can be repeatedly used, seek alternatives or products/materials that passed environmental protection certification, establish appropriate recycling mechanisms, and strengthen passengers’ environmental protection awareness while meeting food safety, convenience, comfort, and cost requirements.

Environmental Expenditure
CAL actively implements green procurement, invests resources every year, purchases environment-friendly equipment, promotes green maintenance and operation projects, and pays for waste cleaning and noise prevention expenses. The epidemic reduced revenue in 2020 and we purchased 44 environment-friendly products in Category 1, 2, and 3 with a decrease of TWD 9,059,000 in this regard compared to 2019.

Environmental Expenditure

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

Note 2: Green procurement includes Category 1, Category 2 and Category 3 eco-products specified in the “Regulations for Priority Procurement of Eco-Products (January 15, 2001).”

CAL Investment in Green Facilities and Green Procurement

<table>
<thead>
<tr>
<th>Item</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Protection Equipment and Maintenance Projects (Note 1)</td>
<td>22,769</td>
<td>23,106</td>
<td>22,805</td>
<td>21,774</td>
</tr>
<tr>
<td>Green procurements (Note 2)</td>
<td>11,730</td>
<td>15,760</td>
<td>19,258</td>
<td>10,199</td>
</tr>
<tr>
<td>Waste Disposal</td>
<td>3,315</td>
<td>4,536</td>
<td>4,062</td>
<td>3,854</td>
</tr>
<tr>
<td>Noise Prevention</td>
<td>188,485</td>
<td>190,357</td>
<td>189,351</td>
<td>136,812</td>
</tr>
<tr>
<td>Air Pollution Control</td>
<td>1,587,723</td>
<td>1,007,276</td>
<td>752,948</td>
<td>818,968</td>
</tr>
<tr>
<td>Total Investment Amount</td>
<td>1,814,022</td>
<td>1,241,035</td>
<td>988,423</td>
<td>991,607</td>
</tr>
</tbody>
</table>

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

Note 2: Green procurement includes Category 1, Category 2 and Category 3 eco-products specified in the “Regulations for Priority Procurement of Eco-Products (January 15, 2001).”

Task 2 — Consolidating Climate Risk Management and Carbon Reduction
GRI 302-1, 302-2, 302-4, 302-5, 305-1, 305-2, 305-3, 305-5

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

In order to achieve the carbon reduction target in the first phase in the aviation industry — improving fuel efficiency by 1.5% per year by 2020 — CAL has continued to strengthen its fuel efficiency measures and formulated four major fuel-saving strategies, namely, “promoting green-energy flights,” “improving ground service control,” “enhancing regular repair and maintenance,” and “strengthening weight reduction of fuselages,” and other specific implementation measures. However, due to the severe impact of the epidemic on flight plans and dispatches in 2020, although total aviation fuel consumption decreased by 2.4% from 2019, the total number of flights was reduced by 38% in 2020 and the performance of revenue ton kilometer (RTK) decreased by 22%. The overall fuel efficiency was 0.2586 tons / 1,000 RTK, which failed to meet the 2020 target (0.2349 tons / 1,000 RTK). However, CAL has achieved the carbon reduction target for ground operations in 2020 by 38% compared to the 2009 baseline.
Aviation Fuel Efficiency

GRI 302-3, 305-4

<table>
<thead>
<tr>
<th>Item</th>
<th>2009</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel Consumption (Ton / GJ)</td>
<td>1,927</td>
<td>2,209</td>
<td>2,284</td>
<td>2,230</td>
<td>1,829</td>
</tr>
<tr>
<td></td>
<td>830.17</td>
<td>973.19</td>
<td>983.97</td>
<td>960.72</td>
<td>787.76</td>
</tr>
<tr>
<td>CO₂ Emissions (Ton CO₂e)</td>
<td>6,099</td>
<td>7,150</td>
<td>7,229</td>
<td>7,059</td>
<td>5,787</td>
</tr>
<tr>
<td></td>
<td>824,791</td>
<td>1,627,649</td>
<td>1,644,656</td>
<td>1,607,690</td>
<td>3,109,822</td>
</tr>
<tr>
<td>Transport Volume (Thousand RTK)</td>
<td>7,721</td>
<td>9,289</td>
<td>9,544</td>
<td>9,072</td>
<td>7,075</td>
</tr>
<tr>
<td></td>
<td>9,763,311</td>
<td>19,740,621</td>
<td>19,740,150</td>
<td>19,740,150</td>
<td>11,947,355</td>
</tr>
<tr>
<td>Fuel Efficiency (Fuel / Thousand RTK)</td>
<td>0.2497</td>
<td>0.2433</td>
<td>0.2394</td>
<td>0.2459</td>
<td>0.2586</td>
</tr>
<tr>
<td>Carbon Emission Intensity (Ton CO₂e / Thousand RTK)</td>
<td>0.7900</td>
<td>0.7497</td>
<td>0.7575</td>
<td>0.7781</td>
<td>0.8180</td>
</tr>
</tbody>
</table>

Note 1: The lower the fuel efficiency and the carbon emission intensity, the better is the performance.
Note 2: Carbon emission intensity (ton CO₂e / 1,000 RTK) = GHG emissions / Total RTK.
Note 3: No alternative fuel or sustainable aviation fuel were used in 2020.
Task 3 — Building Capacity for Value Chain Environmental Management

In addition to strengthening its sustainable environmental management momentum, CAL has actively enhanced the sustainable value of the overall industrial value chain. CAL launched environmental management of the value chain in 2018, inviting the Group’s partners to initiate the Eco Seed Development Plan, and using environmental / energy / carbon management workshops and environmental risk surveys to promote an understanding of the concepts and benefits that will accrue from environmental / energy / carbon management. In 2020, CAL has asked value chain partners to formulate appropriate environmental and energy policies and to implement management measures and supervise the measurement operations for key environmental impacts. Operational information (such as power / oil consumption) of surveyed and interviewed organizations will be added to support the core values of the revision of ISO 14064:2018 and to strengthen the investigation and understanding of indirect emissions from the value chain. In addition, points of contact from the value chain partners and their first-level supervisors were invited to participate in the “Environmental Risk Analysis and Results Presentation Meeting,” at which the results of risk survey and analysis were summarized and industry’s excellent case studies were also shared.

• Object:
  11 key value chain companies

We shall continue to expand CAL’s environment and energy management experience and formulate and promote environment and energy management mechanisms that meet requirements for the Group’s operation resources and sustainability targets while ensuring cost-effectiveness. We shall also strengthen environment and energy information disclosures.

• Implementation Results:
  All the value chain companies have used employee email, intranet, and bulletin boards to increase employees’ awareness of the “Environment and Energy Policy”. Certain partners have also used meetings with contractors, suppliers, and third-party service providers to communicate the “Environment and Energy Policy” or set up environmental sustainability webpages to publish the policy on external networks. Most partners have established action plans for the annual energy resource management targets. They also proposed improvement measures if they failed to meet their target. They considered environmental protection and energy conservation for new investment or equipment procurement. They assigned dedicated units to take charge of evaluating compliance obligations for the key environmental issues with direct impact on the company. There were no violations of environmental regulations in 2020. The total GHG direct and energy indirect emissions from 11 companies were 208,914 ton CO₂e in 2020.

• Follow-ups:
  We shall continue to expand CAL’s environment and energy management experience and formulate and promote environment and energy management mechanisms that meet requirements for the Group’s operation resources and sustainability targets while ensuring cost-effectiveness. We shall also strengthen environment and energy information disclosures.

Key Achievement

Leading Partners in the Value Chain to Continue to Improve Environmental and Energy Management Performance

• Object: 11 key value chain companies

• Operation Highlights: Questionnaire survey
  1. Identify value chain partners and complete the implementation status of phase 1 environment and energy management progress
  2. Focus on key environmental impact compliance status
  3. Conduct communication meetings to consolidate the awareness of energy conservation and environmental protection in the value chain

• Six Major Question Categories in the 2020 Questionnaire:
  Category 1: Environment and energy resource management implementation status
  Category 2-4: Key environmental impact compliance status
  Category 5: Survey of energy laws and regulations
  Category 6: Environmental protection requirements or partnership initiatives of stakeholders

• Implementation Results:
  All the value chain companies have used employee email, intranet, and bulletin boards to increase employees’ awareness of the “Environment and Energy Policy”. Certain partners have also used meetings with contractors, suppliers, and third-party service providers to communicate the “Environment and Energy Policy” or set up environmental sustainability webpages to publish the policy on external networks. Most partners have established action plans for the annual energy resource management targets. They also proposed improvement measures if they failed to meet their target. They considered environmental protection and energy conservation for new investment or equipment procurement. They assigned dedicated units to take charge of evaluating compliance obligations for the key environmental issues with direct impact on the company. There were no violations of environmental regulations in 2020. The total GHG direct and energy indirect emissions from 11 companies were 208,914 ton CO₂e in 2020.

• Follow-ups:
  We shall continue to expand CAL’s environment and energy management experience and formulate and promote environment and energy management mechanisms that meet requirements for the Group’s operation resources and sustainability targets while ensuring cost-effectiveness. We shall also strengthen environment and energy information disclosures.
CAL organizes the environmental training campaign every year to develop employees’ awareness of environmental protection. Training programs are organized online or offline in Taiwan to cultivate the attitude and actions of protecting the planet. To implement external communication, CAL communicates the corporate concept and performance of environmental protection with stakeholders through social media and inflight magazines in hopes of creating and spreading the awareness of green consumption. CAL created the “CAL ECO Path” for corporate headquarters environmental actions map with a virtual environmental education site for special environmental protection measures implemented in the headquarters park in 2020. We provided five environmental protection education videos for internal and external visits to help the visitors understand and support the Company’s environmental friendly operations, and increase the environmental protection awareness of internal and external stakeholders.

Environmental Protection Videos

<table>
<thead>
<tr>
<th>Item</th>
<th>Operation Description</th>
<th>2020 Achievements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

### 2020 Achievements

**Shape a Culture of Environmental Protection**

Environmental Training for All Employees

- Improve employees’ identification and awareness of environmental sustainability and help develop good conduct and business habits.

#### Environmental education

CAL communicated with new employees regarding the corporate policies and approaches to environmental protection and energy conservation in the course “CAL and I”. The achievement rate reached 100%.

#### Knowledge-based education

1. Environmental knowledge: CAL published 24 articles and reports on environmental sustainability through internal communication platforms, such as employees’ email, China Airlines newsletter, and the startup screen, in 2020.
2. Environmental protection contests and environmental protection satisfaction survey for all employees: The “Employee Environmental Protection Knowledge Challenge” quiz and annual satisfaction surveys were attended by 2,250 employees and the overall satisfaction rate was 97.6%. They provided 291 environmental protection recommendations which were all included in the design of 2021 operation plans.
3. Environmental protection lecture: two environmental lectures were held, focusing on environmental issues related to climate change and ecological conservation, to raise the employees’ awareness of environmental protection; 207 participants attended.

TCFD advanced lectures: Chairman Dr. Eugene Chien of the Taiwan Institute for Sustainable Energy gave a speech on “Sustainable Development of Industries under Climate Change.”

Employee environmental protection lecture: The researcher Hu-Shan Lin of the Institute of Wildlife Conservation, National Pingtung University of Science and Technology gave a lecture on “Environmental Protection: From Eagle Red Bean and Black-shouldered Kite Rice to Guardian Pheasant-tailed Jacana Water Chestnuts.”
### 2020 Achievements

<table>
<thead>
<tr>
<th>Operation Description</th>
<th>2020 Achievements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross-industry exchange and engagement: The Company organized 2 cross-industry exchange programs in 2020 to collect implementation experience of other corporates and promote CAL ECO ideals.</td>
<td><img src="image1" alt="Cross-industry exchange with Delta" /> <img src="image2" alt="Visiting benchmark company First Bank’s “Green Finance Education Hall”" /></td>
</tr>
<tr>
<td>Organize training on environmental and energy management for the related personnel of the Company and affiliates</td>
<td>Organized three enterprise training sessions on “environmental energy management systems”</td>
</tr>
<tr>
<td>Appoint trainees to participate in external training and seminars as needed</td>
<td>Organized one enterprise training session on “greenhouse gases”</td>
</tr>
<tr>
<td></td>
<td>Organized four enterprise training sessions on “TCFD Training”</td>
</tr>
<tr>
<td></td>
<td>Organized one session on “Value Chain Environment Management Communication Meeting” in the Group</td>
</tr>
<tr>
<td>Organized three enterprise training sessions on “environmental energy management systems”</td>
<td>Promote environmentally friendly awareness and consumer behavior</td>
</tr>
<tr>
<td></td>
<td>Worked with Zen Zhou company to develop “CAL Foldable Platinum Silicone Cups”, which was awarded the “Environmental Sustainability Category - Special Prize” in the Buying Power Awards by the MOEA, creating value for environmental protection and sustainable development of the natural environment</td>
</tr>
<tr>
<td></td>
<td>Continued the practice of closing windows during summer to lower the temperature of the cabin and thus reduce the cost of APU, and airport energy use</td>
</tr>
<tr>
<td></td>
<td>Published 3 environmental protection articles and reports via social media</td>
</tr>
<tr>
<td></td>
<td>Printed menus with recycled paper and soy ink and added an environmental protection slogan on the last page of the menu</td>
</tr>
<tr>
<td></td>
<td>Added the warning of an embargo on transport of endangered species on the Company website</td>
</tr>
<tr>
<td></td>
<td>Published CAL’s environmental practices and electronic and mobile approaches to carbon reduction in inflight magazines</td>
</tr>
<tr>
<td></td>
<td>Marked the Taipei-Kinmen carbon label on the website of Mandarin Airlines, supplies, check-in counter, boarding pass, inflight magazines</td>
</tr>
<tr>
<td>Promote environmentally friendly awareness and consumer behavior</td>
<td>Promote green consumption</td>
</tr>
<tr>
<td>Promote green consumption</td>
<td>Added environmentalism products in the catalogue of home-delivery duty-free goods, and include China Airlines’ sustainability logo.</td>
</tr>
<tr>
<td>Promote green consumption</td>
<td>Updated and shared the carbon footprint of routes</td>
</tr>
<tr>
<td>Promote green consumption</td>
<td>Enhanced the promotion of the ECO Travel Carbon Offsetting Program</td>
</tr>
<tr>
<td>Promote green consumption</td>
<td>Mandarin Airlines set up the Environmental Sustainability Section on the official website to publish the “Environment and Energy Policy Statement” and the results of “Carbon Labeling”, and “Carbon Reduction Labeling”</td>
</tr>
<tr>
<td>Use 100% FSC paper for printing boarding passes</td>
<td>Adopted local ingredients for in-flight meals and Group catering and put a ban on food ingredients from endangered species</td>
</tr>
<tr>
<td>Optimized service processes and reduce waste and waste processing costs</td>
<td>Implemented waste management</td>
</tr>
<tr>
<td>Optimized service processes and reduce waste and waste processing costs</td>
<td>Incorporated the concept of environmental protection into design of in-flight meals and supplies</td>
</tr>
<tr>
<td>Optimized service processes and reduce waste and waste processing costs</td>
<td>Promoted and implemented electronic and information service</td>
</tr>
<tr>
<td>Optimized service processes and reduce waste and waste processing costs</td>
<td>Pursued the reduction of the weight of in-flight magazines and inflight service supplies and enhanced weight-reducing and fuel-saving benefits</td>
</tr>
</tbody>
</table>
CAL Group fulfills corporate social responsibility and cherishes the Earth’s limited resources to create sustainable value. In 2020, we helped the subsidiary company Mandarin Airlines reorganize the “Songshan-Kinmen” route carbon footprint inventory and calculated the carbon footprint of Mandarin Airlines’ Songshan-Kinmen passenger transportation service route in accordance with the “Product and Service Carbon Footprint Calculation Guidelines” of the EPA and “the Aviation Passenger Transportation Services: Carbon Footprint Product Category Rule (PCR) 2.0.” Based on SGS certification, the carbon footprint label was reduced from 280g CO2e / per person-kilometer to 200g CO2e / per person-kilometer. In addition to the updated Carbon Label certificate, the EPA also awarded Mandarin Airlines with the “Carbon Footprint Reduction Label Certificate” for reducing its carbon footprint by 30%, which far exceeded the target of 3%. Mandarin Airlines thus became the first airline company in the world to receive the carbon emissions reduction label. Detailed on the environmental protection page of Mandarin Airlines’ official website.

Since 2019, CAL has integrated the official website, the ticketing system, travel reminders, and a diversified electronic-friendly service platform to strongly encourage passengers to participate in the voluntary ECO Travel carbon offsetting program. In 2019, CAL added carbon offsetting links to the employee preferential ticket system and the business trip dispatching system to invite employees to jointly support carbon-offsetting actions. As of the end of December 2020, the amount of offset reached 293.93 metric tons, the best in the industry in Taiwan.

To continue to help domestic consumers Learn about low-carbon travel and take action, CAL invited Mandarin Airlines and Tigerair Taiwan to join the “ECO Travel Carbon Offsetting Program”. We included the carbon emissions of domestic destinations into the platform database and provided domestic consumers with links for participation and the opportunity to participate in supporting international sustainable development initiatives and contribute to sustainability of the Earth’s environment.

### Future Plans

#### Operational Focus

1. Advance operational effectiveness of management systems
2. Expand the scope of environmental, energy and greenhouse gas management

#### Future Development Plan

1. Gradually expand the environmental management level to the value and supply chains
2. Implement environmental risk assessment of outstations and suppliers
3. Assist the Group’s enterprises to improve their momentum in carbon management
3. Comply with the Carbon Offset and Reduction Scheme for International Aviation (CORSIA)

1. Continue to participate in the IATA and Taiwanese government’s engagement for strategic planning of CORSIA operations
2. Follow CORSIA monitoring plan, manage emissions inventory, data verification and report to competent authorities
3. Optimize carbon emission management and conduct carbon offset management in accordance with ICAO regulations

4. Consolidating the financial quantification mechanism for corporate climate and environmental risks

1. Continue to strengthen capabilities of the management, such as the Board of Directors, in climate and environmental governance
2. Build the momentum of financial disclosures relating to climate and environmental risks
3. Enhance the implementation knowledge of all units on climate issue management

5. Continue to refine carbon reduction targets

1. Continue to manage and improve air and ground carbon reduction targets
2. Strengthen energy-saving and carbon reduction measures, continue to reduce the carbon footprint of operations, and improve ecological benefits
3. Assess the introduction of SBT aviation sector methodologies in the international aviation industry and participate in the negotiation and cooperation industry

6. Continue to improve the utilization efficiency of environmental resources

1. Improve water resources and waste management operations
2. Implement environmental protection and energy-saving measures and increase resource utilization efficiency

7. Investigate sustainable aviation fuel (SAF) application strategy

1. Continue to keep abreast of developing trends in sustainable fuels
2. Push the industry and the government to develop Taiwan SAF strategies

8. Create an environmental protection culture inside and outside the company

1. Continue to support environmental sustainability initiatives at home and abroad
2. Create diversified promotion channels and inspire innovative momentum of cooperation inside and outside the Company
Tigerair Taiwan, China Airlines Group’s subsidiary, won a Platinum Award in the low-cost carrier category from the Reader’s Digest Trusted Brand for five consecutive years. Tigerair Taiwan received recognition as one of the iconic happy enterprises for office workers in the online vote organized by 1111 Job Bank.

Over 7.16 million in charity contributions
Invested TWD 7,162,191 in charity activities throughout 2020.

Over 3,400 students
Sponsored book programs for 102 schools throughout Taiwan to help approximately 45,000 students.

Over 2,200 cases of medical supplies
Over 1,200 passengers
Participated in international relief efforts in 2020, and organized charter transport for medical supplies. A total of 10 fights carried 2,278 cases of supplies weighing a total of 73,343kg. Helped transporting expats in regions more affected by the coronavirus back to Taiwan. A total of 9 charter fights benefited 1,224 people.

550 senior citizens
Provided care for 550 disadvantaged senior citizens at four events throughout 2020.

4th Time in TCSA Social Inclusion Award
Awarded in TCSA Social Inclusion Award for four consecutive years.

5th Time Reader’s Digest Trusted Brand
Tigerair Taiwan, China Airlines Group’s subsidiary, won a Platinum Award in the low-cost carrier category from the Reader’s Digest Trusted Brand for five consecutive years. Tigerair Taiwan received recognition as one of the iconic happy enterprises for office workers in the online vote organized by 1111 Job Bank.
Management Approach

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

No support from the society, no CAL. What makes CAL successful is the support of the society. Upholding the core philosophy of “taking from society and giving back to society,” CAL continues to contribute to society in the hope of creating love while fulfilling its corporate responsibility in Taiwan.

Commitment and Long-term Goals

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

Long-term Goals

Objectives and Plans

<table>
<thead>
<tr>
<th>Direction</th>
<th>KPI</th>
<th>2020</th>
<th>2021 Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhance the overall quality of national education</td>
<td>Organizing long-term education charity projects</td>
<td>Organizing at least one long-term education charity project</td>
<td>Not implemented (Note 1)</td>
</tr>
<tr>
<td></td>
<td>Number of discounted tickets bought by domestic and international students</td>
<td>Continuing to publicize student flight ticket and increasing opportunities for international education</td>
<td>34 domestic and international students (Note 2)</td>
</tr>
<tr>
<td>Raise the Taiwan’s visibility in the world</td>
<td>Increase the number of sponsoring international activities</td>
<td>Using CAL resources to promote local brands, and increasing international visibility of both local brands and CAL</td>
<td>Sponsored 9 international Activities (including 81 flight tickets)</td>
</tr>
<tr>
<td>Empower the disadvantaged to gain equal social opportunities</td>
<td>Increased level of sponsorship in charity events</td>
<td>Increasing the proportion of charity event sponsorships to 20% to empower the disadvantaged to gain equal social opportunities</td>
<td>38% (Note 3)</td>
</tr>
</tbody>
</table>

Note 1: The COVID-19 pandemic this year affected the overall aviation market. Due to operational and epidemic prevention considerations, this project could not be implemented. In response to international support initiatives for the global pandemic, CAL supported the central government and used its core resources to provide multiple flights for the transportation medical supplies and charter flights for the repatriation of citizens living in regions more affected by the coronavirus.

Note 2: According to statistics on the Company website, the sales of student tickets in 2020 decreased significantly from the previous year due to the impact of the epidemic on the global market and adjustments in operation strategies.

Note 3: In 2020, CAL sponsored 16 projects, of which 6 projects were charity events, accounting for 38% of overall sponsorships.

Note 4: Achievement refers to the performance fulfillment percentage.
2-5-1 Social Sustainability Strategy

The global aviation industry was devastated by the COVID-19 pandemic in 2020. To support the central government’s guidelines for rigorous disease prevention measures and reducing activities that involve clustering of people, CAL upheld its commitment for sustainable development of the company and implements SDG 3, SDG 4, and SDG 8 of the United Nations Sustainable Development Goals with its three major sustainability strategies including “enhancing the internationalization of local education”, “increasing the international visibility of local brands”, and “empowering the disadvantaged to gain equal social opportunities” to give back to the society and support sustainability together.

CAL Social Sustainability Strategy

One of CAL Sustainability Strategy / Action Plan

2-5-2 Enhancing the Internationalization of Local Education

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

CAL Group is committed to long-term improvement of domestic education and development in Taiwan. We use real actions to ensure substantial improvements in children’s education. We uphold the spirit of supporting education for all and use the unique resources of the aviation industry to welcome company visits by colleges and universities each year. We have organized volunteer lectures to support diverse learning for students since 2010. We have provided opportunities for learning professional knowledge and real-life skills in long-term partnerships with domestic universities to enhance industry-academic cooperation since 2013. In addition, we also actively promoted environmental protection awareness with the aim of achieving positive sustainable development for the society.

Company Visits

CAL welcomes company visits of related departments in colleges and universities each year and assigns dedicated personnel to introduce the corporate culture, cabin crew training facilities, emergency escape training facilities, and flight training facilities. We use real exchange to broaden students’ perspectives of the aviation industry. CAL organized 9 company visits by colleges and universities in 2020 which benefited 320 students.

Volunteer Teaching

Since its establishment in 2011, the “China Airlines Volunteers Club” provides lectures at regular intervals at schools near the Company each year. It uses real actions and demonstrations to communicate core aviation knowledge of the Company and encourages students to cultivate an international vision and a habit for acquiring knowledge, thereby increasing their opportunities for diverse growth. In 2020, 8 lectures in schools such as Xihai Elementary School, Zhuewe Elementary School, Shantou Elementary School, and KuoLIN Elementary School in Dayuan District were held. In total, there were 50 participating volunteers and 24 hours of service, benefiting 604 students.

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Knowledge-Sharing Platform at Elementary Schools

Since 2014, CAL has been working with the Global Views Educational Foundation to collaborate on the "Common Knowledge Platform Public Welfare Project" sponsorship plan and to donate subscriptions to the "Global Kids Junior Monthly" and "Global Kids Monthly" to students in various elementary schools in Taoyuan City, Taitung County, Nantou County, and Hualien County for the purpose of providing students with additional access to knowledge and help improve the overall quality of education in Taiwan. In 2020, 102 schools and about 44,472 students benefited.

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

Mandarin Airlines continued to organize the Mandarin Airlines Flight Camp with Apex Flight Academy to help young students in Taiwan pursue and fulfill their dreams of flight.

Flight Camp

Mandarin Airlines continued to organize the Mandarin Airlines Flight Camp with Apex Flight Academy to help young students in Taiwan pursue and fulfill their dreams of flight.

Environmental Education

CAL Group is committed to both corporate social responsibility and sustainability. We actively pursue the improvement and protection of the Earth’s environment and bear the responsibility for promoting environmental awareness to achieve sustainable environmental protection goals.

Coastal Cleanup

"Coastal cleanup" is one of CAL’s key social responsibility projects each year. We supported the "Taiyuan Love Coastal Cleanup" event organized by Taoyuan City Government and assembled 350 employees and relatives from all units to clean up Guanyin Beach. The purpose of the activity was to reduce the possibility of harming marine life. We cleared approximately 2,082kg of waste in this activity including 318kg of waste fishing nets. The recovered waste fishing nets can be recycled for use which extends the life cycle of the fishing nets and supports the creation of a circular economy. Each participant used real actions to protect the Earth, contribute to environmental protection, and clean up the beach in Taoyuan.

CAL supports the International Coastal Cleanup day
Animal Conservation

Mandarin Airlines has worked with Taipei Zoo on the “Kinmen Blue-Tailed Bee-Eater Abandoned Eggs Incubation and Research Project” for six consecutive years and supported the transportation of abandoned eggs found in Kinmen to the Zoo for incubation. The “Summer Fairies,” i.e., the blue-tailed bee-eaters, have been successfully hatched each year. Among the 62 abandoned eggs collected in 2020, 24 hatchlings were born through artificial means. The project has made contributions to wildlife conservation and greatly strengthened the confidence of the team. Since 2015, Tigerair Taiwan and Taipei Zoo have worked together to promote the corporate animal adoption program. Under this program, in addition to tigers, Tigerair Taiwan has adopted leopard cats and Formosan clouded leopards from 2017 to 2021 to support animal conservation through concrete action.

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

<table>
<thead>
<tr>
<th>Theme</th>
<th>Item</th>
<th>2020 Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Number of Participants / Beneficiaries</td>
</tr>
<tr>
<td>Humanitarian Relief</td>
<td>Charter flights for transporting medical supplies to Europe / Northeast Asia / Southeast Asia, charter flights for the repatriation of citizens in Wuhan / Diamond Princess in Japan / Shanghai, etc.</td>
<td>2,278 Cases, 1,224 People</td>
</tr>
<tr>
<td>Athletic Sponsorships</td>
<td>2020 Formosa Dreamers, 2020 Standard Chartered Taipei Charity Marathon, baseball players Wei-Yin Chen / Wei-Chung Wang, Rising Star RG, etc.</td>
<td>29,589 People</td>
</tr>
</tbody>
</table>

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

Humanitarian Relief

The “National Team of the Sky” flying on for you — Bringing expats home on charters and transporting medical relief

The impact of the COVID-19 pandemic in 2020 was felt across the globe. To support international relief measures, CAL organized its aviation resources and supported the central government’s policies by transporting numerous medical supplies to countries across the world in Europe, Northeast Asia, and Southeast Asia on charter flights with a total of 10 flights carried 2,278 cases of supplies weighing a total of 73,343kg. In addition, CAL also took on missions of the state and helped arrange charter flights for transporting expats in regions more affected by the coronavirus back to Taiwan. They included charter flights for Wuhan and Diamond Princess in Japan, and semi-charter flights for Shanghai with a total of 9 flights which benefited 1,224 people. CAL actively contributed to global disease prevention and disease control and greatly improved Taiwan’s international visibility.

Sports Activity

CAL has always supported the national team and has always supported local sports development with the aim of cultivating rising stars for the glory of the nation. We organized charity basketball camps and charity baseball camps this year and invited the Formosa Dreamers, top professional baseball player in Japan Wei-Yin Chen, and Chinese Professional Baseball League star Wei-Chung Wang to teach young players together and share their experience. We also encourage them to pursue their dreams with courage and prepare themselves for their rise in the future.
Players of Formosa Dreamers provide instructions for practice

Group photo of star baseball players Wei-Yin Chen, Wei-Chung Wang, and children of the Little League team

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

<table>
<thead>
<tr>
<th>Theme</th>
<th>Item</th>
<th>2020 Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of Beneficiaries</td>
<td>Amount Invested</td>
</tr>
<tr>
<td>Caring for the Disadvantaged</td>
<td>Disadvantaged students, senior and members of the general public</td>
<td>241,679</td>
</tr>
<tr>
<td></td>
<td>Pingtung Startup Happiness Bus 2.0</td>
<td>7,500</td>
</tr>
</tbody>
</table>

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

Caring for the Disadvantaged

The epidemic this year has exerted more significant impact on disadvantaged groups. To reduce inequality in society, CAL continued to participate in social welfare initiatives for disadvantaged groups despite unprecedented difficulties in business operations. We seek to fulfill our responsibilities as corporate citizens, use real actions to help disadvantaged groups in society improve their quality of life, and focus on fulfilling our commitment to achieve equality and social welfare.

Disadvantaged Students and Communities

“Love All Around Team” is a spontaneous CAL volunteers group. On their days off, volunteers visit remote rural schools across Taiwan to teach students about aviation and balance the urban-rural education gap. Since 2014, they have visited 56 elementary and junior high schools and social welfare organizations in 15 cities/counties and 27 townships across Taiwan, providing care for 3,447 students. In addition, another volunteer team ventures to remote rural schools for close interactions with children. They were invited to the “Meet the Future” event organized by Shan-Shuei Primary and Junior High School, the first alternative education experimental school in Taichung. They designed delightful activities to teach children professional knowledge of aviation and increase their interest for learning. The activity benefited 382 children. In 2020, the cabin crew held a total of 4 fundraising activities to provide in-flight amenities to disadvantaged groups that needed assistance, benefiting a total of 240,158 people.

Support Tribal Culture on the International Stage

On the occasion of the completion of the Matalim Tribal Art Wall in Hualien, Mandarin Airlines placed the art wall on the cover of the in-flight magazine and wrote an article to commemorate the event to support charity and indigenous tribal culture on the international stage. The new Matalim Tribal Art Wall was created by renowned painter Yosifu Kacaw and a group of indigenous artists with mosaic tiles and broken glass. It has become a new highlight in the Huadong Valley and is expected to attract international tourists and create a new industry for the tribe.
Puzangalan Children’s Choir is composed of a group of Paiwan children from elementary school to senior high school. They have been invited to perform in numerous large-scale domestic and foreign music festivals and are known as the “Most Beautiful Voice in Taiwan”. Tigerair Taiwan organized a single-trip charity flight from Kaohsiung to Songshan on July 29, 2020 to help children of the choir attend a music festival event. It organized a flash mob performance at the waiting room in Taipei Songshan Airport on the same day. Tigerair Taiwan also invited Puzangalan Children to select suitable songs from their original music and asked them to complete recordings. When new airplanes are introduced in the future, the media system equipped on the new airplanes can play the music when passengers aboard the airplane. The music will be a pleasant surprise for wishing passengers well on their journey and can help more domestic and foreign visitors learn more about the beautiful voices from Taiwan.

Tigerair Taiwan has spared no effort in the participation and support of group activities of indigenous peoples for years. In 2020, it sponsored the “Change Starts with Me” anti-bullying campus promotion activities organized by the Taiwan Indigenous Culture Promotion Association in Nanhsing Elementary School and Hsinyi Elementary School in Changhua County as well as Chung-Cheng Elementary School and Chung Kong Primary School in Tachung City. Tigerair Taiwan used short plays to help students understand different types of campus bullying so that they can use the most appropriate method to respond to bullying, help themselves or others, and reduce the occurrence of bullying on campus.

Taking care of persons in a vegetative state is a long and arduous journey. The Genesis Social Welfare Foundation has supported the operations of more than 10 homes that house persons in a vegetative state from poor families. The impact of the epidemic in 2020 has created deficits for many homes and affected their in-residence services. To help the Genesis Social Welfare Foundation sell Fire-fighting and Safety Charity Fair passes, Tigerair Taiwan sponsored tickets to increase participation in the event.

Tigerair Taiwan invited the cellist Cheng-Chieh Chang to perform for its 6th anniversary charity activity “Around the World with Music” and invited disadvantaged groups to attend. We created a magnificent feast for the ears of the audience with the music. Tigerair Taiwan and Cheng-Chieh Chang jointly donated TWD 100,000 to Taoyuan City Government and Tigerair Taiwan Chairman Han-Ming Chen also donated TWD 100,000 in his own name with the aim of encouraging others to support the initiative and helping more disadvantaged associations receive care and happiness.

Senior Citizens
CAL has established long-standing relations with the Huashan Social Welfare Foundation and regularly provides care to disadvantaged elderly people living in Taoyuan on the three Chinese festivals. The Foundation organized three charity activities this year including the “Love the Elderly by Exercising on Dragon Boat Festival”, “Love the Elderly by Lighting up Mid-Autumn Festival”, and “Joy with Grandparents and Grandchildren”. It consolidates the resources of the society to jointly help the elderly who suffer from disability, dementia, or loss of support. It also organized the “2020 Warm Dinner Together” with Taoyuan Fishermen’s Association and invited children from Muhsiang Home and White Home as well as elderly fishermen to gather for a traditional meal before Chinese New Year. A total of 550 elderly were provided with care.

CAL volunteers visit elderly living alone and presented care packages
Pingtung Startup Happiness Bus 2.0
The Ministry of Transportation and Communications (MOTC) activated relief measures for aviation industry in response to the global COVID-19 pandemic. To meet the requirements in the Guidelines for Relief Loans of the Small & Medium Enterprise Credit Guarantee Fund, CAL provided corporate sponsorship for the “Pingtung Startup Happiness Bus 2.0 Integrated Service Pilot Program”. The program was created to provide CAL representatives attended the Happiness Bus 2.0 inauguration press conference
Source: News media
CAL volunteers present elderly fishermen with souvenirs after the traditional meal
resources to remote rural areas and disadvantages people and jointly support the improvement of transportation quality in Pingtung while improving social welfare for local residents. Approximately 7,500 people benefited from the program.

2-5-5 Creating a Sustainable Society

2020 has been a very difficult year for the aviation industry as many countries intensified disease prevention measures. Numerous flights were suspended and revenues drastically declined. CAL remains committed to social welfare and provides support by transporting relief materials and arranging charter flights for transporting expats in regions more affected by the coronavirus back to Taiwan. We work hard to achieve positive circular goals for social and corporate development.

Social Investment Evaluation

Since 2015, CAL has adopted the London Benchmarking Group (LBG) model to analyze the effectiveness of social investment and quantify the influences of various resources invested in society and the business itself. CAL adopted the Social Return on Investment (SROI) model in 2019 to analyze the benefits of individual charity programs. CAL took the 2020 CAL volunteer teaching activity as the target for calculation. According to the SROI evaluation method, the calculation result of this activity is 7.6, which means that for every TWD 1 invested, TWD 7.6 of social benefit can be generated.

For the contribution to social investments, CAL donated TWD 7,162,191 in 2020. Commercial initiatives, charitable events and community investments represented 46%, 30%, and 24% of our total social investment, respectively. Social investments could be categorized into materials, money, volunteers, and management overhead, which represented 41%, 39%, 5% and 15%, respectively. For more information, refer to the table below.

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount (TWD)</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>Content</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Initiatives</td>
<td>29,560,138</td>
<td>15,384,554</td>
<td>3,272,694</td>
<td>• Supported public forums and cultural events</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Sponsored Taiwanese athletes in international events</td>
<td>46%</td>
</tr>
<tr>
<td>Charitable Events</td>
<td>4,964,813</td>
<td>728,867</td>
<td>2,134,300</td>
<td>• Provided domestic and international disaster relief</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Sponsored educational events</td>
<td>30%</td>
</tr>
<tr>
<td>Community Investments</td>
<td>1,379,995</td>
<td>5,955,017</td>
<td>1,755,197</td>
<td>• Organized supportive events for the disadvantaged</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Taught English at elementary schools</td>
<td>24%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Coastal cleanup</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Input of Social Investment</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>Content</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material Donations</td>
<td>18,684,751</td>
<td>10,328,290</td>
<td>2,949,694</td>
<td>Donation of flight tickets and in-flight products</td>
<td>41%</td>
</tr>
<tr>
<td>Monetary Donations</td>
<td>16,265,200</td>
<td>7,746,631</td>
<td>2,757,300</td>
<td>Cash input for each event</td>
<td>39%</td>
</tr>
<tr>
<td>Employee Volunteers</td>
<td>478,800</td>
<td>960,132</td>
<td>384,476</td>
<td>Volunteers for park tours, teaching, and coastal cleanup</td>
<td>5%</td>
</tr>
<tr>
<td>Management Overhead</td>
<td>476,195</td>
<td>3,033,385</td>
<td>1,070,721</td>
<td>Overhead for various activities</td>
<td>15%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Effectiveness of Social Investment</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount of Social Investments (TWD)</td>
<td>114,870,682</td>
<td>60,502,597</td>
<td>22,188,592</td>
</tr>
<tr>
<td>Number of Beneficiaries</td>
<td>45,598</td>
<td>162,933</td>
<td>355,459</td>
</tr>
<tr>
<td>Volume of Media Exposure / Number of Facebook Fans</td>
<td>192 / 927,693</td>
<td>196 / 1,019,990</td>
<td>118 / 1,054,515</td>
</tr>
<tr>
<td>Number of Flight Tickets Sponsored</td>
<td>381</td>
<td>333</td>
<td>81</td>
</tr>
</tbody>
</table>
Future Plans

1. Enhancing the Overall Quality of National Education

To support the disease prevention policies for countering COVID-19, CAL has suspended the charitable education training projects this year and directed resources to international relief services. CAL will continue to make good use of its resources in the aviation industry to promote the China Airlines brand in order to expand participation and increase sponsorship. We encourage colleges and universities to apply for company visits and we use hands-on practical experience to increase young students’ interest in future careers and cultivate talents in the aviation industry. We plan to expand the scale of volunteer education programs, adjust course contents with flexibility, and provide support in the form of companionship to skills training with the aim of improving the quality of education for children in remote rural areas and giving birth to more seeds of hope.

2. Increasing Taiwan’s International Visibility

In 2020, CAL remained committed to promoting the national image and supported 9 international exchange activities in response to international relief initiatives. CAL shall continue to participate in regular charity activities that bolster Taiwan’s international visibility and use resources of the Company and advantages of the aviation industry to work with related organizations / companies in Taiwan. We shall jointly promote regional economic development, actively support tourism in Taiwan, and help increase the international visibility of local brands. We shall also support the government’s transportation projects in response to international developments to promote a positive image of the country across the globe.

3. Helping the Disadvantaged Overcome Difficulties

In 2020, CAL sponsored 16 projects, of which 6 projects were charity events, for an achievement rate of 100%. We support the equality of opportunities provided for disadvantaged groups. CAL will plan long-term charity projects and use the unique advantages of the industry to provide groups in remote rural areas and disadvantaged groups in Taiwan with flight experience or charity company visit activities. We shall assign dedicated personnel to share their experience in professional aviation training and basic knowledge to improve social welfare for disadvantaged groups. We shall also regularly review the implementation results and adjust project contents with flexibility to create a more equal society.

The effectiveness of social involvement is calculated as follows:

Note 1: Meals, and transportation, and miscellaneous fees (TWD 169,000) + personnel cost (18 volunteers x TWD 178 (average hourly wage) x 3 hours) = TWD 9,612.

Note 2: Meals, events, transportation, and miscellaneous fees (TWD 40,000) + personnel cost (350 volunteers x TWD 178 (average hourly wage) x 2 hours) = TWD 19,100.

Note 3: Tuition: TWD 350 / lesson (3 hours) per student x 1,226 students = TWD 1,287,300.

Note 4: 184 magazines / month subscribed to x TWD 300 x 12 months = TWD 662,400.

Note 5: 9 visiting fee x TWD 15,000 (basic fee per regular visit) = TWD 135,000.

Note 6: The benefits from media exposure cannot be estimated and are thus calculated by ad placement: TWD 100,000 / ad x 118 ads = TWD 11,800,000.

Note 7: Total amount of flight tickets (TWD 3,188,333) - discount (TWD 815,000) = TWD 2,373,333 (revenue).

Note 8: As the aforementioned effectiveness of social involvement is hard to quantify, the environmental / social effectiveness is presented by cost.
CHAPTER 3

3-1 Ethical Corporate Management
3-2 Risk Management
Ethical Corporate Management

5th Time selected for DJSI Emerging Markets Index
The only Taiwanese airline selected for DJSI Emerging Markets for five consecutive years and ranked in 3rd place among the world’s airlines.

5th Time selected for FTSE4Good Emerging Index
Selected in the FTSE4Good Emerging Index for five consecutive years.

4th Time selected for Taiwan EMP 99 Index and Taiwan HC100 Index
Selected in the Taiwan Employment Creation 99 Index and the Taiwan High Compensation 100 Index for four consecutive years.

Top 6% - 20% of TWSE / TPEx listed companies
Selected as the top 6% - 20% of the excellent corporation award in the sixth Corporate Governance Review.

2nd Time in GCSA Award
Awarded in the Global Corporate Sustainability Award for the second year.

7th Time in TCSA Award
Awarded in the Taiwan Corporate Sustainability Award for seven consecutive years along with four TCSA awards.
3-1-1 Regulatory Compliance

Internal Regulations and Code of Conduct

As regulatory compliance and integrity are the basis of business management, CAL shapes its corporate culture and value through the formulation of internal regulations and codes of conduct that attach great importance to business integrity. To establish sound corporate governance as its business foundation, CAL has set the Code of Corporate Governance, the Board Directors Code of Ethical Conduct, the Executive Code of Ethical Conduct, the Procedure for Handling Material Inside Information, the Ethical Corporate Management Best Practice Principles, and the Procedures for Ethical Management and Guidelines for Conduct. CAL adheres strictly to the laws and regulations, and makes an explicit commitment to uphold six principles, which are to protect shareholder rights and interests, to strengthen the board’s roles and powers, the board meeting procedure and the decision making process (including recusal), to respect stakeholder rights and interest, and to increase information transparency. In addition, according to Article 9 of the Procedures for Ethical Management and Guidelines for Conduct, CAL is to be politically impartial and does not provide political contributions, and therefore has not provided political contributions. Furthermore, to ensure that CAL directors and all CAL employees adhere to ethical conduct including anticorruption rules, CAL has implemented the Board Directors Code of Ethical Conduct (10 directors of the CAL Board have completed the course of Developing Trends and Prevention of Corporate Corruption with a 91% completion rate) and the Employee Code of Conduct. A three-year awareness campaign was launched in 2017 to make sustainability an integral part of CAL’s corporate culture. Therefore, the CAL Code of Conduct was established, followed by relevant education and training (training details for 2017-2019 as shown under 3-1-2 Compliance in the 2019 CSR Report). Training was provided in 2020 to 211 employees who had not completed the requirement and 115 (Note 1) new employees.

Note 1: Trainees include terminated employees.
Note 2: It's only applicable to CAL.

List of Internal Regulations

<table>
<thead>
<tr>
<th>Name</th>
<th>Regulating Object(s)</th>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code of Corporate Governance</td>
<td>CAL and its subsidiaries</td>
<td>To establish a sound corporate governance system</td>
</tr>
<tr>
<td>Ethical Corporate Management Best Practice Principles</td>
<td>Directors, managers, employees, and appointees of CAL and those having substantial control</td>
<td>To strengthen CAL’s corporate culture that values business integrity and to improve the business environment for sustainable development</td>
</tr>
<tr>
<td>Procedures for Ethical Management and Guidelines for Conduct</td>
<td>Directors, managers, employees, and appointees of CAL and those having substantial control</td>
<td>To implement the policy of business integrity, to actively prevent fraudulent conduct, and to regulate matters that should be taken care of by employees when performing business</td>
</tr>
<tr>
<td>Procedure for Handling Material Inside Information</td>
<td>Directors, managers, and employees of CAL and those knowing CAL’s material inside information due to their identity, occupation or control</td>
<td>To avoid improper disclosure of information and to ensure the consistency and correctness of information published by CAL</td>
</tr>
<tr>
<td>Board Directors Code of Ethical Conduct</td>
<td>All directors</td>
<td>To regulate the ethics and conduct of directors when performing their duties in pursuit of CAL’s maximum benefits and sustainable development</td>
</tr>
<tr>
<td>Executive Code of Ethical Conduct</td>
<td>CAL’s representative (Chairman) and managers (including President, Senior Vice President, head of Finance Department, head of Accounting Department, and officers managing affairs and having the right to sign on behalf of the Company)</td>
<td>To guide executives to follow the ethics and conduct and to help stakeholders better understand the Company’s code of ethics</td>
</tr>
<tr>
<td>Employee Code of Conduct</td>
<td>All employees</td>
<td>To guide employees to follow the codes of conduct covering anti-corruption in the workplace</td>
</tr>
<tr>
<td>CAL Code of Conduct</td>
<td>Employees and suppliers of the Company and its subsidiaries, any foundation to which the Company’s direct or indirect contribution of funds exceeds 50 percent of the total funds received, and other institutions or juridical persons which are substantially controlled by the Company</td>
<td>To guide the CAL Group to follow related laws and regulations and shape a corporate culture that creates sustainable value for stakeholders</td>
</tr>
<tr>
<td>Supplier Code of Conduct</td>
<td>All suppliers and contractors</td>
<td>To achieve the goal of sustainable supply chain management, so as to increase the sustainability of a large number of suppliers</td>
</tr>
</tbody>
</table>

In 2007, some U.S. travelers claimed that AAMAP member airlines started colluding with each other on passenger fare and fuel charges in 2000, and these travelers, therefore, filed an antitrust class action to demand three times the collusion-inflated charges in punitive compensation. Given the litigation costs and the loss minimization rule, CAL paid a total of US$ 19.5 million (TWD 622 million) in settlement of the U.S. passenger transportation antitrust class action. The amount was to be paid in four installments over three years starting in 2018. The first three installments were US$5 million each to be paid in 2018 and 2019, and the last was US$ 4.5 million, which has been paid this year (2020). The lessons learned from this case has prompted CAL to strengthen compliance with the Fair Trade Act and antitrust regulations by an increasing degree in recent years. In addition to using important international antitrust cases to remind the management team and all employees to stay alert, CAL organized an offline training course, “compliance with the Fair Trade Act”, in 2020. As an effort to reduce future risks, CAL invited the Fair Trade Commission to speak to CAL employees at the head office and branch offices and the employees of affiliated enterprises on compliance under the Fair Trade Act. In addition, starting in 2013, first line employees are required to complete the Antitrust Audit Checklist, which is on the list of key items for the audit departments.
Risk management is at the core of a company's sustainable development. Facing increasingly new types of risks, the Board of Directors has set up the Risk Committee to help review the formulation, implementation, and countermeasures of risk management strategies; units in charge are also required to manage and control the major types of risks. In addition, risks involving safety and business operations are at the management level and cross-departmental. The Corporate Safety Committee and the Corporate Sustainability Committee have been established under the President; units in charge are responsible to identify and evaluate potential risks faced by CAL, propose countermeasures, and report results to related committees and meetings on a regular basis. Senior Vice President (Finance) is our highest level in charge of risk management and Senior Vice President (Flight Operation) is our highest level for auditing risk management.
Enterprise Risk Management Framework and Procedures

CAL’s risk management framework complies with the framework of Enterprise Risk Management (ERM), where a multi-level organizational approach is adopted to manage and control the overall risks of CAL. The framework emphasizes the inter-correlations between different risks to reduce the overall impact. Following the materiality principle, the CAL ERM framework identifies traditional risks and risks of medium / long-term strategies. All risk impacts and countermeasures are analyzed and proposed through event identification, risk analysis, risk assessment, and risk control, and then followed up and reviewed by the Risk Management Committee and the Corporate Sustainability Committee. The internal control system consists of five elements, which are the control environment, risk assessment, control process, information and communication, and supervision procedure. To evaluate the internal control system and the effectiveness of its execution, CAL devises risk-based annual audit plans every year. The General Audit Office conducts regular and ad hoc audits in order to enforce ethical corporate management, reduce related risks to an acceptable level, and prevent corruption and fraud.

CAL ERM Model and Procedure
3-2-2 Risk Identification and Countermeasures

CAL manages risks with consideration of the business environment and daily operations in the aviation industry. Risk incidents have different impacts on business operations, in terms of their regions, degrees, and timeliness; risk incidents fall into certain categories and periods of time. If risks are monitored by a single mechanism, doing so may compromise the risk control results. In view of this, CAL divides risk sources by medium-term / long-term strategic risks and traditional risks, and then monitors the risks through the existing Business Strategy Management and Annual Business Plan / Operational Risk Management.

Traditional Risks

Traditional risks refer to short-term risk incidents that have an impact on business operations for less than one year and can be solved in a short period of time. CAL manages traditional risks — divided into safety, operational, and financial — with the goals of mitigating risks, strengthening resilience to crises, protecting stakeholders’ interests, and enhancing corporate sustainability.

1. Safety Risk Management

Safety is the foundation of the aviation industry. Customer trust can only be earned by having an outstanding record of flight safety. Based on the Safety Management System (SMS) and the procedures for safety risk management, the Corporate Safety Office reviews and evaluates internal and external operational risks with respect to flight operations, maintenance, cabin services, and ground operations, then proposes corrective measures. (Refer to 2-1 Trust)

Emerging Risk Matrix

CAL has established an emerging risk identification process, completed a risk matrix for emerging risks, regularly conducted risk assessment and develop countermeasures to mitigate the impact of emerging risks in the aviation industry.

Business Strategy Management

1. Collect industry information, such as internal and external forecasts on market trends and competitor dynamics, every three to five years; conduct SWOT analysis
2. Develop the company vision, mission, and medium-term/long-term strategies, based on the results of SWOT analysis
Since it broke out in Wuhan, China in December 2019, the COVID-19 virus has claimed nearly 1.9 million lives worldwide with more than 88 million confirmed cases by December 31, 2020. As the COVID-19 virus spread across the globe, countries implemented lockdowns to keep the virus at bay. These measures have had a huge impact on political, economic, trade, finance, and employment conditions. The pandemic is sending shock waves through the airline industry. Passenger air transport has dropped in free fall. The top priority for the airline industry is “fighting for survival against COVID-19” and “fighting the coronavirus first”. Airlines create complete antivirus networks and introduce “safe flying plans” that take enhanced measures to safeguard passenger health and aviation health and safety. CAL tries to grab market share in the air freight transport market through flexible capacity management. The company also takes measures to control costs and gain access to cash flows and relief programs in order to maintain financial stability and build up the momentum for reopening. (Detailed countermeasures as shown in COVID-19 Special Column)

Countermeasures: The Risk Committee under the board of directors will conduct quarterly emerging risk review, and implements countermeasures.

Airline Data Breaches

The growing global demand for privacy protection and personal data security in recent years is making personal data protection one of the key tasks in business management. Since the General Data Protection Regulation (GDPR) came into effect in 2018, there has been a string of extremely large fines, which exceed €100 million in total. As IT systems become more commonplace, CAL keeps refining its information security governance system and raising its protective strength in order to meet the information security regulations in different countries. In addition to releasing regular personal data protection announcements, CAL provides employee training courses through the e-Learning system to raise data protection awareness in the workplace and ensure effective protection of personal data and customer privacy. Information security loopholes on the British Airways website and mobile app were exploited by hackers, and led to a data breach with more than 500,000 customer records stolen. The Information Commissioner’s Office (ICO) initially imposed a fine at 1.5% of British Airways’ annual revenue in 2018. The amount was calculated as €183 million (TWD 6.4 billion). ICO made an announcement on October 16, 2020 that stated given British Airways’ attitude in resolving the issue and COVID-19’s impact on business, the fine would be reduced to €20 million (TWD 760 million).

Countermeasures: CAL will organize training on “personal data management and case study” for middle managers, and conduct “annual personal data inventory and update”. In addition, CAL will provide audit training, and launch the EU audit procedures and provide online personal data training.

US-China Trade War and Uncertainties in Global Economy

A slowing global economy and the US-China trade war led to a 3.3% annual decrease in global air cargo transport in 2019. The decrease was particularly significant in Asia at 5.7%. The trade war eased after China and the United States signed a phase one trade agreement in mid-January 2020. However, according to the International Monetary Fund (IMF) World Economic Outlook (October 2020), the global economic growth was projected at -4.4% for 2020, far below +2.8% for 2019 due to the COVID-19 pandemic. Looking forward to 2021, slow recovery leaves many uncertainties in the US-China trade war and in the development of the global economy and the pandemic.

Countermeasures: The Risk Committee under the board of directors will conduct quarterly emerging risk review, and implements countermeasures.
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3 Sustainability Governance

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- Management of Material Human Rights Issues in 2020
- Relevant Data Statistics of Human Resources
- Environmental Performance
- GRI Content Index
- The United Nations Global Compact Comparison Table
- The Sustainability Accounting Standards Board (SASB) Table
- Independent Limited Assurance Report
### Five-Year Financial Summary

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

**Item** | 2016 | 2017 | 2018 | 2019 | 2020
--- | --- | --- | --- | --- | ---
Current Assets | 47,338,201 | 47,411,834 | 52,827,560 | 51,822,342 | 61,872,468
Property, Plant and Equipment | 140,136,737 | 153,617,531 | 163,107,718 | 145,886,971 | 141,481,694
Intangible Assets | 1,137,115 | 1,019,345 | 1,210,796 | 1,182,692 | 1,076,351
Other Assets | 35,888,706 | 23,850,922 | 12,990,508 | 94,155,974 | 79,763,571
Total Assets | 224,500,759 | 225,899,632 | 230,136,582 | 293,047,979 | 284,194,084

**Current Liabilities**
- Before Distribution: 68,605,724
- After Distribution: 68,605,724

**Non-current Liabilities**
- Before Distribution: 98,027,837
- After Distribution: 98,027,837

**Total Liabilities**
- Before Distribution: 166,633,561
- After Distribution: 166,633,561

**Equity Attributable to Shareholders of the Parent**
- Before Distribution: 55,783,817
- After Distribution: 55,783,817

**Capital Stock**
- 57,023,237

**Capital Surplus**
- 57,081,572

**Retained Earnings**
- Before Distribution: 1,664,405
- After Distribution: 1,664,405

**Other Equity Interest**
- 112,264

**Treasury Shares**
- (-3,372)

**Non-controlling Interest**
- 2,083,381

**Total Equity**
- Before Distribution: 57,867,198
- After Distribution: 57,867,198

---

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

**Item** | 2016 | 2017 | 2018 | 2019 | 2020
--- | --- | --- | --- | --- | ---
Revenue | 141,079,107 | 156,121,785 | 170,711,607 | 168,444,160 | 115,250,550
Gross Profit | 18,005,906 | 21,972,411 | 17,207,531 | 16,686,928 | 10,219,201
Operating Profit (Loss) | 4,564,687 | 8,826,160 | 4,022,383 | 2,665,821 | 2,184,416
Pretax Profit (Loss) | 1,879,851 | 3,523,963 | 3,081,249 | -96,817 | -653,797
Income from Operations of Continued Segments - after Tax | 710,940 | 2,490,792 | 2,272,684 | -675,002 | -279,814
Net Income (Loss) | 710,940 | 2,490,792 | 2,272,684 | -675,002 | -279,814
Earnings (Loss) Per Share | - | - | - | - | -

---

The document includes financial summaries and statements for the five-year period, detailing assets, liabilities, equity, revenues, and comprehensive income. Each section is meticulously laid out in tabular format, allowing for clear and concise analysis of financial performance over the specified years.
### Condensed Statement of Comprehensive Income — Based on IFRS (CAL Only)

<table>
<thead>
<tr>
<th>Item</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>127,524,864</td>
<td>139,815,211</td>
<td>150,264,792</td>
<td>146,372,401</td>
<td>106,327,123</td>
</tr>
<tr>
<td>Gross Profit</td>
<td>15,275,980</td>
<td>17,966,397</td>
<td>12,649,836</td>
<td>11,364,235</td>
<td>11,136,944</td>
</tr>
<tr>
<td>Operating Profit</td>
<td>4,475,707</td>
<td>7,358,114</td>
<td>1,847,567</td>
<td>80,235</td>
<td>4,884,855</td>
</tr>
<tr>
<td>Non-operating Income and Expenses</td>
<td>-2,938,456</td>
<td>1,537,251</td>
<td>2,315,631</td>
<td>552,713</td>
<td>-4,713,740</td>
</tr>
<tr>
<td>Pretax Profit (Loss)</td>
<td>91,415,821</td>
<td>91,122,260</td>
<td>91,257,262</td>
<td>91,714,715</td>
<td>91,134,787</td>
</tr>
<tr>
<td>Income from Discontinued Operations</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Net Income (Loss)</td>
<td>57,150,045</td>
<td>2,208,066</td>
<td>1,790,361</td>
<td>-1,199,798</td>
<td>140,000</td>
</tr>
<tr>
<td>Other Comprehensive Income (Income/ Loss after Taxes)</td>
<td>-545,437</td>
<td>-967,389</td>
<td>-532,326</td>
<td>552,713</td>
<td>826,968</td>
</tr>
<tr>
<td>Total Comprehensive Gain (Loss) for the Year</td>
<td>26,103</td>
<td>1,240,677</td>
<td>1,258,035</td>
<td>-647,085</td>
<td>966,968</td>
</tr>
<tr>
<td>Net Income Attributable to Shareholders of the Parent</td>
<td>0.1</td>
<td>0.40</td>
<td>0.33</td>
<td>-0.22</td>
<td>0.03</td>
</tr>
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</table>

### Condensed Balance Sheet — Based on IFRS (CAL Only)

<table>
<thead>
<tr>
<th>Item</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Assets</td>
<td>39,908,492</td>
<td>37,933,696</td>
<td>42,932,359</td>
<td>40,989,612</td>
<td>51,858,785</td>
</tr>
<tr>
<td>Property, Plant and Equipment</td>
<td>129,121,632</td>
<td>142,265,548</td>
<td>149,029,054</td>
<td>131,029,886</td>
<td>126,414,462</td>
</tr>
<tr>
<td>Intangible Assets</td>
<td>1,115,101</td>
<td>989,327</td>
<td>979,708</td>
<td>971,298</td>
<td>867,453</td>
</tr>
<tr>
<td>Other Assets</td>
<td>41,394,218</td>
<td>30,729,421</td>
<td>21,972,600</td>
<td>55,885,709</td>
<td>81,769,065</td>
</tr>
<tr>
<td>Total Assets</td>
<td>211,539,443</td>
<td>211,917,992</td>
<td>214,914,221</td>
<td>268,876,505</td>
<td>260,909,765</td>
</tr>
<tr>
<td>Current Liabilities</td>
<td>64,339,805</td>
<td>54,925,354</td>
<td>55,179,341</td>
<td>68,000,134</td>
<td>56,740,010</td>
</tr>
<tr>
<td>After Distribution</td>
<td>64,339,805</td>
<td>56,119,034</td>
<td>56,316,112</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Non-current Liabilities</td>
<td>91,415,821</td>
<td>99,969,391</td>
<td>102,652,815</td>
<td>144,322,540</td>
<td>146,610,272</td>
</tr>
<tr>
<td>Before Distribution</td>
<td>155,755,626</td>
<td>154,894,755</td>
<td>157,832,649</td>
<td>212,322,733</td>
<td>203,350,282</td>
</tr>
<tr>
<td>After Distribution</td>
<td>155,755,626</td>
<td>156,088,425</td>
<td>158,968,927</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Equity Attributable to Shareholders of the Parent</td>
<td>55,783,817</td>
<td>57,023,237</td>
<td>57,081,572</td>
<td>57,559,483</td>
<td>57,559,483</td>
</tr>
<tr>
<td>Capital Surplus</td>
<td>799,932</td>
<td>799,999</td>
<td>1,241,214</td>
<td>2,488,907</td>
<td>1,187,327</td>
</tr>
<tr>
<td>Retained Earnings</td>
<td>206,069,2</td>
<td>1,645,405</td>
<td>1,615,661</td>
<td>1,297,842</td>
<td>350,581</td>
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<tr>
<td>Before Distribution</td>
<td>206,069,2</td>
<td>1,656,735</td>
<td>479,383</td>
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</tr>
<tr>
<td>After Distribution</td>
<td>206,069,2</td>
<td>479,383</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Other Equity Interest</td>
<td>112,644</td>
<td>-107,641</td>
<td>58,223</td>
<td>1,196,233</td>
<td>2,543,766</td>
</tr>
<tr>
<td>Non-controlling Interest</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total Equity</td>
<td>55,783,817</td>
<td>57,023,237</td>
<td>57,081,572</td>
<td>57,559,483</td>
<td>57,559,483</td>
</tr>
<tr>
<td>Before Distribution</td>
<td>55,783,817</td>
<td>57,023,237</td>
<td>57,081,572</td>
<td>57,559,483</td>
<td>57,559,483</td>
</tr>
<tr>
<td>After Distribution</td>
<td>55,783,817</td>
<td>55,829,567</td>
<td>55,945,294</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
### Five-Year Financial Analysis

**Consolidated Financial Analysis — Based on IFRS (CAL Group)**

<table>
<thead>
<tr>
<th>Item</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Debt Ratio</strong></td>
<td>74.22</td>
<td>73.81</td>
<td>73.91</td>
<td>79.48</td>
<td>78.64</td>
</tr>
<tr>
<td><strong>Ratio of Long-term Capital to Property, Plant and Equipment</strong></td>
<td>111.24</td>
<td>107.81</td>
<td>103.73</td>
<td>148.54</td>
<td>156.59</td>
</tr>
<tr>
<td><strong>Current Ratio</strong></td>
<td>69.00</td>
<td>78.64</td>
<td>86.67</td>
<td>67.87</td>
<td>98.76</td>
</tr>
<tr>
<td><strong>Quick Ratio</strong></td>
<td>53.16</td>
<td>59.46</td>
<td>67.50</td>
<td>54.57</td>
<td>84.18</td>
</tr>
<tr>
<td><strong>Interest Earned Ratio (Times)</strong></td>
<td>265.40</td>
<td>369.02</td>
<td>338.05</td>
<td>103.79</td>
<td>74.92</td>
</tr>
<tr>
<td><strong>Accounts Receivable Turnover (Times)</strong></td>
<td>17.67</td>
<td>18.40</td>
<td>18.30</td>
<td>18.13</td>
<td>12.64</td>
</tr>
<tr>
<td><strong>Average Collection Period</strong></td>
<td>20.66</td>
<td>19.84</td>
<td>19.95</td>
<td>20.13</td>
<td>28.87</td>
</tr>
<tr>
<td><strong>Inventory Turnover (Times)</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Accounts Payable Turnover (Times)</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Average Days in Sales</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Property, Plant and Equipment Turnover (Times)</strong></td>
<td>1.05</td>
<td>1.06</td>
<td>1.08</td>
<td>1.09</td>
<td>0.80</td>
</tr>
<tr>
<td><strong>Total Assets Turnover (Times)</strong></td>
<td>0.63</td>
<td>0.69</td>
<td>0.75</td>
<td>0.64</td>
<td>0.40</td>
</tr>
<tr>
<td><strong>Return on Total Assets (%)</strong></td>
<td>0.80</td>
<td>1.60</td>
<td>1.48</td>
<td>0.76</td>
<td>0.75</td>
</tr>
<tr>
<td><strong>Return on Stockholders’ Equity (%)</strong></td>
<td>1.20</td>
<td>4.26</td>
<td>3.81</td>
<td>-1.12</td>
<td>-0.46</td>
</tr>
<tr>
<td><strong>Pre-tax Income to Paid-in Capital (%)</strong></td>
<td>3.44</td>
<td>6.44</td>
<td>5.68</td>
<td>-0.18</td>
<td>-1.21</td>
</tr>
<tr>
<td><strong>Profit Ratio (%)</strong></td>
<td>0.50</td>
<td>1.60</td>
<td>1.33</td>
<td>-0.40</td>
<td>-0.24</td>
</tr>
<tr>
<td><strong>Earnings Per Share (TWD)</strong></td>
<td>0.10</td>
<td>0.40</td>
<td>0.33</td>
<td>-0.22</td>
<td>0.03</td>
</tr>
<tr>
<td><strong>Cash Flow Ratio (%)</strong></td>
<td>25.71</td>
<td>47.35</td>
<td>44.34</td>
<td>49.15</td>
<td>15.52</td>
</tr>
<tr>
<td><strong>Cash Flow Adequacy Ratio (%)</strong></td>
<td>303.17</td>
<td>351.58</td>
<td>366.94</td>
<td>518.35</td>
<td>570.32</td>
</tr>
<tr>
<td><strong>Cash Reinvestment Ratio (%)</strong></td>
<td>4.83</td>
<td>8.82</td>
<td>8.17</td>
<td>12.24</td>
<td>2.98</td>
</tr>
<tr>
<td><strong>Operating Leverage</strong></td>
<td>4.99</td>
<td>3.16</td>
<td>6.00</td>
<td>14.20</td>
<td>16.28</td>
</tr>
<tr>
<td><strong>Financial Leverage</strong></td>
<td>1.40</td>
<td>1.18</td>
<td>1.52</td>
<td>-3.95</td>
<td>-2.50</td>
</tr>
</tbody>
</table>

### Financial Analysis — Based on IFRS (CAL Only)

<table>
<thead>
<tr>
<th>Item</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Debt Ratio</strong></td>
<td>73.63</td>
<td>73.09</td>
<td>73.44</td>
<td>78.97</td>
<td>77.94</td>
</tr>
<tr>
<td><strong>Ratio of Long-term Capital to Property, Plant and Equipment</strong></td>
<td>114.00</td>
<td>110.35</td>
<td>107.18</td>
<td>153.31</td>
<td>161.51</td>
</tr>
<tr>
<td><strong>Current Ratio</strong></td>
<td>62.03</td>
<td>69.06</td>
<td>77.81</td>
<td>60.28</td>
<td>91.40</td>
</tr>
<tr>
<td><strong>Quick Ratio</strong></td>
<td>45.82</td>
<td>49.03</td>
<td>57.87</td>
<td>45.87</td>
<td>76.90</td>
</tr>
<tr>
<td><strong>Interest Earned Ratio (Times)</strong></td>
<td>246.03</td>
<td>350.56</td>
<td>292.02</td>
<td>60.78</td>
<td>99.48</td>
</tr>
<tr>
<td><strong>Accounts Receivable Turnover (Times)</strong></td>
<td>15.92</td>
<td>16.62</td>
<td>16.57</td>
<td>16.72</td>
<td>12.34</td>
</tr>
<tr>
<td><strong>Average Collection Period</strong></td>
<td>22.92</td>
<td>21.96</td>
<td>22.46</td>
<td>21.83</td>
<td>29.57</td>
</tr>
<tr>
<td><strong>Inventory Turnover (Times)</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Accounts Payable Turnover (Times)</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Average Days in Sales</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Fix Assets Turnover (Times)</strong></td>
<td>1.03</td>
<td>1.03</td>
<td>1.03</td>
<td>1.05</td>
<td>0.83</td>
</tr>
<tr>
<td><strong>Total Assets Turnover (Times)</strong></td>
<td>0.61</td>
<td>0.66</td>
<td>0.70</td>
<td>0.61</td>
<td>0.40</td>
</tr>
<tr>
<td><strong>Return on Total Assets (%)</strong></td>
<td>0.75</td>
<td>1.54</td>
<td>1.33</td>
<td>0.51</td>
<td>0.89</td>
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<tr>
<td><strong>Return on Stockholders’ Equity (%)</strong></td>
<td>1.00</td>
<td>3.91</td>
<td>3.14</td>
<td>-2.11</td>
<td>0.25</td>
</tr>
<tr>
<td><strong>Pre-tax Income to Paid-in Capital (%)</strong></td>
<td>2.81</td>
<td>5.64</td>
<td>4.27</td>
<td>-2.19</td>
<td>0.32</td>
</tr>
<tr>
<td><strong>Profit Ratio (%)</strong></td>
<td>0.45</td>
<td>1.58</td>
<td>1.19</td>
<td>-0.82</td>
<td>0.13</td>
</tr>
<tr>
<td><strong>Earnings Per Share (TWD)</strong></td>
<td>0.10</td>
<td>0.40</td>
<td>0.33</td>
<td>-0.22</td>
<td>0.03</td>
</tr>
<tr>
<td><strong>Cash Flow Ratio (%)</strong></td>
<td>26.71</td>
<td>47.41</td>
<td>43.61</td>
<td>48.16</td>
<td>24.19</td>
</tr>
<tr>
<td><strong>Cash Flow Adequacy Ratio (%)</strong></td>
<td>309.01</td>
<td>357.86</td>
<td>381.09</td>
<td>557.30</td>
<td>610.31</td>
</tr>
<tr>
<td><strong>Cash Reinvestment Ratio (%)</strong></td>
<td>4.94</td>
<td>8.48</td>
<td>7.68</td>
<td>11.34</td>
<td>4.50</td>
</tr>
<tr>
<td><strong>Operating Leverage</strong></td>
<td>4.85</td>
<td>3.46</td>
<td>11.25</td>
<td>372.72</td>
<td>7.15</td>
</tr>
<tr>
<td><strong>Financial Leverage</strong></td>
<td>1.38</td>
<td>1.21</td>
<td>3.45</td>
<td>-0.03</td>
<td>2.32</td>
</tr>
</tbody>
</table>
Customer Satisfaction Table in 2020

<table>
<thead>
<tr>
<th>Item</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yearly Goal (%) (Note 1)</td>
<td>85.1</td>
<td>87.2</td>
<td>87.8</td>
</tr>
<tr>
<td>Passenger Satisfaction (%)</td>
<td>87.2</td>
<td>87.7</td>
<td>88.6</td>
</tr>
</tbody>
</table>

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

Freight Customer Satisfaction

<table>
<thead>
<tr>
<th>Item</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yearly Goal (%)</td>
<td>88.0</td>
<td>88.0</td>
<td>88.0</td>
</tr>
<tr>
<td>Freight Customer Satisfaction (%)</td>
<td>87.3</td>
<td>88.6</td>
<td>88.5</td>
</tr>
</tbody>
</table>

Historical Passenger Satisfaction on Service Items

<table>
<thead>
<tr>
<th>Item</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021 Objectives (Note 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airport Service</td>
<td>89.0</td>
<td>89.6</td>
<td>90.5</td>
<td>89.4</td>
</tr>
<tr>
<td>Cabin Crew</td>
<td>88.9</td>
<td>89.7</td>
<td>90.2</td>
<td>89.5</td>
</tr>
<tr>
<td>Cabin Environment</td>
<td>88.7</td>
<td>89.3</td>
<td>89.8</td>
<td>89.0</td>
</tr>
<tr>
<td>Inflight Catering Service</td>
<td>82.6</td>
<td>83.1</td>
<td>82.8</td>
<td>82.9</td>
</tr>
<tr>
<td>Inflight Entertainment</td>
<td>84.8</td>
<td>85.1</td>
<td>85.5</td>
<td>(Note 2) 84.9</td>
</tr>
</tbody>
</table>

Note 1: In response to COVID-19, the Chairman agreed, after discussions in the meeting for setting quality targets, that the target of historical passenger satisfaction on service items for 2021 shall be the same as that of 2020.

Note 2: The “Reading materials” item in Inflight Entertainment will be excluded in 2020.

Maintenance Customer Satisfaction

<table>
<thead>
<tr>
<th>Item</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yearly Goal (Note 1)</td>
<td>8.40</td>
<td>8.40</td>
<td>8.40</td>
</tr>
<tr>
<td>Freight Customer Satisfaction (%)</td>
<td>8.68</td>
<td>8.73</td>
<td>8.57</td>
</tr>
</tbody>
</table>

Note 1: The full score is 10.

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

Management of Material Human Rights Issues in 2020

<table>
<thead>
<tr>
<th>Node of Value Chain</th>
<th>Human Rights Issue</th>
<th>Mitigation Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upstream Supply Chain Partners</td>
<td>Right to Privacy</td>
<td>Formulated the &quot;Personal Information Entrustment Management Procedure&quot; to regulate the matters requiring attention and rights and responsibilities for product / service providers (suppliers) entrusted to handle personal information. The Privacy Protection Policy and Statement on CAL’s official website also specify that when CAL provides the involved party’s personal information for the third party to use, the third party is requested to comply with the relevant policies, rules, and regulations</td>
</tr>
</tbody>
</table>
|                      | Right to Health    | • For suppliers of general goods, a clause regarding quality assurance obligation in the purchase contract states that suppliers must ensure that their products contain no hazards to safety or health, if the nature of their products is hazardous, warning signs and handling methods should be clearly indicated. 
  • In response to COVID-19, CAL has requested suppliers to provide a safe and health workplace for employees’ health and to ensure that employees can work in an environment without direct or indirect hazards, thus reducing the impact of the pandemic and boosting employees’ health. Moreover, CAL can know and control critical suppliers’ health management conditions with the SAQ during the pandemic. |
|                      | Protection of Labor Conditions | • Established the China Airlines Policy Statement on Sustainable Supply Chain Management and the China Airlines Supplier Code of Conduct, requiring all suppliers to implement management in accordance with the information security, labor human rights, and labor conditions, as well as the occupational safety spirit as stipulated. 
  • Kept abreast of the current status of critical suppliers management through the periodic supply chain sustainability risk survey. |

GRI 412-1

CAL has established a sustainable supply chain management mechanism, and the high-risk sustainability issues of supply chain partners are audited, guided, and improved through review.
Right to Privacy

Formulated a standard operating procedure in accordance with CAL's "Personal Information Management System" for collecting, handling and, using personal information to ensure regulatory compliance.

Right to Health

- CAL has established the Occupational Safety and Health Committee, which convenes meetings every three months to review, coordinate, and give advice on safety and health related issues.
- CAL has established the ISO 45001:2018 and TOSHMS occupational safety and health management systems to perform hazard identification and risk assessment regularly, and has introduced control measures, including operations / engineering, administration, and employee health management.
- Organized employee health checks regularly to achieve the goals of early detection, early prevention, and early treatment.
- Countermeasures against COVID-19:
  - Established a tiered cross-unit mobilization mechanism, command system and operating procedures to coordinate relevant units to counteract the pandemic and to remind employees of taking awareness in response to the latest condition of the pandemic by activating different tiers of the response mechanism based on the conditions.
  - Established a health management reporting system and an abnormality tracking and handling mechanism for employees with a high risk of exposure.
  - Implemented a split operation mechanism and adjust the ways of business travel and activated diversified channels to provide real-time information related to the pandemic prevention.
- Provisioned cabin crew on duty with full set personal protective equipment (PPE) and "Care Packages" at outstations when necessary.
- Provided CAL's hotel as a home quarantine site for the crew who are not convenient to undergo quarantine at home.

Protection of Labor Condition

- Stated that formal labor is prohibited in the human rights policy and established the methods for employees to perform duties in the Human Resource Manual and the Working Rules.
- Held regular labor-management meetings at the headquarters and each unit to negotiate labor conditions and welfare with employee representatives.
- Formed various committees with employee representatives for parking lot management, catering, pension, and employee welfare to protect employees' labor rights and improve the work environment.
- To address COVID-19 and to balance business operation and taking good care of employee, the manpower-lean policies were implemented after labor-management discussions were conducted for a better result for both sides. CAL also helped employees apply for relevant government subsidies during the period of implementation of reducing working hours.

Right to Privacy

- On the front of flight safety, CAL implemented the Safety Management System (SMS) to prevent potential risks or the impact of hazard factors through continuous risk identification and management. Established a safety reporting system for all employees to encourage them to actively identify potential safety impact factors and to strengthen risk control.
- In terms of in-flight food safety, CAL has formulated the Caterer Selection Regulations; all local caterers should obtain relevant local food safety certifications so that they can be selected as an in-flight food supplier.
- Countermeasures against COVID-19 in 2020:
  - Passengers are asked to have their temperature checked before boarding and to wear a mask throughout the flight or when they check in or when waiting for flights. Moreover, posters have been set up in the airport to remind passengers of maintaining social distancing.
  - Simplified the in-flight services, reinforced environmental cleaning and disinfection, and promoted the pandemic prevention measures on board that shall be followed (such as changing seats is not allowed) for customers to lower the risk of taking flights.
  - Adjusted in-flight food services in compliance with the current level of the pandemic announced by the MOWH and cooperated with different countries to provide different food services based on the local pandemic conditions and their principle of pandemic prevention.

Protection of Labor Condition

- Not applicable.

Mitigation Measure

- Established diversified grievance channels for prompt and proper responses when employees' labor rights are damaged.
- Operated various committees with employees' participation to discuss labor conditions, work environment, and workplace safety and to ensure improvements as well as remedial and preventive measures against violations of rights and interests.

Remedial Measure

- CAL has conducted statistics and analysis on our occupa- tional incident cases while submitting reports and tracking subsequent safety and health management plans through the operation of the Occupational Safety and Health Committee and the guidance of the ISO 45001: 2018 and TOSHMS occupational safety and health management systems.
- Formulated a standard report form for major health-check abnormal values to provide employees with health guidance or tracking.
- Countermeasures against COVID-19: When a passenger is found with abnormal signs and relevant symptoms, CAL will actively assist him / her to seek medical attention, and contact and report to related units to record the pandemic prevention process completely and implement health management.
### Relevant Data Statistics of Human Resources

#### Workforce Structure of CAL Group in 2020

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<th>Female</th>
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Note 1: The job category – others includes executives higher than the rank of vice president, auditors, accountants, information technology personnel, and other employees that are not within the aforesaid categories.

Note 2: “Senior management” refers to Level 1 managers and deputy managers or above; “mid-level management” refers to Level 2 managers and deputy managers; “junior management” refers to Level 3 managers and deputy managers.
### Employee Turnover Statistics of CAL Group in 2020

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<td>7.34%</td>
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<td>11</td>
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<td>1.03%</td>
<td>0</td>
<td>0.00%</td>
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<td>0.00%</td>
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<td>109</td>
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<td>102</td>
<td>10.73%</td>
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Note: Voluntary separation includes resignations, early retirements, and requests to resignation. Involuntary separation includes mandatory retirements and layoffs.

### Unpaid Parental Leave of CAL Group in 2020

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<th>Unpaid Parental Leave Statistics</th>
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</tr>
<tr>
<td>Numbers of Employees Eligible for Parental Leave in 2020 (A)</td>
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<tr>
<td>Actual Numbers of Employees Applying for Parental Leave in 2020 (B)</td>
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<td>Rate for Employees Applying for Parental Leave in 2020 (B*100 / A)</td>
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<tr>
<td>Numbers of Employees Expecting to Return in 2019 after Parental Leave in 2020 (C)</td>
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<tr>
<td>Numbers of Employees Applying to Return in 2020 (D)</td>
</tr>
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<td>Return Rate in 2020 (D*100 / C)</td>
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<td>Total Number of Employees Returning after parental leave in 2019 (E)</td>
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<td>Number of Employees Completing One Full Year of Service After Returning from Parental Leave in 2019 (F)</td>
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<tr>
<td>Rate on Return After Parental Leave in 2020 (F*100 / E)</td>
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Note: (A): Date of birth from January 1, 2017 to December 31, 2020.
# Training Statistics of CAL Group from 2018 to 2020

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<th>2019</th>
<th>2020</th>
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<table>
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<th>2020</th>
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<td>Male</td>
<td>39,899</td>
<td>418</td>
<td>95.45</td>
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<td></td>
<td>Female</td>
<td>20,375</td>
<td>405</td>
<td>50.31</td>
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<table>
<thead>
<tr>
<th>Company</th>
<th>Category</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Training Hours</td>
<td>Amount</td>
<td>Average Hours</td>
<td>Training Hours</td>
</tr>
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<td>The Job Category</td>
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<td>5,368</td>
<td>284</td>
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<td>Air service</td>
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<td>Maintenance</td>
<td>549</td>
<td>24</td>
<td>22.88</td>
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<td>Others</td>
<td>33</td>
<td>28</td>
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<tr>
<td>Gender</td>
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<td>8,859</td>
<td>277</td>
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<td></td>
<td>Female</td>
<td>8,752</td>
<td>364</td>
<td>24.04</td>
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### Notes:
1. Others include executives higher than the rank of vice president, auditors, accountants, information technology personnel, and other employees that are not within the aforesaid categories. For Tigerair Taiwan, others include the Chief Financial Officer, Chief Operating Officer, Chief Commercial Officer, Chief Executive Officer, and Chairman, as well as the Finance Department, Accounting Department, and Information Department.
2. Training hours exclude those at outstations.
3. Average training hours = Total training hours ÷ total number of employees in the category. For CAL, completion rate of training = average completion rate of training. For Mandarin Airlines and Tigerair Taiwan, completion rate of training = completion rate of training in each unit ÷ number of units.
Comparing the Frequency-Severity Indicator and Occupational Injury Statistics Over the Past 3 Years

<table>
<thead>
<tr>
<th>Year</th>
<th>Unit</th>
<th>Taoyuan</th>
<th>Engineering &amp; Maintenance Organization</th>
<th>Taipei</th>
<th>Kaohsiung</th>
<th>Taichung</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>Number of Annual Disabling Injuries</td>
<td>36</td>
<td>9</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>48</td>
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<tr>
<td></td>
<td>Absence Days of Annual Disabling Injuries</td>
<td>497</td>
<td>179</td>
<td>0</td>
<td>12</td>
<td>0</td>
<td>688</td>
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<tr>
<td></td>
<td>FR</td>
<td>2.52</td>
<td>1.67</td>
<td>0</td>
<td>2.44</td>
<td>0</td>
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<tr>
<td></td>
<td>SR</td>
<td>34</td>
<td>33</td>
<td>0</td>
<td>9</td>
<td>0</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>FSI</td>
<td>0.29</td>
<td>0.23</td>
<td>0</td>
<td>0.14</td>
<td>0</td>
<td>0.26</td>
</tr>
<tr>
<td>2019</td>
<td>Number of Annual Disabling Injuries</td>
<td>43</td>
<td>12</td>
<td>0</td>
<td>7</td>
<td>0</td>
<td>62</td>
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<tr>
<td></td>
<td>Absence Days of Annual Disabling Injuries</td>
<td>1,078</td>
<td>282</td>
<td>0</td>
<td>37</td>
<td>0</td>
<td>1,397</td>
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<tr>
<td></td>
<td>FR</td>
<td>3.12</td>
<td>2.32</td>
<td>0</td>
<td>5.85</td>
<td>0</td>
<td>2.97</td>
</tr>
<tr>
<td></td>
<td>SR</td>
<td>78</td>
<td>53</td>
<td>0</td>
<td>30</td>
<td>0</td>
<td>66</td>
</tr>
<tr>
<td></td>
<td>FSI</td>
<td>0.49</td>
<td>0.35</td>
<td>0</td>
<td>0.41</td>
<td>0</td>
<td>0.44</td>
</tr>
<tr>
<td>2020</td>
<td>Number of Annual Disabling Injuries</td>
<td>26</td>
<td>6</td>
<td>1</td>
<td>4</td>
<td>0</td>
<td>37</td>
</tr>
<tr>
<td></td>
<td>Absence Days of Annual Disabling Injuries</td>
<td>614</td>
<td>177</td>
<td>6</td>
<td>15</td>
<td>0</td>
<td>812</td>
</tr>
<tr>
<td></td>
<td>FR</td>
<td>2.05</td>
<td>1.28</td>
<td>1.32</td>
<td>3.65</td>
<td>0</td>
<td>1.93</td>
</tr>
<tr>
<td></td>
<td>SR</td>
<td>48</td>
<td>37</td>
<td>7</td>
<td>13</td>
<td>0</td>
<td>42</td>
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<tr>
<td></td>
<td>FSI</td>
<td>0.31</td>
<td>0.21</td>
<td>0.09</td>
<td>0.21</td>
<td>0</td>
<td>0.28</td>
</tr>
</tbody>
</table>

Note 1: Calculated at 8 hours per day per person.
Note 2: Disabling injury frequency rate (FR) = (Number of annual disabling injuries ÷ Annual working hours) × 1,000,000
Note 3: The number of annual disabling injuries includes the number of annual fatalities, permanent total disabilities, permanent partial disabilities, and temporary total disabilities.
Note 4: The calculation is rounded to two decimal places.

The calculation is rounded to the nearest integer.
Note 5: Frequency-Severity Indicator (FSI) = √(FR × SR) / 1000
Note 6: Continue to review the FSI to understand the operational performance of each unit’s occupational disaster prevention and improve it.
Note 7: TPE has established an occupational safety unit since 2013.
Note 8: This statistic does not include commuter traffic accidents.
### Occupational Hazards Statistics of CAL Group in 2020

<table>
<thead>
<tr>
<th>Item</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
<th>Taoyuan</th>
<th>Engineering &amp; Maintenance Organization</th>
<th>Taipei</th>
<th>Taichung</th>
<th>Kaohsiung</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Number of Recordable Occupational Injuries</td>
<td>15</td>
<td>22</td>
<td>37</td>
<td>26</td>
<td>6</td>
<td>1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Disabling Injury Frequency Rate</td>
<td>1.44</td>
<td>2.51</td>
<td>1.93</td>
<td>2.05</td>
<td>1.28</td>
<td>1.32</td>
<td>0</td>
<td>3.65</td>
</tr>
<tr>
<td>Disabling Injury Severity Rate</td>
<td>41</td>
<td>43</td>
<td>42</td>
<td>48</td>
<td>37</td>
<td>7</td>
<td>0</td>
<td>13</td>
</tr>
<tr>
<td>Incidents Resulting in Work-related Fatalities</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>The Rate of Fatalities as a Result of Occupational Injury</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Occupational Disease Rate</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>The Number of High-consequence Occupational Injuries</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>The Rate of High-consequence Occupational Injuries</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Absence Rate</td>
<td>0.60%</td>
<td>1.28%</td>
<td>0.92%</td>
<td>0.89%</td>
<td>0.75%</td>
<td>2.14%</td>
<td>0.13%</td>
<td>1.37%</td>
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<tr>
<td>The Total Working Hours</td>
<td>10,392,676</td>
<td>8,763,652</td>
<td>19,158,240</td>
<td>12,633,062</td>
<td>4,672,450</td>
<td>755,240</td>
<td>-</td>
<td>1,095,576</td>
</tr>
</tbody>
</table>

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 days) × 100%
Note 4: Mandarin Airlines/Tigerair Taiwan only have one business location in Taiwan.
## Environmental Performance

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>Category 1 GHG Emissions</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flight Operations</td>
<td>Tons of CO₂e</td>
<td>7,150,674</td>
<td>7,229,839</td>
<td>7,059,083</td>
<td>5,787,751</td>
<td>-18.02%</td>
<td>▲</td>
<td>7,161,311</td>
<td>120%</td>
<td>7,053,891</td>
</tr>
<tr>
<td>Ground Operations</td>
<td>Tons of CO₂e</td>
<td>5,004</td>
<td>3,511</td>
<td>4,981</td>
<td>3,051</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>Category 2 GHG Emissions</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ground Operations</td>
<td>Tons of CO₂e</td>
<td>20,677</td>
<td>19,949</td>
<td>18,169</td>
<td>17,572</td>
<td>-3.29%</td>
<td>▲</td>
<td>17,308</td>
<td>98%</td>
<td>17,545</td>
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<tr>
<td><strong>Category 3 to 6 GHG Emissions (Note 1)</strong></td>
<td></td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ground Operations</td>
<td>Tons of CO₂e</td>
<td>1,627,649</td>
<td>1,644,656</td>
<td>1,607,690</td>
<td>3,109,822</td>
<td>+93.43%</td>
<td>▲</td>
<td>Extend the scope of investigation in accordance with the new version of ISO standards</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

### Aviation Fuel Efficiency

- **All Aircraft**
  - Tons 2,259,917
  - 2,284,937
  - 2,230,971
  - 1,829,328
  - -18.00%
  - ▲
  - Management by aviation fuel efficiency

- **Sustainable Aviation Fuel**
  - Ton 6.37
  - 20.4
  - 0
  - 0
  - 0
  - NA
  - NA
  - NA

### Aviation Fuel Efficiency

- **Passenger Aircraft**
  - L / RPK*100 4,2802
  - 4,2187
  - 4,2859
  - 15,2246
  - +255.23%
  - ▲
  - 4,2216
  - 28%
  - 15%

- **Freight Aircraft**
  - L / FRTK 0.2153
  - 0.2142
  - 0.2285
  - 0.2252
  - -1.43%
  - ▲
  - 0.2551
  - 100%
  - 0.2218

- **All Aircraft (Note 2)**
  - Tons / thousand RTK 0.2433
  - 0.2394
  - 0.2459
  - 0.2586
  - +5.16%
  - ▲
  - 0.2349
  - NA
  - 0.2547

### Energy Consumption

- **Fossil Fuels**
  - MWh 29,484,167
  - 29,815,419
  - 29,114,586
  - 23,873,099
  - -18.00%
  - ▲
  - 29,523,064
  - 100%
  - NA

- **Electricity Purchased**
  - MWh 37,344
  - 36,009
  - 34,088
  - 34,523
  - +1.28%
  - ▲

- **Elevator Power Regeneration**
  - kWh 297
  - 1,061
  - 1,423
  - 1,177
  - -17.3%
  - ▲
  - Full operation
  - 100%
  - Full operation

- **Renewable Energy**
  - NA
  - NA
  - NA
  - 90
  - 117
  - +23%
  - ▲
  - 120
  - 97.5%
  - 120

### Water Resources

- **Water Consumption**
  - Thousand tons 141.26
  - 148.22
  - 146.49
  - 126.77
  - -13.46%
  - ▲
  - 145,993
  - 100%
  - 144,955

- **Recycled Water (Note 3)**
  - Thousand tons 1.89
  - 31.94
  - 17.41
  - 8.64
  - -50.37%
  - ▲
  - NA
  - NA
  - NA

- **Recycling Ratio (Note 4)**
  - % 1.34%
  - 21.55%
  - 11.88%
  - 6.8%
  - -42.54%
  - ▲
  - NA
  - NA
  - NA

- **Heavy Metal Wastewater**
  - Ton 8,579
  - 10,014
  - 9,620
  - 6,750
  - -29.83%
  - ▲
  - NA
  - NA
  - NA

- **Organic Wastewater**
  - Ton 14,647
  - 10,443
  - 11,638
  - 12,593
  - +8.21%
  - ▲
  - NA
  - NA
  - NA

### Cabin Waste (Note 7)

- **Amount Produced (Note 5)**
  - kg 3,417,870
  - 3,669,703
  - 4,168,857
  - 1,285,318
  - -69.17%
  - ▲

- **Amount Recycled**
  - kg 1,068,483
  - 995,369
  - 1,116,396
  - 341,366
  - -69.42%
  - ▲

- **Recycling Ratio**
  - % 31.26%
  - 27.12%
  - 26.78%
  - 26.56%
  - -0.82%
  - ▲

---

### Notes

1. Extend the scope of investigation in accordance with the new version of ISO standards.
<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>General Industrial Waste / Domestic Waste</td>
<td>Kg</td>
<td>456,997</td>
<td>998,518</td>
<td>935,984</td>
<td>647,317</td>
<td>-30.84%</td>
<td></td>
<td></td>
<td>Ground waste totaling: 994,653</td>
<td>100%</td>
</tr>
<tr>
<td>Hazardous Industrial Waste</td>
<td>Kg</td>
<td>16,758</td>
<td>14,785</td>
<td>17,717</td>
<td>12,657</td>
<td>-28.56%</td>
<td></td>
<td></td>
<td>Ground waste totaling: 984,504</td>
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</tr>
<tr>
<td>Cadmium-containing Batteries</td>
<td>Kg</td>
<td>1,782</td>
<td>1,649</td>
<td>1,098</td>
<td>0</td>
<td>-100%</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Amount Recycled</td>
<td>%</td>
<td>NA</td>
<td>465,803</td>
<td>434,648</td>
<td>229,971</td>
<td>-47.09%</td>
<td></td>
<td>0.01477</td>
<td>37%</td>
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</tr>
<tr>
<td>Recycling Ratio</td>
<td>%</td>
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<td>45.01%</td>
<td>45.52%</td>
<td>34.85%</td>
<td>-10.67%</td>
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<td>0.0296</td>
<td>93%</td>
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</tr>
<tr>
<td>NOx</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Passenger Aircraft</td>
<td>g / RPK</td>
<td>0.0152</td>
<td>0.0150</td>
<td>0.0149</td>
<td>0.0400</td>
<td>+168%</td>
<td></td>
<td>0.01477</td>
<td>37%</td>
<td>0.0394</td>
</tr>
<tr>
<td>Freight Aircraft</td>
<td>g / RTK</td>
<td>0.0294</td>
<td>0.0301</td>
<td>0.0321</td>
<td>0.0317</td>
<td>-1.2%</td>
<td></td>
<td>0.0296</td>
<td>93%</td>
<td>0.0312</td>
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<tr>
<td>Plastic Packaging</td>
<td>Tons</td>
<td>356</td>
<td>432</td>
<td>479</td>
<td>353</td>
<td>-26%</td>
<td></td>
<td>422</td>
<td>100%</td>
<td>416</td>
</tr>
<tr>
<td>Percentage of Purchase of Plastic Packaging</td>
<td>%</td>
<td>0.21%</td>
<td>0.15%</td>
<td>0.15%</td>
<td>0.06%</td>
<td>-40%</td>
<td></td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Percentage of Recyclable Plastic Packaging</td>
<td>%</td>
<td>47%</td>
<td>42.2%</td>
<td>32.5%</td>
<td>81.3%</td>
<td>150%</td>
<td></td>
<td>40%</td>
<td>100%</td>
<td>57%</td>
</tr>
<tr>
<td>Percentage of Biodegradable Plastic Packaging</td>
<td>%</td>
<td>2.24%</td>
<td>10.27%</td>
<td>21.62%</td>
<td>9.83%</td>
<td>-54.5%</td>
<td></td>
<td>11%</td>
<td>89%</td>
<td>16%</td>
</tr>
</tbody>
</table>

Note 1: Scope 3 emissions from 2017 to 2019 include: energy-related activities, employee commuting, etc. In 2020, according to the ISO14064-1:2018 standard, expand the calculation category three to six related items. All data have passed external verification.

Note 2: The total aviation fuel consumption of all aircraft fuel efficiency includes training aircraft and maintenance. The fuel consumption of passenger and freight aircraft only includes passenger and freight aircraft fuel.

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

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

Note 5: The scope of 2017 ground operations data includes EMO and CAL Park. Since 2018, Kaohsiung Branch and VIP rooms of four stations (Taoyuan, Songshan, Kaohsiung, and Tainan) have been included in the scope of ground operations data.

Note 6: As in-flight supplies (e.g., tableware) are required to comply with relevant food sanitation regulations to ensure that they are fireproof and legal, biodegradable plastic packaging has not been used.

Note 7: The percentage of purchase is calculated as follows: Purchase amount / Cost of goods sold.

Note 8: The percentage of recycled materials and certified materials is calculated as follows: Weight of recyclable packaging (including certified materials) / Total weight of packaging. The weight of recyclable packaging refers to the weight of packaging that has been recycled upon CAL's confirmation.
# GRI Content Index

## GRI 101: Foundation

**General Disclosures**

<table>
<thead>
<tr>
<th>GRI Standard</th>
<th>Disclosure</th>
<th>Page Number &amp; Response</th>
</tr>
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<tbody>
<tr>
<td>102-1</td>
<td>Name of the Organizational</td>
<td>5</td>
</tr>
<tr>
<td>102-2</td>
<td>Activities, brands, products, and services</td>
<td>14</td>
</tr>
<tr>
<td>102-3</td>
<td>Location of headquarters</td>
<td>14</td>
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<td>Metric tons (t) CO₂e</td>
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<td>TR-AL-110a.1</td>
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<td>Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets</td>
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<td>TR-AL-110a.2</td>
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<td>(1) Total fuel consumed</td>
<td>Gigajoules (GJ)</td>
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<td>TR-AL-110a.3</td>
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<td>(2) Percentage alternative</td>
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<td>(2) 0%</td>
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<td>(3) 0%</td>
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<td>Number</td>
<td>Quantitative</td>
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<td>(2) Total days idle</td>
<td>Number Days idle</td>
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<td>(2) 0</td>
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<td>Passenger load factor</td>
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<td>Quantitative</td>
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<td>Quantitative</td>
<td>TR-AL-000.E</td>
<td>76,509</td>
<td>1-1-1 Business Overview</td>
<td>15-16</td>
</tr>
<tr>
<td></td>
<td>Average age of fleet</td>
<td>Years</td>
<td>Quantitative</td>
<td>TR-AL-000.F</td>
<td>9.9</td>
<td>1-1-1 Business Overview</td>
<td>14</td>
</tr>
</tbody>
</table>
Independent Limited Assurance Report

To China Airlines Ltd.

We were engaged by China Airlines Ltd. ("CAL") to provide limited assurance over the selected information attached in Appendix J on the Corporate Social Responsibility Report of CAL ("the Report" or "the Underlying Subject Matter") for the year ended December 31, 2020.

Reporting Criteria of the Underlying Subject Matter

CAL shall prepare the selected information in accordance with the Core Option of Global Reporting Initiative Standards ("GRI Standards") issued by Global Sustainability Standards Board as set forth in Appendix J.

Management’s Responsibility for the Report

CAL is responsible for determining its objectives with respect to sustainable development performance and reporting, including the identification of stakeholders and material aspects, and using the reporting criteria to fairly present and process the information included in the Report. CAL is also responsible for establishing and maintaining internal controls relevant to the preparation and presentation of the selected information that is free from material misstatement, whether due to fraud or error.

Our Responsibilities

We performed our work in accordance with International Standard on Assurance Engagements (ISAE) 3000: “Assurance Engagement other than Audits or Reviews of Historical Financial Information” issued by the International Auditing and Assurance Standards Board and to issue an independence and other ethical requirements of the Code of Professional Ethics for Certified Public Accountant in the Republic of China. Accordingly, we maintained a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements and professional standards as well as applicable legal and regulatory requirements.

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To China Airlines Ltd.:

Our work was performed in accordance with International Standard on Assurance Engagements (ISAE) 3000: “Assurance Engagement other than Audits or Reviews of Historical Financial Information” issued by the International Auditing and Assurance Standards Board and to issue an independence and other ethical requirements of the Code of Professional Ethics for Certified Public Accountant in the Republic of China. Accordingly, we maintained a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements and professional standards as well as applicable legal and regulatory requirements.

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KPMG

June 9, 2021

Taipei, Taiwan (Republic of China)

Summary of Work Performed

Our main work on the selected information included:

- Obtaining and reviewing the report of CAL;
- Inquiry with responsible management level and non-management level personnel to understand the operational processes and information systems used to collect and process the information reported;
- On the basis of the understanding obtained from the above matters, perform analytical procedures on the report and in case necessity, select samples to verify the report with supporting documents for acquiring sufficient and appropriate evidence.

The work described above are based on our professional judgment and consideration of the level of assurance and our assessment of the risk of material misstatement of the selected information, whether due to fraud or error. We believe that the work performed and evidence we have obtained are sufficient and appropriate to provide a basis of our conclusion.

Inherent limitations

The Report for the year ended 2020 includes the disclosures of non-financial information that involved significant judgments, assumptions and interpretations by the management of CAL. Therefore, the different stakeholders may have different interpretations of such information.

Conclusion

Based on the work we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that the selected information has not been properly prepared, in all material respects, in accordance with the Reporting Criteria.

Other Matters

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

Notes to Reader

The limited assurance report and the accompanying selected information are the English translations of the Chinese versions prepared and used in the Republic of China. If there is any conflict between, or any difference in the interpretation of, the English and Chinese language limited assurance report and the selected information, the Chinese version shall prevail.
## Value Creation

### Independent Limited Assurance Report

The United Nations Global Compact

2 - 1 - 1 Flight Crew Safety Development

**Section Summary of the Selected Information**

- **Stringent Training and Objective Testing**
  - **Proportion of Employees Participation in the Program:** Proportion to total employees.
  - **Absence Rate:** The number of high-consequence occupational injuries.
  - **Female 0.00%; Male 1.28%**

- **Disabling Injury Frequency Rate**
  - **Male 2.05%; Female 0.89%**

- **The Total Working Hours**
  - **Male 0.00%; Female 0.01%**

- **The Number of Recordable Occupational Injuries**
  - **Male 1.37%; Female 3.65%**

- **Incidents Resulting in Work-related Fatalities**
  - **Male 3.57%; Female 0.00%**

- **The Rate of High-consequence Occupational Injuries**
  - **Male 0.00%; Female 0.00%**

- **Occupational disease rate**
  - **Male 0.00%; Female 0.00%**

- **Incident Investigation and Report**
  - **Incident Investigation:**
    - **Number:** 14,158,240
    - **Amount:** TWD 44.37 million in training investment
  - **Report**
    - **Number:** 1,456,000
    - **Proportion to total employees:** 0.01%

- **Business Benefits**
  - Enhance cargo marketing effectiveness and fleet management.

- **Achievements**
  - **Enrichment of Human Resource Management**: Improve the professional skills and knowledge of passenger and cargo employees.
  - **Operational Basis Enhancement**: Redouble its efforts to enhance the operational basis and staff in line with the renewal of the revenue management system.
  - **Supplier Management**: Improve the professional skills and knowledge of passenger and cargo employees.

- **Corporate Social Responsibility**
  - **Sustainable Development**: Increase the number of flight crew members for cargo aircrafts.
  - **Sustainable Figure**: Around 1,095,576.

- **Financial Performance**
  - **Profitability**: 13.99%
  - **Growth Rate**: 5.24%
  - **Company Share Value**: TWD 1.28 billion

- **Research and Development**
  - **Innovation and Technology Development**: Around 84,770 kg of waste produced.
  - **Environmental Performance**: Dihua Sewage Treatment Plant.

- **Communication**
  - **Press and Media Relations**: Redouble its efforts to enhance the environmental dimension and social responsibility.
  - **Organizational Culture**: Redouble its efforts to enhance the environmental dimension and social responsibility.

- **The China Airlines follow-up improvement actions**
  - **Key topics and GRI Standards**
    - **Water withdrawal**
      - **Taiwan Water Corporation**
        - **Water withdrawal:** 3.03 thousand tons
        - **Water supply unit:** 14.58 Ton
        - **Dihua Sewage Treatment Plant**
          - **Water withdrawal:** 25.24 Ton
          - **Water supply unit:** 30.09 Ton
          - **Industrial:** 19.343 mg/L
          - **Dissolved oxygen:** 6~9 mg/L
          - **N H3:** 8 mg/L
          - **SS:** 8 mg/L

- **The Full Score is 10**
  - **Water withdrawal:** (5)
  - **Water supply unit:** (3)
  - **Dihua Sewage Treatment Plant:** (1)
  - **Industrial:** (10)
  - **Dissolved oxygen:** (P.98)
  - **N H3:** (P.98)
  - **SS:** (P.98)

- **The China Airlines follow-up improvement actions**
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CAL requires that its suppliers enter into and comply with the Supplier Code of Conduct (including compliance and anticorruption principles).
SUSTAINABILITY
WE CARE