# United Airlines Holdings - Climate Change 2020
## C0. Introduction

## C0.1

### (C0.1) Give a general description and introduction to your organization.
United's shared purpose is "Connecting People. Uniting the World." We are more focused than ever on our commitment to customers through a series of innovations and improvements designed to help build a great experience: Every customer. Every flight. Every day. In 2019, United Airlines and United Express together operated approximately 4,900 flights a day to 361 airports across six continents, and operated more than 1.7 million flights carrying more than 162 million customers. United is proud to have the world's most comprehensive route network, including U.S. mainland hubs in Chicago, Denver, Houston, Los Angeles, New York/Newark, San Francisco, and Washington, D.C. As of December 31, 2019, United's operations included 791 mainline aircraft and the airline's United Express carriers operated 581 regional aircraft. United is a founding member of Star Alliance, which in 2019 provided service to 195 countries via 28 member airlines. For more information, visit united.com, follow @United on Twitter and Instagram or connect on Facebook. The common stock of United's parent, United Airlines Holdings, Inc., is traded on the Nasdaq under the symbol "UAL".

United's Eco-Skies program represents the company's commitment to the environment and the actions taken every day to create a sustainable future. At United, we're on a mission to make sustainable flying the new standard, and our path to reduce our "wingprint," in the air, on the ground, and extending to our communities. In January 2017, for the second time since launching its industry-leading Eco-Skies program, United Airlines was named the Eco-Airline of the Year by Air Transport World magazine. The award recognizes an airline globally for its environmental leadership as demonstrated by consistent and impactful environmental action within the company and in the airline industry. The magazine awarded United with the top honor for multiple initiatives in 2016 and prior years, including becoming the first airline to begin using sustainable aviation fuel (SAF) on an ongoing daily basis, marking a significant milestone in the airline industry, by moving beyond demonstrations and test programs to the use of SAF in ongoing operations. In 2018, United Airlines ranked No. 1 among global carriers in Newsweek's Global 500 Green Rankings, one of the most recognized environmental performance assessments of the world's largest publicly traded companies. In 2019, United flew the most eco-friendly commercial flight of its kind in the history of aviation: on the Flight for the Planet, United became the first known airline to demonstrate all of the following key actions on a single commercial flight: utilization of SAF, zero cabin waste efforts, carbon offsetting, and operational efficiencies. Today, we consume almost half the global supply of SAF through daily flights departing from Los Angeles, demonstrating a commitment to and support for the growing market for lower carbon alternatives.

United's four-pillar commitment to the environment consists of:
1) Fuel efficiency and emissions reduction: increasing fuel efficiency and reducing emissions through technology and process innovation
2) Sustainable fuel sources: investing in environmentally responsible and cost-efficient sustainable fuels
3) Sustainable products and materials management: improving the sustainability of United's products and facilities
4) Eco-Skies partners: partnering to promote sustainability and protect our environment.

## C0.2

### (C0.2) State the start and end date of the year for which you are reporting data.

| | Start date | End date | Indicate if you are providing emissions data for past reporting years | Select the number of past reporting years you will be providing emissions data for |
|---|---|---|---|---|
| Reporting year | January 1 2019 | December 31 2019 | No | <Not Applicable> |

## C0.3

### (C0.3) Select the countries/areas for which you will be supplying data.

United States of America

## C0.4

### (C0.4) Select the currency used for all financial information disclosed throughout your response.

USD

## C0.5

### (C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your chosen approach for consolidating your GHG inventory.

Operational control

## C-TO0.7/C-TS0.7

### (C-TO0.7/C-TS0.7) For which transport modes will you be providing data?

Aviation

# C1. Governance

## C1.1

### (C1.1) Is there board-level oversight of climate-related issues within your organization?

Yes

## C1.1a

### (C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.

| Position of individual(s) | Please explain |
|---|---|
| Board-level committee | The Public Responsibility Committee of the Board of Directors of United Airlines Holdings, Inc. (the Board) provides board oversight for United's policies and positioning with respect to social responsibility and public policy, including environmental responsibility. In addition to scheduled Public Responsibility Committee meetings, members of the committee meet with certain United officers to receive updates and discuss key issues directly relevant to its purpose as described above. On an annual basis, the Public Responsibility Committee reviews United's environmental programs and policies, initiatives related to climate change, environmental regulations that impact United, and progress in fulfilling United's sustainability objectives and environmental commitments. |

## C1.1b

### (C1.1b) Provide further details on the board's oversight of climate-related issues.

| Frequency with which climate-related issues are a scheduled agenda item | Governance mechanisms into which climate-related issues are integrated | Scope of board-level oversight | Please explain |
|---|---|---|---|
| Scheduled – all meetings | Reviewing and guiding strategy<br>Reviewing and guiding major plans of action<br>Reviewing and guiding annual budgets<br>Overseeing major capital expenditures, acquisitions and divestitures | <Not Applicable> | United's climate strategy is focused primarily on mitigating GHG emissions from its aircraft, as 99% of United's Scope 1 and Scope 2 emissions result from jet fuel consumption. Jet fuel consumption was United's second largest cost in 2019 (comprising 23% of operating expenses), making conserving fuel and reducing GHG emissions important factors in the company's financial success. United's fuel costs and their impact on the company's financial performance are communicated to the Board at all scheduled meetings by the Chief Financial Officer (CFO) and/or other officers. |
| Scheduled – some meetings | Reviewing and guiding risk management policies | <Not Applicable> | Climate-related risks are integrated into the company's overall risk management process; the Audit Committee of the Board receives updates on and monitors management's strategies to protect the company from risks identified by this process. |

## C1.2

### (C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.

| Name of the position(s) and/or committee(s) | Reporting line | Responsibility | Coverage of responsibility | Frequency of reporting to the board on climate-related issues |
|---|---|---|---|---|
| Chief Executive Officer (CEO) | <Not Applicable> | Both assessing and managing climate-related risks and opportunities | <Not Applicable> | Quarterly |
| President | <Not Applicable> | Both assessing and managing climate-related risks and opportunities | <Not Applicable> | Annually |
| Chief Financial Officer (CFO) | <Not Applicable> | Both assessing and managing climate-related risks and opportunities | <Not Applicable> | Quarterly |
| Chief Operating Officer (COO) | <Not Applicable> | Managing climate-related risks and opportunities | <Not Applicable> | Annually |

## C1.2a

### (C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored (do not include the names of individuals).

United's Chief Executive Officer (CEO) reports directly to the Board. The CEO has responsibility for climate-related issues because this position oversees the strategy, objectives, and long-term planning of the company, thus ensuring that these issues are truly integrated into business governance and strategy. As part of their responsibilities, the CEO has overall responsibility for all aspects of the company's business, including managing United's fuel costs and climate-related risks and opportunities, and is periodically updated on climate strategy and initiatives.

Beyond the CEO, the President reports to the CEO and oversees United's climate risk management and United's environmental programs and policies, including climate change; other relevant departments, including Government Affairs, Regulatory Affairs, and Risk Management also report to the President.

The Chief Financial Officer (CFO) oversees long-term investments in more fuel-efficient aircraft, low-carbon fuel sources, and decarbonization investments, and the Chief Operations Officer (COO) oversees the optimization of operational policies and procedures that reduce fuel use. United's climate strategy is focused primarily on mitigating GHG emissions from its aircraft, as 99% of United's Scope 1 and Scope 2 emissions result from jet fuel consumption. Jet fuel consumption was United's second largest cost in 2019 (comprising 23% of operating expenses), making conserving fuel and reducing GHG emissions important factors in the company's financial success. United's fuel costs and their impact on the company's financial performance are communicated to the Board at all scheduled meetings by the CFO and/or other officers.

United's climate monitoring process involves assessment of external factors that could impact climate-related issues including changes to current legislation, future legislation, and changes to policy and taxes. An example of this is the monitoring of ICAO's (International Civil Aviation Organization, the UN agency for aviation) Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA); the CEO and CFO oversee the monitoring of policy developments of the scheme, and act to ensure that the company is prepared for its implementation in such a way that best protects United's financial performance and minimizes its reputational risk.

Day-to-day responsibility for environmental matters resides with United's Managing Director of Global Environmental Affairs and Sustainability. This position reports to the Senior Vice President of Government Affairs & Global International Policy, who in turn reports to the President.

## C1.3

### (C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?

| | Provide incentives for the management of climate-related issues | Comment |
|---|---|---|
| Row 1 | Yes | United's climate strategy is focused on mitigating GHG emissions from its aircraft, as 99% of United's Scope 1 and Scope 2 emissions result from jet fuel consumption. Jet fuel consumption was also United's second largest cost in 2019 (comprising of 23% of operating expenses), which makes the conservation of fuel and reducing greenhouse gas (GHG) emissions important factors in the company's financial success. United's executives and certain other managers also receive stock-based and annual incentive cash-based awards, whose value is linked to performance metrics, including financial performance, of the company. United also offers a Profit Sharing Plan, which enables eligible employees to share in the company's financial success when United is profitable. Further details of all these incentives can be found in the response to Question C1.3a. |

## C1.3a

### (C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).

| Entitled to incentive | Type of incentive | Activity inventivized | Comment |
|---|---|---|---|
| Corporate executive team | Monetary reward | Please select | United executives and certain other managers receive stock-based and annual incentive cash-based awards, whose value is linked to the company's financial performance, among other performance metrics. Jet fuel consumption was United's second largest cost in 2019 (comprising 23% of operating expenses), and was responsible for over 99% of United's Scope 1 and Scope 2 emissions, making conserving fuel and reducing greenhouse gas (GHG) emissions important factors in the company's financial success. In 2019, each 1% reduction in fuel consumption resulted in an approximately 413,000 metric ton reduction in CO2e, and an approximately $90 million improvement in pre-tax income, or $0.27 in earnings per share. As of year-end 2019, United's next twelve months consensus forward price-to-earnings ratio was 7.1x. For United, each 1% reduction in fuel consumption is estimated to be worth $1.92 per share, incentivizing United executives and managers to conserve fuel, reduce GHG emissions, and improve the company's (and their own) financial performance. |
| Management group | Monetary reward | Please select | United executives and certain other managers receive stock-based and annual incentive cash-based awards, whose value is linked to the company's financial performance, among other performance metrics. Jet fuel consumption was United's second largest cost in 2019 (comprising 23% of operating expenses), and was responsible for over 99% of United's Scope 1 and Scope 2 emissions, making conserving fuel and reducing GHG emissions important factors in the company's financial success. In 2019 each 1% reduction in fuel consumption resulted in an approximately 413,000 metric ton reduction in CO2e, and an approximately $90 million improvement in pre-tax income, or $0.27 in earnings per share. As of year-end 2019, United's next twelve months consensus forward price-to-earnings ratio was 7.1x. For United, each 1% reduction in fuel consumption is estimated to be worth $1.92 per share, incentivizing United executives and managers to conserve fuel, reduce GHG emissions, and improve the company's (and their own) financial performance. |
| All employees | Monetary reward | Please select | United's Profit Sharing Plan enables eligible employees to share in the company's financial success when United is profitable and earns more than $10 million in pre-tax income during the fiscal year. Jet fuel consumption was United's second largest cost in 2019 (comprising 23% of operating expenses), and was responsible for over 99% of United's Scope 1 and Scope 2 emissions, making conserving fuel and reducing GHG emissions important factors in the company's financial success. In 2019, each 1% reduction in fuel consumption resulted in an approximately 413,000 metric ton reduction in CO2e, and an increased profit sharing pool of approximately $12 million, or an average of over $136 per full-time equivalent employee. This reward opportunity incentivizes United employees to conserve fuel, reduce GHG emissions, and improve the company's (and their own) financial performance. |
| All employees | Non-monetary reward | Please select | The United 100 program recognizes United employees for going above and beyond the normal course of their jobs. United employees can nominate a co-worker for the United 100 program, which has three levels: Nominee, Quarterly Award Winner, and Annual Award Winner. This recognition program is available to all employees, and projects related to fuel efficiency or emissions reduction projects could provide a basis for recognition. In 2018, two United employees were recognized as Quarterly Award winners for their work on emissions reductions, one of whom was further recognized as an Annual Award winner. |
| All employees | Non-monetary reward | Please select | United's Bravo program lets any United employee worldwide send a message and a digital "badge" to a United colleague, with acknowledgement or thanks for his or her actions or achievements. The message and badge appear in an employee-only social-media-type news feed, Bravo, which is available as a website and a mobile app. Once a badge is awarded, the recipient receives an instant notification of the recognition, which also appears in a news feed, allowing others to like or comment on it. This recognition program could be used to provide recognition for actions or achievements related to fuel efficiency or emissions reduction. One of these badges, the Eco-Skies Warrior badge, is specifically intended for stewards of conservation on the ground, in the air, and throughout United's operations; in 2019, 1,202 Eco-Skies Warrior badges were awarded. |

| Entitled to incentive | Type of incentive | Activity inventivized | Comment |
|---|---|---|---|
| Other, please specify (Customer incentive program) | Non-monetary reward | Please select | In 2017, United added a GHG emissions component to its Global Performance Commitment to corporate accounts. In 2019, United committed to achieving lower GHG emissions intensity than its two largest U.S.-based competitors each year, as measured by gross CO2e per available seat-mile. Not meeting this goal would result in compensation, in the form of United Services Funds, to eligible corporate accounts. In 2018, United successfully met this goal, with 6.3% and 6.8% lower emissions intensity; 2019 results for competitors are not yet available. |

# C2. Risks and opportunities

## C2.1

### (C2.1) Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?

Yes

## C2.1a

### (C2.1a) How does your organization define short-, medium- and long-term time horizons?

| | From (years) | To (years) | Comment |
|---|---|---|---|
| Short-term | 0 | 2 | In this timeframe, United has flexibility to change near-term aspects of its business strategy, such as its planned flying capacity. |
| Medium-term | 2 | 10 | In this timeframe, United has flexibility to change longer-term aspects of its business strategy. |
| Long-term | 10 | 30 | In this timeframe, United has flexibility to change all aspects of its business strategy. The useful lifetimes of aircraft generally extend toward the upper end of this range. |

## C2.1b

### (C2.1b) How does your organization define substantive financial or strategic impact on your business?

United's climate-related risk management process is part of its overall company-wide risk assessment. United has an Enterprise Risk Management (ERM) process. An enterprise risk is any significant event or circumstance that could impact the achievement of United's business objectives, including strategic, operational, financial, and compliance risks.

The ERM process has an ERM Committee comprised primarily of officers of the company, who then appoint Risk Teams. The senior management-level Risk Teams oversee risk identification, risk measurement, and risk response for their area of expertise; Environmental Affairs participates in United's ERM process. The Risk Teams use several risk identification techniques including but not limited to subject matter expertise, evaluation of prior exposures, perils and hazards, interviews with the business, and outside consultants. Asset-level risks are identified and managed through multiple departments' processes, including Corporate Insurance, Corporate Real Estate, Corporate Safety, Environmental Affairs, Internal Audit, Legal, and numerous operations departments. These teams use several of these risk identification methods to then report asset-level risks to senior management via department managers. These risks are then assessed through the ERM process.

United's ERM process has a consistent risk language that uses the same likelihood and impact scales across all the risks assessed by the Risk Teams. This is in order to ensure a consistent and continuous evaluation of overall risk to the enterprise. The Risk Teams document the rationale for their rating, as

well as their strategic risk response efforts and any key risk indicators that are being monitored. Once the financial ratings have been completed, the risks that qualify as an Enterprise Risk are rated by leadership in Sales, Marketing, and Communications and assigned one of four reputational impact risk ratings. The higher of the financial impact and reputational risk rating is the final rating until subsequent risk assessments are undertaken.

## C2.2

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**(C2.2) Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.**

**Value chain stage(s) covered**

Direct operations

**Risk management process**

Integrated into multi-disciplinary company-wide risk management process

**Frequency of assessment**

More than once a year

**Time horizon(s) covered**

Short-term
Medium-term
Long-term

**Description of process**

The ERM staff hold risk workshops with Risk Teams annually, or more frequently if needed, to update assessments of existing risks and to identify and rate new or emerging risks. This process primarily focuses on risks that may occur within 12 months, but also looks ahead to a medium-term time horizon to determine if any new risks should be included in the ERM reporting process. In direct operations, risks may be tied to the fleet itself, which has a long-term time horizon, due to the useful lifetime of an aircraft. In 2019, additional Risk Teams were created, to ensure a broader look across the enterprise, and additional ERM Committee meetings were held. For physical risks and opportunities such as increases in extreme weather, United constantly evaluates and responds to weather-related events. In addition, in 2016 the company increased the amount of out-and-back flying (flying that begins at a hub, travels to another airport, and returns directly back to the hub). At the beginning of 2016, United increased flying in this pattern from approximately 35% of flights to approximately 70%. In addition to reducing operational complexity, this helps isolate the impact of weather- and Air Traffic Control-related events to that hub while mitigating the impact on other hubs. United believes that this change drives improved reliability and efficiency and provides a better experience for customers and employees. For transitional risks and opportunities such as emerging regulations, United was part of the airline industry leadership that helped lay the foundation for ICAO's Carbon Offsetting and Reduction Scheme (CORSIA). Through Airlines for America and the International Air Transport Association , United assisted in identifying financial exposure from a patchwork of regulatory and tax schemes related to environmental by several countries, and modeled the potential financial impact from such schemes vs. CORSIA, and assisted in the design framework via ICAO working groups to ensure CORSIA was approved and is being implemented.

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**Value chain stage(s) covered**

Upstream

**Risk management process**

Integrated into multi-disciplinary company-wide risk management process

**Frequency of assessment**

More than once a year

**Time horizon(s) covered**

Short-term
Medium-term

**Description of process**

Upstream risks relevant to United include changes in mean (average) precipitation that may cause temporary shutdowns of production and refining capacity and thereby at times affect fuel suppliers' ability to provide fuel to the airports that United serves. For example, following Hurricane Harvey in 2017, several Gulf Coast refineries and the Colonial Pipeline temporarily suspended operations, disrupting fuel supply for several days. These risks are identified and assessed by Environmental Affairs and Fuel Procurement. Fuel Procurement works to ensure adequate supplies of fuel by arranging to have fuel shipped on major pipelines (shared by other customers) and stored close to United's hubs. In addition, United is investing in the development of sustainable aviation fuel, which may reduce the risk of disruption over the long term by diversifying United's fuel sources in addition to reducing GHG emissions.

**Value chain stage(s) covered**

Downstream

**Risk management process**

Integrated into multi-disciplinary company-wide risk management process

**Frequency of assessment**

More than once a year

**Time horizon(s) covered**

Short-term

Medium-term

**Description of process**

Downstream risks relevant to United include shifts in consumer preferences that may impact demand for air travel, may impact demand for United's travel services, or increase expectations regarding reporting and disclosure of emissions reduction initiatives such as investments in new aircraft. These risks are identified and assessed by Network Planning, Environmental Affairs, Corporate Communications, and Investor Relations. These departments evaluate changes in market demand on an ongoing basis; and monitor public opinion and investor interest in climate change, and the perceptions of stakeholders regarding airlines' impact on climate change.

## C2.2a

### (C2.2a) Which risk types are considered in your organization's climate-related risk assessments?

| | Relevance & inclusion | Please explain |
|---|---|---|
| Current regulation | Relevant, always included | Local, state, federal, and international regulations regarding the environment create compliance and financial risks to United. Examples of international agreements include ICAO's Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), for which 2019 was the first reporting year. The unprecedented nature of the COVID-19 global pandemic prompted ICAO to include only 2019 emissions as the baseline upon which offsetting obligations would be calculated for the first phase (2021-23) of the scheme. The applicable baseline for the subsequent phases of the scheme, however, is still uncertain, as CORSIA only applies to the flights between countries that have volunteered for the first phase. Approximately 33% of United's 2019 capacity (including regional partners) was flown between country-pairs that have volunteered for the first phase of CORSIA. If additional countries join in subsequent years, this number is expected to increase. Related state regulations include California's AB 32 (The 2006 Global Warming Solutions Act), which created a Low Carbon Fuel Standard (LCFS) in California that aims to reduce the carbon intensity of the state's transportation fuel pool by approximately 7.5% by 2020 via both mandates and incentives. The LCFS program has helped facilitate a market for lower-carbon fuels while contributing to upward price pressure for conventional fuels. As the California LCFS has matured, other states/regions within the United States are proposing similar low carbon-fuel policies. These risks are identified and assessed by Environmental Affairs and Regulatory Affairs as existing regulations continue to evolve. These departments then proactively evaluate the financial impact of these regulations to determine the most appropriate risk response, and report these results to the ERM Committee. |

| | Relevance & inclusion | Please explain |
|---|---|---|
| Emerging regulation | Relevant, always included | United continuously monitors the regulatory environment as it evolves to identify and evaluate new exposures and its risk response. United participates in various industry groups including Airlines for America, the International Air Transport Association, and the Air Transport Action Group, which have environmental, fuel, and other groups that monitor and share information on emerging environmental risks that impact the airline industry. A prior example of this risk was the introduction of the European Union Emissions Trading Scheme (EU ETS), which could have applied to nearly all of United's routes to Europe, were the company and these industry groups not successful in advocating the scheme apply to only intra-EU routes, thereby helping to avoid a patchwork of different and potentially conflicting emission schemes levied against international air transport. Instead, the industry championed CORSIA, a sole international and cooperative global market-based policy solution for aviation GHG emissions. A further example of regulatory risk is the emergence of sustainable aviation fuel (SAF) mandates, which could require a volume of SAF that is not yet existing in supply and potentially lead to market distortion. Instead, United is currently advocating for positive incentives to encourage supply in the long-term. These risks are identified and assessed by Environmental Affairs and Regulatory Affairs as existing and new regulations continue to evolve. These departments then proactively evaluate the financial impact of these regulations to determine the most appropriate risk response and report these results to the Environmental Risk Management (ERM) Committee. |
| Technology | Relevant, sometimes included | Technology-related risks relevant to United include product efficiency regulations and standards such as ICAO's CO2 efficiency standard (which the U.S. EPA is currently in the process of adopting) that applies to aircraft designs, and the ability of aircraft manufacturers to meet the standard. These risks apply to all of United's current and future aircraft types. These risks are identified and assessed by Environmental Affairs and Regulatory Affairs as existing regulations continue to evolve. These departments then proactively evaluate the financial impact of these regulations to help determine the most appropriate response, and report these results to the ERM Committee. |
| Legal | Relevant, sometimes included | Legal risks relevant to United include, among others, litigation, regulatory, or administrative proceedings related to environmental issues. The Legal department works with other departments within the company, including Environmental Affairs and Regulatory Affairs, to evaluate and assess these risks. Examples of legal risk include litigation, regulatory, or administrative proceedings that municipalities have initiated against the industry on climate-related issues. For example, in Brazil the State Public Prosecutor filed lawsuits against all airlines operating at Sao Paulo Guarulhos International Airport seeking damages due to GHG emissions, in the form of land restoration projects, or a fixed fee per passenger to offset perceived environmental issues. The case is currently on appeal. Failure to properly respond to such actions could lead to financial penalties as well as negatively impact United's reputation. |
| Market | Relevant, sometimes included | Market risks relevant to United include induced changes in human and cultural environment that may impact demand for air travel and overall travel patterns; for example, there may be changes to traditional warm-weather vacation destinations if temperature increases make certain destinations undesirably warm. Another example of this risk is consumer preferences for lower carbon travel, which could lead to shifts in demand from international to domestic air travel, or shifts in demand away from air travel. These risks are identified and assessed by Network Planning as markets continue to evolve. This department evaluates changes in market demand on an ongoing basis. |
| Reputation | Relevant, sometimes included | Reputational risks relevant to United include shifts in consumer preferences that may impact demand for United's travel services, or increased expectations regarding reporting and disclosure of emissions reduction initiatives such as investments in new aircraft or sustainable aviation fuel. If United is not viewed as market leader in terms of disclosure and emissions reduction, the reputational impact could lead to customers seeking to use alternative airlines. These risks are identified and assessed by Environmental Affairs, Corporate Communications, and Investor Relations. These departments monitor public opinion and investor interest in climate change, and the perceptions of its stakeholders regarding airlines' impact on climate change. |
| Acute physical | Relevant, sometimes included | Acute physical risks relevant to United include changes in weather intensity that may result in impacts to United's flight operations, such as the extreme polar vortex event that occurred in the Midwest in 2019, which created extreme delays in aircraft fueling, impacting service and operations by necessitating normally nonstop flights international flights to make fueling stops in other cities. As another example, in 2017 United temporarily suspended service to Delhi due to poor air quality concerns from pollution. These risks are identified and assessed by Airport Affairs, Environmental Affairs, Network Operations, and Risk Management. These departments constantly evaluate and respond to weather-related events, focus on improving aircraft performance, and work with local |

| | Relevance & inclusion | Please explain |
|---|---|---|
| | | airport authorities to ensure that adequate airport runway capacity and operating capabilities are in place. |
| Chronic physical | Relevant, sometimes included | Chronic physical risks relevant to United include changes in mean (average) temperature, changes in mean (average) precipitation, and sea level rise that may result in impacts to United's flight operations as well as changes in consumer preferences that may impact demand for United's travel services. For example, there may be changes to traditional winter sports vacation destinations if temperature increases impact the desirability of these destinations. By way of further example, in winter 2017-18 there was lower than normal snowfall in markets such as Colorado and Montana that resulted in reduced travel demand. These risks are identified and assessed by Airport Affairs, Environmental Affairs, and Network Operations. These departments constantly evaluate and respond to weather-related events, focus on improving aircraft performance, and work with local airport authorities to ensure adequate airport runway capacity and operating capabilities are in place. |

## C2.3

### (C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes

## C2.3a

### (C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.

**Identifier**

Risk 1

**Where in the value chain does the risk driver occur?**

Direct operations

**Risk type & Primary climate-related risk driver**

| | |
|---|---|
| Current regulation | Carbon pricing mechanisms |

**Primary potential financial impact**

Increased indirect (operating) costs

**Climate risk type mapped to traditional financial services industry risk classification**

<Not Applicable>

**Company-specific description**

In 2016, ICAO adopted the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA). CORSIA is expected to address any annual increase in total GHG emissions from airlines' international flying above baseline levels. Due to the COVID-19 global pandemic, ICAO recently amended CORSIA such that 2019 emissions will be the baseline year, against which emissions in future years are compared. As part of the scheme, airlines will need to offset any growth in emissions from 2021 onward. This obligation is expected to increase United's operating costs due to the need to offset emissions. Approximately 33% of United's 2019 capacity (including regional partners) was flown between country-pairs that have volunteered for the first phase of CORSIA (2021-23). If additional countries join in subsequent years, this number is expected to increase.

**Time horizon**

Medium-term

**Likelihood**

Very likely

**Magnitude of impact**

Medium-low

**Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

**Potential financial impact figure (currency)**

15000000

**Potential financial impact figure – minimum (currency)**

<Not Applicable>

**Potential financial impact figure – maximum (currency)**

<Not Applicable>

**Explanation of financial impact figure**

This figure is based on ICAO and International Energy Agency estimates of the airline industry's CORSIA costs to buy carbon instruments in 2025, and assumes that United is responsible for 1% of industry costs ($1.5 billion) under ICAO's Optimistic scenario (with Additional Low carbon price). This figure is only for demonstrative purposes of how one could start to estimate the potential financial impact, and should not be construed as an accurate projection of United's financial exposure. Attributing a cost to CORSIA is not currently possible due to numerous uncertainties, including (see Comment section, insufficient space due to character limits):

**Cost of response to risk**

70000000

**Description of response and explanation of cost calculation**

For new GHG regulations, United seeks to determine the most effective levers for managing the risk, which could include reducing the company's GHG emissions by investing in new technology and aircraft, participating in carbon markets, investing in and consuming sustainable aviation fuel (SAF), or factoring this incremental cost into the company's pricing and revenue models. United supports CORSIA as an international and cooperative global solution for aviation GHG emissions, as opposed to a patchwork of different and conflicting emission taxes and regulatory programs across the globe. Despite the adoption of CORSIA, the airline industry remains exposed to the application of the European Union Emissions Trading Scheme to flights to/from the EU and other similar existing or future inconsistent requirements in other countries, likely creating greater expenses and complexity without corresponding environmental benefits. United continues to actively invest in more fuel-efficient technologies and aircraft. In addition, United has made the largest investments by an airline in sustainable aviation fuel (SAF) development through its purchase agreement with World Energy and its $30 million equity investment and long-term supply agreement with Fulcrum BioEnergy for 90 million gallons of SAF per year for a minimum of 10 years, but this supply has not yet begun. In 2019, United also made an additional $40 million commitment toward a new investment vehicle focused on accelerating the development of SAF and other decarbonization technologies.

**Comment**

Uncertainty arises from a number of sources: - How much of United's network will be included due to United's constantly evolving route network and CORSIA's voluntary nature through 2026; for example, in 2018 China announced that it would not be participating in the Voluntary Phase as previously anticipated, which decreased United's 2018 CORSIA obligation flown between countries that volunteered for the first phase relative to total operational capacity (including regional partners) from 39% to 32% - The price of CORSIA-eligible carbon instruments, given the volatility of these credits' pricing within the carbon markets - United vs. the airline industry's GHG emissions as compared to the CORSIA baseline, as an airline's offsetting obligation is calculated based on its share of the total industry's emissions - Proposed government investments in technology and infrastructure that would reduce GHG emissions and therefore United's CORSIA costs

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**Identifier**

Risk 2

**Where in the value chain does the risk driver occur?**

Upstream

**Risk type & Primary climate-related risk driver**

| | |
|---|---|
| Technology | Substitution of existing products and services with lower emissions options |

**Primary potential financial impact**

Decreased asset value or asset useful life leading to write-offs, asset impairment or early retirement of existing assets

**Climate risk type mapped to traditional financial services industry risk classification**

<Not Applicable>

**Company-specific description**

In 2016, ICAO adopted an aircraft CO2 efficiency standard. The standard is expected to apply to new aircraft type designs from 2020, and to in-production aircraft type designs beginning in 2023. Those in-production aircraft that by 2028 do not meet the standard are expected to no longer be able to be produced unless their designs are sufficiently modified. The adoption of the standard may increase the research and development work required for future aircraft designs, which could increase the costs of acquiring such aircraft. In 2020 the EPA proposed a federal aircraft CO2 efficiency standard that mirrors the ICAO standard, but will codify the requirement into U.S. law. United currently has aircraft scheduled for delivery through 2027 but does not foresee any impact to existing or future aircraft, which it expects will be in full compliance with the standard.

**Time horizon**

Medium-term

**Likelihood**

More likely than not

**Magnitude of impact**

High

**Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

**Potential financial impact figure (currency)**

267000000

**Potential financial impact figure – minimum (currency)**

<Not Applicable>

**Potential financial impact figure – maximum (currency)**

<Not Applicable>

**Explanation of financial impact figure**

This figure assumes a 1% increase in United's capital commitments. As of December 31, 2019, United had $26.7 billion in capital commitments, which primarily relate to the acquisition of aircraft, related spare engines, and aircraft improvements, but also includes other capital purchase commitments. This figure is only for demonstrative purposes of how one could start to estimate the potential financial impact, and should not be construed as an accurate projection of United's future financial impact. The financial implications cannot be estimated at this time due to lack of certainty around the degree to which the aircraft CO2 efficiency standard would alter the pre-existing rate of aircraft efficiency improvements.

**Cost of response to risk**

10000

**Description of response and explanation of cost calculation**

United, through both Airlines for America and the International Air Transport Association, supported and participated in the ICAO technical review that led to ICAO's adoption of the aircraft CO2 efficiency standard in 2016. United believes that new technology is just one of a basket of measures needed to achieve carbon-neutral growth from 2020 (an industry climate goal) and reduce the airline industry's GHG emissions. United continues to actively invest in more fuel-efficient technologies and aircraft. In 2019, United took delivery of 8 additional Boeing 787-10 aircraft, which offer substantially reduced fuel consumption and GHG emissions. United also took delivery of 5 fuel-efficient 737 MAX 9 aircraft in 2019,

prior to the March 2019 FAA order prohibiting the operation of Boeing 737 MAX series aircraft by U.S. certified operators. Since 2013, United has had a long-term mainline upgauging initiative; replacing smaller aircraft with fewer flights on larger aircraft generally results in even higher fuel efficiency benefits than just replacing aircraft with newer generation aircraft. Monitoring new regulations and renewing the aircraft fleet have long been embedded into United's business strategy, so they are considered fundamental costs of doing business rather than incremental cost drivers. The cost of management presented here represents the approximate cost of 10% of one employee's time to monitor this risk.

**Comment**

---

**Identifier**

Risk 3

**Where in the value chain does the risk driver occur?**

Direct operations

**Risk type & Primary climate-related risk driver**

| | |
|---|---|
| Chronic physical | Rising mean temperatures |

**Primary potential financial impact**

Increased direct costs

**Climate risk type mapped to traditional financial services industry risk classification**

<Not Applicable>

**Company-specific description**

Climate change may result in higher average temperatures at the airports United serves. Aircraft must generate sufficient lift in order to take off, but higher temperatures result in lower air density, negatively impacting both wing lift and engine performance. Higher average temperatures would result in increased fuel consumption during takeoff, which may result in an increase in United's operating costs. United's fuel expense was $9.0 billion in 2019.

**Time horizon**

Long-term

**Likelihood**

More likely than not

**Magnitude of impact**

Low

**Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

**Potential financial impact figure (currency)**

8953000

**Potential financial impact figure – minimum (currency)**

<Not Applicable>

**Potential financial impact figure – maximum (currency)**

<Not Applicable>

**Explanation of financial impact figure**

This figure assumes a 0.1% increase in United's fuel expense, which was $9.0 billion in 2019. This figure is only for demonstrative purposes of how one could start to estimate the potential financial impact and should not be construed as an accurate projection of United's future financial impact. Increases in outside air temperature increase aircraft fuel requirements per takeoff and at cruise. The company's analysis indicates that the increase in fuel costs is small.

**Cost of response to risk**

100000

**Description of response and explanation of cost calculation**

United is constantly focused on improving its fuel efficiency and aircraft performance, both through its own internal efforts and in conjunction with its suppliers and partners; each new generation of aircraft has a 15%-20% improvement in fuel efficiency. In addition to addressing this risk, these efforts also serve to reduce United's overall GHG emissions and operational costs. These risks have been considered for all geographic areas where United operates. As the science continues to evolve, United will continue to evaluate the long-term impact on its business. United continues to actively invest in more fuel-efficient technologies and aircraft. In 2019, United took delivery of 8 additional Boeing 787-10 aircraft, which offer substantially reduced fuel consumption and GHG emissions. United also took delivery of 5 fuel-efficient 737 MAX 9 aircraft in 2019, prior to the March 2019 FAA order prohibiting the operation of Boeing 737 MAX series aircraft by U.S. certified operators. Improved fuel efficiency and aircraft performance have long been embedded into United's business strategy, so they are considered fundamental costs of doing business rather than incremental cost drivers. The cost of management presented here represents the approximate cost of 100% of one employee's time to monitor this risk.

**Comment**

---

**Identifier**

Risk 4

**Where in the value chain does the risk driver occur?**

Direct operations

**Risk type & Primary climate-related risk driver**

| | |
|---|---|
| Chronic physical | Changes in precipitation patterns and extreme variability in weather patterns |

**Primary potential financial impact**

Increased direct costs

**Climate risk type mapped to traditional financial services industry risk classification**

<Not Applicable>

**Company-specific description**

Climate change may impact the frequency, severity, and predictability of high intensity weather events; including changes in precipitation patterns (in addition to intensity, the likelihood of rain vs. snow), wind velocities, and/or increased en route turbulence, which can require changes in flight routes or cruise altitude. Extreme storms; including rain, wind, and lightning; have the potential to restrict United's operations or disrupt flights. Climate change may result in higher extreme temperatures at the airports United serves. Aircraft must generate sufficient lift in order to take off, but higher temperatures result in lower air density, negatively impacting both wing lift and engine performance. Extreme higher temperatures may result in reduced aircraft takeoff performance at airports such as United's Denver hub, which already faces lower air density due to its high elevation, or require that runway and taxi surfaces require more frequent maintenance, which could result in lower airport capacity. Climate change may also result in lower extreme temperatures at the airports United serves. Extreme low temperatures can result in an increased viscosity in jet fuel, resulting in a much lower flow when fueling the aircraft. In 2019, an extreme polar vortex in the Midwest impacted United's Chicago hub operations, which created extreme delays in aircraft fueling, impacting service and operations by necessitating normally nonstop international flights make fueling stops in other cities. Recurring extreme winters such as this may result in having to alter flight schedules. Additionally, climate change may result in changes in wind patterns at airports, which may result in a reduction in landing capacity. In addition, en route winds may strengthen, which may make it more difficult to ensure an on-time operation. All of these could increase the number of delays and cancellations and could result in an increase in United's operating costs and/or a disruption to United's services, possibly impacting the company's revenue and/or demand for its services.

**Time horizon**

Long-term

**Likelihood**

More likely than not

**Magnitude of impact**
Medium-low
**Are you able to provide a potential financial impact figure?**
Yes, a single figure estimate
**Potential financial impact figure (currency)**
12800000
**Potential financial impact figure – minimum (currency)**
<Not Applicable>
**Potential financial impact figure – maximum (currency)**
<Not Applicable>
**Explanation of financial impact figure**
The Federal Aviation Administration estimates that flight delays cost U.S. airlines $6.4 billion in 2017. This figure assumes that 20% of the 2017 cost accrued to United, and that these costs would increase by 1%. This figure is only for demonstrative purposes of how one could start to estimate the potential financial impact, and should not be construed as an accurate projection of United's future financial impact. Airlines for America estimates that the direct operating cost of an en route delay is $68 per minute, implying an approximately $4,100 cost for a 60-minute en route delay. The financial implications for cancellations due to extreme weather events are expected to be even higher.
**Cost of response to risk**
100000
**Description of response and explanation of cost calculation**
United constantly evaluates and responds to weather-related events. In 2016, the company increased the amount of out-and-back flying (flying that begins at a hub, travels to another airport, and returns directly back to the hub). At the beginning of 2016, United increased flying in this pattern from approximately 35% of flights to approximately 70%. In addition to reducing operational complexity, this helps isolate the impact of weather- and Air Traffic Control-related events to that hub, while mitigating the impact on other hubs. United is also constantly focused on improving its aircraft performance, both through its own internal efforts and in conjunction with its suppliers and partners. United is also constantly working with local airport authorities to ensure adequate airport runway capacity and operating capabilities. These risks have been considered for all geographic areas where United operates. As the science continues to evolve, United will continue to evaluate the long-term impact on its business. United maintains a seasoned team that works closely with airport and flight operations to manage its operations during severe events. Managing airport and flight operations and improved aircraft performance have long been embedded into United's business strategy, so they are considered fundamental costs of doing business. The cost of management presented here represents the approximate cost of 100% of one employee's time to monitor this risk.
**Comment**

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**Identifier**
Risk 5
**Where in the value chain does the risk driver occur?**
Upstream
**Risk type & Primary climate-related risk driver**

| | |
|---|---|
| Chronic physical | Changes in precipitation patterns and extreme variability in weather patterns |

**Primary potential financial impact**
Decreased revenues due to reduced production capacity
**Climate risk type mapped to traditional financial services industry risk classification**
<Not Applicable>
**Company-specific description**

Climate change may impact the frequency and severity of high intensity weather events, causing temporary shutdowns of production and refining capacity and thereby at times affecting fuel suppliers' ability to provide fuel to the airports United serves. This could disrupt United's ability to operate flights. Following Hurricane Harvey in 2017, several Gulf Coast refineries and the Colonial Pipeline temporarily suspended operations, disrupting fuel supply for several days.

**Time horizon**

Medium-term

**Likelihood**

More likely than not

**Magnitude of impact**

Medium-low

**Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

**Potential financial impact figure (currency)**

12800000

**Potential financial impact figure – minimum (currency)**

<Not Applicable>

**Potential financial impact figure – maximum (currency)**

<Not Applicable>

**Explanation of financial impact figure**

The Federal Aviation Administration estimates that flight delays cost U.S. airlines $6.4 billion in 2017. This figure assumes that 20% of the 2017 cost accrued to United, and that these costs would increase by 1%. This figure is only for demonstrative purposes of how one could start to estimate the potential financial impact, and should not be construed as an accurate projection of United's future financial impact. Airlines for America estimates that the direct operating cost of an en route delay is $68 per minute, implying an approximately $4,100 cost for a 60-minute en route delay. The financial implications for cancellations due to extreme weather events are expected to be even higher.

**Cost of response to risk**

100000

**Description of response and explanation of cost calculation**

To ensure adequate supplies of fuel, United arranges to have fuel shipped on major pipelines and stored close to its hubs. United is also investing in the development of sustainable aviation fuel (SAF), which may reduce the risk of disruption over the long term by procuring additional fuel sources in addition to reducing GHG emissions. United has made the largest investments by an airline in SAF development through its purchase agreement with World Energy and its $30 million equity investment and long-term supply agreement with Fulcrum BioEnergy for 90 million gallons of SAF per year for a minimum of 10 years, but this supply has not yet begun. In 2019, United also made an additional $40 million commitment toward a new investment vehicle focused on accelerating the development of SAF and other decarbonization technologies. These risks have been considered for all geographic areas in which United operates. As the science continues to evolve, United will continue to evaluate the long-term impact on its business. United maintains a seasoned team that works closely with airport and flight operations to manage its operations during severe events. Ensuring a stable fuel supply has long been embedded into United's business strategy, so it is considered a fundamental cost of doing business. The cost of management presented here represents the approximate cost of 100% of one employee's time to monitor this risk.

**Comment**

---

**Identifier**

Risk 6

**Where in the value chain does the risk driver occur?**

Direct operations

## Risk type & Primary climate-related risk driver

| | |
|---|---|
| Emerging regulation | Mandates on and regulation of existing products and services |

## Primary potential financial impact

Increased direct costs

## Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

## Company-specific description

Climate change-related regulations on fuel or mandates to purchase sustainable aviation fuel (SAF), like that proposed in Sweden in 2019, could cause the price of fuel to rise and increase the company's operational costs. Jet fuel consumption is United's second largest cost, so any increase in fuel prices due to regulations is expected to cause operational costs to rise.

## Time horizon

Medium-term

## Likelihood

Very likely

## Magnitude of impact

Medium-high

## Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

## Potential financial impact figure (currency)

89530000

## Potential financial impact figure – minimum (currency)

<Not Applicable>

## Potential financial impact figure – maximum (currency)

<Not Applicable>

## Explanation of financial impact figure

This figure assumes a 1% increase in United's fuel expense, which was $9.0 billion in 2019. This figure is only for demonstrative purposes of how one could start to estimate the potential financial impact, and should not be construed as an accurate projection of United's future financial impact. The financial implications cannot be estimated at this time due to the lack of certainty around the policy actions of numerous countries. The financial impacts to United include the potential for increased fuel costs, carbon taxes or fees, and/or a requirement to purchase carbon instruments.

## Cost of response to risk

70000000

## Description of response and explanation of cost calculation

For new GHG regulations United seeks to determine the most effective levers for managing the risk. This could mean reducing the company's GHG emissions by investing in new technology and aircraft, participating in carbon markets, investing in and consuming SAF, or factoring this incremental cost into the company's pricing and revenue models. United continues to actively invest in more fuel-efficient technologies and aircraft. In 2019 United took delivery of 8 additional Boeing 787-10 aircraft, which offer substantially reduced fuel consumption and GHG emissions. United also took delivery of 5 fuel-efficient 737 MAX 9 aircraft in 2019, prior to the March 2019 FAA order prohibiting the operation of Boeing 737 MAX series aircraft by U.S. certified operators. Since 2013 United has had a long-term mainline upgauging initiative; replacing smaller aircraft with fewer flights on larger aircraft generally results in even higher fuel efficiency benefits than just replacing aircraft with newer generation aircraft. United has made the largest investments by an airline in SAF development through its purchase agreement with World Energy and its $30 million equity investment and long-term supply agreement with Fulcrum BioEnergy for 90 million gallons of SAF per year for a minimum of 10 years, but this supply has not yet begun. In 2019, United also made an additional $40 million commitment toward a new investment vehicle focused on accelerating the development of SAF and other decarbonization technologies.

## Comment

### Identifier
Risk 7
### Where in the value chain does the risk driver occur?
Downstream
### Risk type & Primary climate-related risk driver

| | |
|---|---|
| Chronic physical | Rising sea levels |

### Primary potential financial impact
Decreased revenues due to reduced demand for products and services
### Climate risk type mapped to traditional financial services industry risk classification
<Not Applicable>
### Company-specific description
Climate change may result in higher sea levels, which could adversely impact some of United's key markets located in coastal areas or island destinations the company serves. For example, United serves the Marshall Islands, which at a maximum elevation of six feet above sea level, could be adversely impacted if sea levels rise. Climate change may require adaptation costs to ensure future airport runway capacity and operating capabilities, and could also change customer travel patterns, which could impact United's future revenue.
### Time horizon
Long-term
### Likelihood
More likely than not
### Magnitude of impact
Medium-low
### Are you able to provide a potential financial impact figure?
Yes, a single figure estimate
### Potential financial impact figure (currency)
43259000
### Potential financial impact figure – minimum (currency)
<Not Applicable>
### Potential financial impact figure – maximum (currency)
<Not Applicable>
### Explanation of financial impact figure
This figure assumes a 0.1% reduction in revenue, which was $43.3 billion in 2019. This figure is only for demonstrative purposes of how one could start to estimate the potential financial impact, and should not be construed as an accurate projection of United's future financial impact. The financial implications cannot be estimated at this time due to lack of certainty around how populations and economies would adapt to climate change.
### Cost of response to risk
100000
### Description of response and explanation of cost calculation
United is constantly working with local airport authorities to ensure airport runway capacity and operating capabilities. United maintains a seasoned team that works closely with airport and flight operations to manage its operations during severe events. These risks have been considered for all geographic areas in which United operates. As the science continues to evolve, United will continue to evaluate the long-term impact on its business. Managing airport affairs and operations have long been embedded into United's business strategy, so they are considered fundamental costs of doing business. The cost of management presented here represents the approximate cost of 100% of one employee's time to monitor this risk.

## Comment

### Identifier
Risk 8
### Where in the value chain does the risk driver occur?
Direct operations
### Risk type & Primary climate-related risk driver

| | |
|---|---|
| Market | Changing customer behavior |

### Primary potential financial impact
Other, please specify (Increased cost of operations leading to reduced customer demand)
### Climate risk type mapped to traditional financial services industry risk classification
<Not Applicable>
### Company-specific description
A passenger carbon tax could cause ticket prices to increase and make it less affordable for passengers to travel. This may impact demand for United's services and possibly impact the company's revenue.
### Time horizon
Medium-term
### Likelihood
More likely than not
### Magnitude of impact
Medium-high
### Are you able to provide a potential financial impact figure?
Yes, a single figure estimate
### Potential financial impact figure (currency)
89530000
### Potential financial impact figure – minimum (currency)
<Not Applicable>
### Potential financial impact figure – maximum (currency)
<Not Applicable>
### Explanation of financial impact figure
This figure assumes a 1% increase in United's fuel expense, which was $9.0 billion in 2019. This figure is only for demonstrative purposes of how one could start to estimate the potential financial impact, and should not be construed as an accurate projection of United's future financial impact. The financial implications cannot be estimated at this time due to the lack of certainty around the policy actions of numerous countries. The financial impacts to United include the potential for increased fuel costs, carbon taxes or fees, and/or a requirement to purchase carbon instruments.
### Cost of response to risk
70000000
### Description of response and explanation of cost calculation
For new GHG regulations, United seeks to determine the most effective levers for managing the risk, which could mean reducing the company's GHG emissions by investing in new technology and aircraft, participating in carbon markets, investing in and consuming sustainable aviation fuel (SAF), or factoring this incremental cost into the company's pricing and revenue models. In addition to ICAO's adoption of the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) in 2016, United believes that CORSIA is just one of a basket of measures needed to achieve carbon-neutral growth from 2020 (an industry climate goal) and reduce the airline industry's GHG emissions. Despite the adoption of CORSIA, the airline industry remains exposed to the re-introduction of EU ETS and other similar existing or future inconsistent requirements in other countries, likely creating greater expenses and complexity without corresponding environmental benefits. United continues to actively invest in more fuel-efficient technologies and aircraft. In addition, United has made the largest investments by an airline in SAF

development through its purchase agreement with World Energy and its $30 million equity investment and long-term supply agreement with Fulcrum BioEnergy for 90 million gallons of SAF per year for a minimum of 10 years, but this supply has not yet begun. In 2019, United also made an additional $40 million commitment toward a new investment vehicle focused on accelerating the development of SAF and other decarbonization technologies.

**Comment**

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**Identifier**

Risk 9

**Where in the value chain does the risk driver occur?**

Direct operations

**Risk type & Primary climate-related risk driver**

| | |
|---|---|
| Emerging regulation | Carbon pricing mechanisms |

**Primary potential financial impact**

Increased indirect (operating) costs

**Climate risk type mapped to traditional financial services industry risk classification**

<Not Applicable>

**Company-specific description**

In 2013, California launched a greenhouse gas cap-and-trade program. United's San Francisco Maintenance Center, which once triggered compliance obligations under this program, could re-enter the compliance program due to its on-site stationary combustion emissions. This could increase the company's operating costs due to emission reduction requirements.

**Time horizon**

Short-term

**Likelihood**

Likely

**Magnitude of impact**

Low

**Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

**Potential financial impact figure (currency)**

0

**Potential financial impact figure – minimum (currency)**

<Not Applicable>

**Potential financial impact figure – maximum (currency)**

<Not Applicable>

**Explanation of financial impact figure**

United's compliance obligation under California's Greenhouse Gas Cap-and-Trade Program is currently $0, due to three consecutive years of demonstrating verified covered GHG emissions below the regulatory threshold of 25,000 metric tons.

**Cost of response to risk**

10000

**Description of response and explanation of cost calculation**

For new GHG regulations, United seeks to determine the most effective levers for managing the risk, which could mean reducing the company's GHG emissions by investing in new technology, improving facility maintenance infrastructure and procedures, participating in carbon markets, or factoring this incremental cost into the company's pricing and revenue models. United has been subject to California's Greenhouse Cap-and-Trade Program since 2012 due to stationary combustion sources operated at the company's San Francisco Maintenance Center. In 2017, United demonstrated a third consecutive year, within a triennial compliance period, of verified covered GHG emissions below the California Cap-and-

Trade threshold of 25,000 metric tons. This qualified United to opt out of the compliance program. Rather than leaving the program entirely, United is now a Voluntarily Associated Entity, which allows it to purchase, hold, sell, or retire allowances or ARB offset credits without future year compliance obligations. United's verified emissions continue to be below 25,000 metric tons, with emissions of 23,911 metric tons in 2019. The cost of management presented here represents the approximate cost of 10% of one employee's time to manage this risk.

**Comment**

---

**Identifier**

Risk 10

**Where in the value chain does the risk driver occur?**

Downstream

**Risk type & Primary climate-related risk driver**

| | |
|---|---|
| Reputation | Shifts in consumer preferences |

**Primary potential financial impact**

Decreased revenues due to reduced demand for products and services

**Climate risk type mapped to traditional financial services industry risk classification**

<Not Applicable>

**Company-specific description**

United monitors public opinion and investor interest in climate change, and the perceptions of its stakeholders regarding airlines' impact on the climate. United understands that climate change is increasingly attracting public and political attention worldwide. As a result, United recognizes the importance of addressing these concerns and communicating with the company's stakeholders—customers, employees, shareholders, and communities—to raise awareness and provide updates on the company's environmental efforts. If stakeholder perceptions negatively influence consumer choice and loyalty, this could reduce demand for United's services and possibly impact the company's revenue. While customer surveys have shown that mitigating GHG emissions is customers' top environmental concern of United, United has not identified any shifts in consumer preferences at this time.

**Time horizon**

Medium-term

**Likelihood**

More likely than not

**Magnitude of impact**

Medium

**Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

**Potential financial impact figure (currency)**

43259000

**Potential financial impact figure – minimum (currency)**

<Not Applicable>

**Potential financial impact figure – maximum (currency)**

<Not Applicable>

**Explanation of financial impact figure**

This figure assumes a 0.1% reduction in revenue, which was $43.3 billion in 2019. This figure is only for demonstrative purposes of how one could start to estimate the potential financial impact, and should not be construed as an accurate projection of United's future financial impact. The financial implications cannot be estimated at this time due to lack of certainty around the degree to which stakeholder perceptions are affecting consumer choice and loyalty.

**Cost of response to risk**

100000

**Description of response and explanation of cost calculation**

United focuses on enhancing and improving its climate programs to reduce the company's impact on the environment. United is committed to pursuing reductions in fuel consumption including, but not limited to, improvements in aircraft fuel efficiency. In the short term, United is pursuing a number of fuel efficiency measures. In the long term, United has taken a leading role in developing the market for sustainable aviation fuel. United also mitigates its impact on climate change through investments in its aircraft fleet. Second, utilizing proprietary channels such as the company's corporate responsibility report, corporate website, the Flying Together employee intranet, and Hemispheres inflight magazine, United shares information with its customers, employees, shareholders, and communities to inform them of the activities that the company is undertaking to reduce its impact on the environment. In 2012, 2014, and 2020 United undertook materiality assessments to better understand the environmental issues and impacts that concern United's stakeholders, with climate-related issues ranking high in terms of stakeholder interests. Improved fuel efficiency and aircraft performance, reputation management, and communications have long been embedded into United's business strategy, so they are considered fundamental costs of doing business. The cost of management presented here represents the approximate cost of 100% of one employee's time to monitor this risk.

**Comment**

---

**Identifier**

Risk 11

**Where in the value chain does the risk driver occur?**

Downstream

**Risk type & Primary climate-related risk driver**

| | |
|---|---|
| Reputation | Shifts in consumer preferences |

**Primary potential financial impact**

Decreased revenues due to reduced demand for products and services

**Climate risk type mapped to traditional financial services industry risk classification**

<Not Applicable>

**Company-specific description**

Climate change may result in population relocation away from coastal areas, where some of United's markets are located, like United's hubs in Houston, Los Angeles, New York/Newark, and San Francisco. In addition, climate change may result in changes in economic prosperity at the local, national, or global level. Both of these may result in shifts in demand across markets, which would have an uncertain impact on customer travel patterns and may impact the company's revenue. While customer surveys have shown that mitigating GHG emissions is customers' top environmental concern of United, United has not identified any shifts in consumer preferences at this time. Approximately 36% of United's 2019 capacity departed from these hubs in 2019.

**Time horizon**

Medium-term

**Likelihood**

About as likely as not

**Magnitude of impact**

Medium

**Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

**Potential financial impact figure (currency)**

43259000

**Potential financial impact figure – minimum (currency)**

<Not Applicable>

**Potential financial impact figure – maximum (currency)**

<Not Applicable>

**Explanation of financial impact figure**

This figure assumes a 0.1% reduction in revenue, which was $43.3 billion in 2019. This figure is only for demonstrative purposes of how one could start to estimate the potential financial impact, and should not be construed as an accurate projection of United's future financial impact. The financial implications cannot be estimated at this time due to lack of certainty around how populations and economies would adapt to climate change.

**Cost of response to risk**

100000

**Description of response and explanation of cost calculation**

United evaluates changes in market demand on an ongoing basis. Many of the company's markets have grown at different rates over time, and United may shift capacity by allocating different numbers of flights and adjusting aircraft size as appropriate to meet market demand. For example, United concentrates its aircraft heavy maintenance, aircraft modification, and recurrent training for flight crews in the winter, when demand is lower, in order to have aircraft and flight crews fully available in summer, when demand is higher. Similarly, United reallocates its larger international aircraft between European and South American markets based on season; European demand peaks in the Northern Hemisphere summer, while South American demand peaks in the Northern Hemisphere winter. These risks have been considered for all geographic areas in which United operates. As the science continues to evolve, United will continue to evaluate the long-term impact on its business. Network planning has long been embedded into United's business strategy, so it is considered a fundamental cost of doing business. The cost of management presented here represents the approximate cost of 100% of one employee's time to monitor this risk.

**Comment**

## C2.4

**(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?**

Yes

## C2.4a

**(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.**

**Identifier**

Opp1

**Where in the value chain does the opportunity occur?**

Direct operations

**Opportunity type**

Energy source

**Primary climate-related opportunity driver**

Use of lower-emission sources of energy

**Primary potential financial impact**

Reduced indirect (operating) costs

**Company-specific description**

United's $30 million investment in sustainable aviation fuel (SAF) not only reduces the company's GHG emissions, but also has the potential to hedge against future oil price volatility and potential future regulatory carbon pricing.

**Time horizon**

Medium-term

**Likelihood**
More likely than not
**Magnitude of impact**
Medium-high
**Are you able to provide a potential financial impact figure?**
Yes, a single figure estimate
**Potential financial impact figure (currency)**
89530000
**Potential financial impact figure – minimum (currency)**
<Not Applicable>
**Potential financial impact figure – maximum (currency)**
<Not Applicable>
**Explanation of financial impact figure**
This figure assumes a 1% decrease in United's fuel expense, which was $9.0 billion in 2019. This figure is only for demonstrative purposes of how one could start to estimate the potential financial impact, and should not be construed as an accurate projection of United's future financial impact. The financial implications cannot be estimated at this time due to the lack of certainty around the policy actions of numerous countries, future oil prices, and the future availability and costs of SAF.
**Cost to realize opportunity**
70000000
**Strategy to realize opportunity and explanation of cost calculation**
As a leader in advancing the SAF market, United is actively working with strategic partners to generate SAF capable of reducing the company's GHG emissions and providing energy diversification. United is vertically integrating into the biofuel supply chain and production because it believes SAF represents an important pathway for the airline industry to reduce its dependence on traditional fossil fuels, lower its emissions, enhance national security, and support economic growth. In 2015, United made a $30 million equity investment in Fulcrum BioEnergy, whose biofuel is to be derived from municipal solid waste and is expected to have a greater than 80% reduction in lifecycle GHG emissions as compared to traditional jet fuel. United has a long-term supply agreement with Fulcrum for 90 million gallons of SAF per year for a minimum of 10 years, but this supply has not yet begun. In 2019, United also made an additional $40 million commitment toward a new investment vehicle focused on accelerating the development of SAF and other decarbonization technologies.
**Comment**

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**Identifier**
Opp2
**Where in the value chain does the opportunity occur?**
Direct operations
**Opportunity type**
Products and services
**Primary climate-related opportunity driver**
Shift in consumer preferences
**Primary potential financial impact**
Increased revenues resulting from increased demand for products and services
**Company-specific description**
United's CarbonChoice program allows participating corporate customers to receive customized enterprise-level GHG emissions reports specific to their travel on United. Regulations that require businesses to report their Scope 3 emissions could result in an increased demand for this service. In addition, because United has historically had better fuel efficiency than its largest competitors, the company may have opportunities to enhance its customer relationships with corporate customers who value lower Scope 3 emissions from travel.

**Time horizon**
Medium-term
**Likelihood**
About as likely as not
**Magnitude of impact**
Medium
**Are you able to provide a potential financial impact figure?**
Yes, a single figure estimate
**Potential financial impact figure (currency)**
43259000
**Potential financial impact figure – minimum (currency)**
<Not Applicable>
**Potential financial impact figure – maximum (currency)**
<Not Applicable>
**Explanation of financial impact figure**
This figure assumes a 0.1% increase in revenue, which was $43.3 billion in 2019. This figure is only for demonstrative purposes of how one could start to estimate the potential financial impact, and should not be construed as an accurate projection of United's future financial impact. The financial implications cannot be estimated at this time due to lack of certainty around the degree to which this program leads to increased corporate customer loyalty.
**Cost to realize opportunity**
10000
**Strategy to realize opportunity and explanation of cost calculation**
Since 2007,United has offered its passengers and cargo customers the ability to offset GHG emissions associated with their air travel through the company's CarbonChoice offset program. In 2019, this program removed involved intermediaries and launched as a formal partnership between United and Conservation International, the project developer for these offsets. United's CO2 calculator is based on actual routes, aircraft used, load factors, and fuel consumption. Corporate customers can receive customized GHG emissions reports and can purchase offsets to counterbalance the GHG emissions associated with their transportation, effectively allowing them to travel and ship carbon-neutral on United. Conservation International's projects are also designed to provide social and economic benefits to communities where those projects are located. The cost of management presented here represents the approximate cost of 10% of one employee's time to manage this opportunity.
**Comment**

---

**Identifier**
Opp3
**Where in the value chain does the opportunity occur?**
Direct operations
**Opportunity type**
Energy source
**Primary climate-related opportunity driver**
Use of lower-emission sources of energy
**Primary potential financial impact**
Reduced indirect (operating) costs
**Company-specific description**
In 2019, United committed $40 million toward a new investment vehicle focused on accelerating the development of sustainable aviation fuel (SAF) and other decarbonization technologies. SAF not only reduces the company's GHG emissions, but also has the potential to hedge against future oil price volatility and potential future regulatory carbon pricing.
**Time horizon**

Medium-term

**Likelihood**

More likely than not

**Magnitude of impact**

Medium-high

**Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

**Potential financial impact figure (currency)**

8953000

**Potential financial impact figure – minimum (currency)**

<Not Applicable>

**Potential financial impact figure – maximum (currency)**

<Not Applicable>

**Explanation of financial impact figure**

This figure assumes a 1% decrease in United's fuel expense, which was $9.0 billion in 2019. This figure is only for demonstrative purposes of how one could start to estimate the potential financial impact and should not be construed as an accurate projection of United's future financial impact. The financial implications cannot be estimated at this time due to the lack of certainty around the policy actions of numerous countries, future oil prices, and the future availability and costs of SAF.

**Cost to realize opportunity**

40000000

**Strategy to realize opportunity and explanation of cost calculation**

As a leader in advancing the SAF market, United is actively working with strategic partners to generate SAF capable of reducing the company's GHG emissions and providing energy diversification. SAF currently represents an important pathway for the airline industry to reduce its dependence on traditional fossil fuels, lower its emissions, enhance national security, and support economic growth, but there is recognition that research and development is also crucial to making way for future technology breakthroughs that may decarbonize aviation in a more efficient or cost-effective way. In 2019, United made an additional $40 million commitment toward a new investment vehicle focused on accelerating the development of SAF and other decarbonization technologies. This was done because the SAF market needs stimulation to achieve a state where there is commercially viable supply at the large volumes required to decarbonize.

**Comment**

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**Identifier**

Opp4

**Where in the value chain does the opportunity occur?**

Direct operations

**Opportunity type**

Resilience

**Primary climate-related opportunity driver**

Participation in renewable energy programs and adoption of energy-efficiency measures

**Primary potential financial impact**

Reduced indirect (operating) costs

**Company-specific description**

United believes air traffic control (ATC) reform is necessary to expedite and ensure the efficient modernization of the U.S. ATC system and ATC systems globally. The airline industry's proposals to separate the U.S. ATC function from the federal government and move it to a newly created not-for-profit organization as well as modernize global ATC systems may also help advance the timeline for the airline industry to meet its GHG emissions goals.

**Time horizon**

Medium-term

**Likelihood**

About as likely as not

**Magnitude of impact**

High

**Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

**Potential financial impact figure (currency)**

10280000000

**Potential financial impact figure – minimum (currency)**

<Not Applicable>

**Potential financial impact figure – maximum (currency)**

<Not Applicable>

**Explanation of financial impact figure**

In 2015 the Federal Aviation Administration estimated that FAA's Next Generation Air Transportation System (NextGen ATC) would provide airlines with $51.4 billion in cost savings from 2013 to 2030. This figure assumes that 20% of these benefits accrue to United. This figure is only for demonstrative purposes of how one could start to estimate the potential financial impact and should not be construed as an accurate projection of United's future financial impact.

**Cost to realize opportunity**

100000

**Strategy to realize opportunity and explanation of cost calculation**

United is working closely with its industry trade organizations, Airlines for America, the International Air Transport Association, and the Air Transport Action Group, to develop and implement new technologies (including sustainable aviation fuel) to increase fuel and operational efficiencies, to improve ATC systems and infrastructure, and to advocate for supportive government policies and investment. This work includes fully implementing the NextGen ATC, which would transform the U.S. air traffic control system from a radar-based system with radio communication to a satellite-based system. GPS technology would be used to shorten routes, save time and fuel, reduce air traffic delays, and permit controllers to monitor and manage aircraft with greater safety margins. United and its trade organizations also continue to advocate for modernization of the ATC system in the EU and other international regions, due to the environmental benefits and associated cost savings. Supporting technology innovation and air traffic management have long been embedded into United's business strategy, so they are considered fundamental costs of doing business. The cost of management presented here represents the approximate cost of 100% of one employee's time to manage this opportunity.

**Comment**

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**Identifier**

Opp5

**Where in the value chain does the opportunity occur?**

Direct operations

**Opportunity type**

Resource efficiency

**Primary climate-related opportunity driver**

Other, please specify (Use of more fuel-efficient aircraft)

**Primary potential financial impact**

Reduced indirect (operating) costs

**Company-specific description**

In 2016 ICAO adopted an aircraft CO2 efficiency standard. The standard is expected to apply to new aircraft type designs from 2020, and to in-production aircraft type designs beginning in 2023. Those in-production aircraft which by 2028 do not meet the standard are expected to no longer be able to be

produced unless their designs are sufficiently modified. In 2020 the EPA proposed a federal aircraft CO2 efficiency standard that mirrored the ICAO standard, codifying the requirement into U.S. law. The adoption of the standard may shorten the lifespan of future aircraft designs and require United to replace its fleet more frequently with newer and more fuel-efficient models, which could reduce the company's fuel costs.

**Time horizon**

Medium-term

**Likelihood**

Very likely

**Magnitude of impact**

Medium-high

**Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

**Potential financial impact figure (currency)**

8953000

**Potential financial impact figure – minimum (currency)**

<Not Applicable>

**Potential financial impact figure – maximum (currency)**

<Not Applicable>

**Explanation of financial impact figure**

This figure assumes a 1% decrease in United's fuel expense, which was $9.0 billion in 2019. This figure is only for demonstrative purposes of how one could start to estimate the potential financial impact, and should not be construed as an accurate projection of United's future financial impact. The financial implications cannot be estimated at this time due to lack of certainty around the degree to which the aircraft CO2 efficiency standard would alter the pre-existing rate of aircraft efficiency improvements.

**Cost to realize opportunity**

100000

**Strategy to realize opportunity and explanation of cost calculation**

United, through both Airlines for America and the International Air Transport Association, supported and participated in the ICAO technical review that led to ICAO's adoption of the aircraft CO2 efficiency standard in 2016. United believes that new technology is just one of a basket of measures to achieve carbon-neutral growth from 2020 (an industry climate goal) and reduce the airline industry's GHG emissions to meet a 50% reduction by 2050. United continues to actively invest in more fuel-efficient technologies and aircraft. In 2019, United took delivery of 8 additional Boeing 787-10 aircraft, which offer substantially reduced fuel consumption and GHG emissions. United also took delivery of 5 fuel-efficient 737 MAX 9 aircraft in 2019, prior to the March 2019 FAA order prohibiting the operation of Boeing 737 MAX series aircraft by U.S. certified operators. Since 2013 United has had a long-term mainline upgauging initiative; replacing smaller aircraft with fewer flights on larger aircraft generally results in even higher fuel efficiency benefits than just replacing aircraft with newer generation aircraft. Monitoring new regulations and renewing the aircraft fleet have long been embedded into United's business strategy, so they are considered fundamental costs of doing business rather than incremental cost drivers. The cost of management presented here represents the approximate cost of 100% of one employee's time to manage this opportunity.

**Comment**

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**Identifier**

Opp6

**Where in the value chain does the opportunity occur?**

Direct operations

**Opportunity type**

Resource efficiency

**Primary climate-related opportunity driver**
Other, please specify (Reduced utility and materials cost)
**Primary potential financial impact**
Reduced indirect (operating) costs
**Company-specific description**
As the climate changes, some regions may experience an increase in average temperatures. Those regions that previously required high levels of fuel or electricity for heating may see reductions in the energy associated with keeping buildings and aircraft warm in the winter. United is required to deice its aircraft when there is precipitation in sub-freezing weather, which is costly in terms of acquiring deicing fluid, maintaining the specialized equipment, and reducing the efficiency of the company's operation. As a result of temperature increases, costs for heating, deicing aircraft, and costs associated with the resulting operational impact may be reduced.
**Time horizon**
Long-term
**Likelihood**
More likely than not
**Magnitude of impact**
Medium-low
**Are you able to provide a potential financial impact figure?**
Yes, a single figure estimate
**Potential financial impact figure (currency)**
12800000
**Potential financial impact figure – minimum (currency)**
<Not Applicable>
**Potential financial impact figure – maximum (currency)**
<Not Applicable>
**Explanation of financial impact figure**
The Federal Aviation Administration estimates that flight delays cost U.S. airlines $6.4 billion in 2017. This figure assumes that 20% of the 2017 cost accrued to United, and that these costs would increase by 1%. This figure is only for demonstrative purposes of how one could start to estimate the potential financial impact, and should not be construed as an accurate projection of United's future financial impact. Airlines for America estimates that the direct operating cost of an en route delay is $68 per minute, implying an approximately $4,100 cost for a 60-minute en route delay. The financial implications for cancellations due to extreme weather events are expected to be even higher. The financial implications cannot be estimated at this time due to lack of certainty around the daily distribution of temperature changes.
**Cost to realize opportunity**
100000
**Strategy to realize opportunity and explanation of cost calculation**
United is constantly working with local airport authorities to ensure airport runway capacity and operating capabilities. United maintains a seasoned team that works closely with airport and flight operations to manage its operations during severe events. These risks and opportunities have been considered for all geographic areas in which United operates. As the science continues to evolve, United will continue to evaluate the long-term impact on its business. Managing airport and flight operations have long been embedded into United's business strategy, so they are considered fundamental costs of doing business rather than incremental cost drivers. The cost of management presented here represents the approximate cost of 100% of one employee's time to manage this opportunity.
**Comment**

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**Identifier**
Opp7

**Where in the value chain does the opportunity occur?**
Downstream
**Opportunity type**
Products and services
**Primary climate-related opportunity driver**
Shift in consumer preferences
**Primary potential financial impact**
Increased revenues resulting from increased demand for products and services
**Company-specific description**
Climate change may result in an increase in temperature extremes across regions. This could lead to an increased demand for travel as customers in affected regions seek to spend their leisure time in more temperate climates.
**Time horizon**
Long-term
**Likelihood**
About as likely as not
**Magnitude of impact**
Medium
**Are you able to provide a potential financial impact figure?**
Yes, a single figure estimate
**Potential financial impact figure (currency)**
43259000
**Potential financial impact figure – minimum (currency)**
<Not Applicable>
**Potential financial impact figure – maximum (currency)**
<Not Applicable>
**Explanation of financial impact figure**
This figure assumes a 0.1% increase in revenue, which was $43.3 billion in 2019. This figure is only for demonstrative purposes of how one could start to estimate the potential financial impact, and should not be construed as an accurate projection of United's future financial impact. The financial implications cannot be estimated at this time due to lack of certainty around how travel demand is expected to adapt to climate change.
**Cost to realize opportunity**
100000
**Strategy to realize opportunity and explanation of cost calculation**
United evaluates changes in market demand on an ongoing basis. Many of the company's markets have grown at different rates over time, so United shifts capacity by allocating different numbers of flights and adjusting aircraft size as appropriate to meet market demand. These risks have been considered for all geographic areas in which United operates. As the science continues to evolve, United will continue to evaluate the long-term impact on its business. Network planning has long been embedded into United's business strategy, so it is considered a fundamental cost of doing business rather than an incremental cost driver. The cost of management presented here represents the approximate cost of 100% of one employee's time to manage this opportunity.
**Comment**

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**Identifier**
Opp8
**Where in the value chain does the opportunity occur?**
Direct operations
**Opportunity type**
Markets

**Primary climate-related opportunity driver**
Other, please specify (Shift in consumer preferences)
**Primary potential financial impact**
Other, please specify (Better adapted to consumer preferences)
**Company-specific description**
By demonstrating the company's commitment to the environment, United conveys to its customers and partners that it values corporate social responsibility, which has the potential to create or enhance brand loyalty. United believes there is a growing correlation between an airline's efforts to reduce its environmental impact and airlines' consumer appeal, although it is difficult to quantify as many elements influence customer choice and perceptions. Active engagement in reducing United's environmental footprint represents an opportunity that could result in financial benefits should reputation and consumer choice be directly influenced by an airline's environmental impact.
**Time horizon**
Medium-term
**Likelihood**
More likely than not
**Magnitude of impact**
Medium
**Are you able to provide a potential financial impact figure?**
Yes, a single figure estimate
**Potential financial impact figure (currency)**
43259000
**Potential financial impact figure – minimum (currency)**
<Not Applicable>
**Potential financial impact figure – maximum (currency)**
<Not Applicable>
**Explanation of financial impact figure**
This figure assumes a 0.1% increase in revenue, which was $43.3 billion in 2019. This figure is only for demonstrative purposes of how one could start to estimate the potential financial impact, and should not be construed as an accurate projection of United's future financial impact. The financial implications cannot be estimated at this time due to lack of certainty around the degree to which stakeholder perceptions are affecting consumer choice and loyalty.
**Cost to realize opportunity**
100000
**Strategy to realize opportunity and explanation of cost calculation**
United is committed to pursuing reductions in fuel consumption including, but not limited to improvements in aircraft fuel efficiency. In the short term, United is pursuing a number of fuel efficiency measures. In the long term, United has taken a leading role in developing the market for sustainable aviation fuel. United also mitigates its impact on climate change through investments in its aircraft fleet. Using proprietary channels, such as the company's corporate responsibility report, corporate website, Flying Together employee intranet, and Hemispheres inflight magazine, United shares information with its customers, employees, shareholders, and communities to inform them about activities the company is undertaking to reduce its impact on the environment. In 2017, United added a GHG emissions component to its Global Performance Commitment. United committed to achieving lower GHG intensity than its two largest U.S.-based competitors each year, as measured by gross CO2e per available seat-mile. Not meeting this goal would result in compensation, in the form of United Services Funds, to eligible corporate accounts Improved fuel efficiency and aircraft performance, reputation management, and communications have long been embedded into United's business strategy, so they are considered fundamental costs of doing business rather than incremental cost drivers. The cost of management presented here represents the approximate cost of 100% of one employee's time to manage this opportunity.

### Comment

## C3. Business Strategy

## C3.1

### (C3.1) Have climate-related risks and opportunities influenced your organization's strategy and/or financial planning?

Yes, and we have developed a low-carbon transition plan

## C3.1a

### (C3.1a) Does your organization use climate-related scenario analysis to inform its strategy?

Yes, qualitative and quantitative

## C3.1b

### (C3.1b) Provide details of your organization's use of climate-related scenario analysis.

| Climate-related scenarios and models applied | Details |
|---|---|
| 2DS | United has been reviewing use of a 2º C scenario due to its applicability toward analyzing impacts specific to airlines, including GHG emissions measures that would increase United's fuel-related costs, physical impacts to United's operating environment, and changes in demand for air travel. This scenario has been selected because it is endorsed by the IPCC, International Energy Agency, and the COP21 agreement as being economically feasible and cost effective, while also limiting the impacts of climate change. Although recent IPCC estimates suggest that a 2º C increase will not be reached for several decades, United considers impacts on a shorter time horizon (e.g., up to 10 years) due to the high degree of uncertainty that has historically characterized the airline industry. To date, analysis using the 2º C scenario has focused primarily on cost impacts from market-based measures for GHG emissions and physical impacts to United's operating environment, because these are the most available to analyze. United's entire business has been considered as part of this analysis, with particular focus on fuel use, as 99% of United's Scope 1 and Scope 2 emissions result from jet fuel consumption. The analysis shows that coastal areas where some of United's markets are located—like United hubs in Houston, Los Angeles, New York/Newark, and San Francisco—could be impacted by climate change, due to sea-level rise and migrating population, the most. Approximately 70% of United's 2019 capacity departed or arrived from these hubs in 2019. United's analysis to date has indicated that an increase in United's fuel-related costs due to GHG emissions is possible but dependent on actions by policymakers. Risks of physical impacts to United's operating environment are mitigated by the fact that United has been adapting to such risks since the company's inception. These results have informed United's business strategy by indicating that United should continue its existing strategy of actively investing in more fuel-efficient technologies and aircraft, including investing in sustainable aviation fuel (SAF) through its purchase agreement with World Energy, and the company's equity investment in and long-term supply agreement with Fulcrum BioEnergy. The commitment to investment in SAF was further strengthened by the 2019 announcement that United was making an additional $40 million commitment toward a new investment vehicle focused on accelerating the development of SAF and other decarbonization technologies. This information directly influenced United's business strategy in 2018, when United became the first U.S. airline to publicly commit to reducing its own greenhouse gas emissions—50% by 2050 relative to 2005 levels. This pledge represents the equivalent of removing 4.5 million vehicles from the road each year, or the total number of cars in Los Angeles and New York City combined. In 2019, United took delivery of 8 additional Boeing 787-10 aircraft, which offer substantially reduced fuel consumption and GHG emissions. United also took delivery of 5 fuel-efficient 737 MAX 9 aircraft in 2019, prior to the March 2019 FAA order prohibiting the operation of Boeing 737 MAX series aircraft by U.S. certified operators. Since 2013 United has had a long-term mainline upgauging initiative; replacing smaller aircraft with fewer flights on larger aircraft generally results in even higher fuel efficiency benefits than just replacing aircraft with newer generation aircraft. |

## C3.1d

### (C3.1d) Describe where and how climate-related risks and opportunities have influenced your strategy.

| | Have climate-related risks and opportunities influenced your strategy in this area? | Description of influence |
|---|---|---|
| Products and services | Yes | Climate change has influenced United's business strategy through an environmental commitment that consists of four pillars, one of which addresses sustainable products and materials management. Given the risk posed by potential shifts in consumer preferences due to climate change, United has made the medium-term business decision to test and offer products that can respond to those shifts. In 2019, United flew the most eco-friendly commercial flight of its kind in the history of aviation: on the Flight for the Planet, United became the first known airline to demonstrate all of the following key actions on a single commercial flight: utilization of sustainable aviation fuel, zero cabin waste efforts, carbon offsetting, and operational efficiencies. Since 2007, United has also made the medium-term business decision to offer its passengers and cargo customers the ability to offset GHG emissions associated with their air travel through the company's CarbonChoice program. United's CO2 calculator is based on actual routes, aircraft used, load factors, and fuel consumption. Corporate customers can receive customized GHG emissions reports and can purchase offsets to counterbalance the GHG emissions associated with their transportation, effectively allowing them to travel and ship carbon-neutral on United. Conservation International's projects are also designed to provide social and economic benefits to communities where those projects are located. |
| Supply chain and/or value chain | Yes | United's climate strategy is focused on mitigating GHG emissions from its aircraft, as 99% of United's Scope 1 and Scope 2 emissions result from jet fuel consumption. As of December 31, 2019, United had $26.7 billion in capital commitments, which primarily relate to business decisions such as: the acquisition of aircraft, related spare engines, and aircraft improvements, but also includes other capital purchase commitments. The time horizon for most of these capital commitments is long-term, due to the useful lifetimes of aircraft. United has been the global launch customer for seventeen new aircraft types; each new generation of aircraft has a 15%-20% improvement in fuel efficiency. As of December 31, 2019, United had 304 mainline aircraft on order; these aircraft are expected to replace older, less efficient aircraft currently in service. United also operates a fleet of varied aircraft sizes, allowing it to align capacity and demand to optimally serve markets as demand in various markets shifts seasonally and over time, thereby reducing United's GHG emissions. |
| Investment in R&D | Yes | For transitional risks and opportunities such as emerging regulations, United has taken the long-term business decision to be an industry leader and develop the market for sustainable aviation fuel (SAF). In 2013, United executed a definitive three-year purchase agreement for up to 15 million gallons of SAF, and in 2016 integrated this fuel into its everyday operations at Los Angeles International Airport, and in 2019 renewed its purchase agreement to buy up to 10 million gallons over the next two years. In 2015, United made a $30 million equity investment in Fulcrum BioEnergy, whose fuel is to be derived from municipal solid waste and is expected to have a greater than 80% reduction in lifecycle GHG emissions. United has a long-term supply agreement with Fulcrum for 90 million gallons of sustainable aviation fuel per year for a minimum of 10 years, but this supply has not yet begun. In 2019, United also committed to investment in early research and technology development, and announced an additional $40 million commitment toward a new investment vehicle focused on accelerating the development of SAF and other decarbonization technologies. |
| Operations | Yes | Climate change's impact, in the short term, impacts United's operational strategy. Because United's business utilizes jet fuel and, as a result, is tied to the physical environment and GHG emissions, United recognizes the need to adapt its operations and in response to climate change, and to proactively develop appropriate responses to climate change. In order to maximize fuel efficiency, United's business decision to actively pursue an array of fuel efficiency measures include: optimizing flight procedures, maintaining aircraft for optimal fuel efficiency, reducing weight of items on board aircraft, reducing fuel consumption on the ground, and optimizing the network and schedule. Since 2013 United has had a long-term mainline upgauging initiative; replacing smaller aircraft with fewer flights on larger aircraft generally results in even higher fuel efficiency benefits than just replacing aircraft with newer generation aircraft. United has also found opportunities to address climate-related risks through its ground handling operations. In 2019, United partnered with ITW GSE to pilot the first electric ground power unit in North America, which will divert aircraft power from jet fuel-burning engines to electric ground power while on the ground. |

## C3.1e

### (C3.1e) Describe where and how climate-related risks and opportunities have influenced your financial planning.

| | Financial planning elements that have been influenced | Description of influence |
|---|---|---|
| Row 1 | Revenues<br>Direct costs<br>Indirect costs<br>Capital expenditures<br>Capital allocation<br>Acquisitions and divestments | United's climate strategy is focused on mitigating GHG emissions from its aircraft, as 99% of United's Scope 1 and Scope 2 emissions result from jet fuel consumption. For new GHG regulations United seeks to determine the most effective levers for managing the risk, which could include reducing the company's GHG emissions by further investing in new technology and aircraft over the next 2-10 years. As of December 31, 2019, United had $26.7 billion in capital commitments, which primarily relate to the acquisition of aircraft, related spare engines, and aircraft improvements, but also includes other capital purchase commitments; a 1% increase would result in $267 million in additional capital expenditures. United believes the magnitude of impact on financial planning processes around capital expenditures is low. For new GHG regulations, United seeks to determine the most effective levers for managing the risk, which could include factoring this incremental cost into the company's pricing and revenue models. Reputation impacts could also result in positive or negative impacts to United's revenue, which was $43.3 billion in 2019, over the next 2-10 years. Based on 2019 results, a 0.1% change to United's revenue is approximately $43.3 million per year. United believes the magnitude of impact on financial planning processes around revenues is low. Another lever for managing risk around new GHG regulations could include participating in carbon markets. ICAO and International Energy Agency forecasts estimate the cost to the airline industry of the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) in 2025 to be $1.5 billion under ICAO's Optimistic scenario (with Additional Low carbon price); a 1% exposure to such costs would increase United's operational costs by $15 million in 2025. Physical impacts could also result in impacts to United's fuel costs, which were $9.0 billion in 2019, or to United's operational performance over the next 10-30 years; an estimate from FAA figures suggest delay costs for United were as high as $1.3 billion in 2017 (FAA estimated $6.4 billion for all U.S. airlines × United's approximately 20% share of the U.S. domestic market); a 1% increase in such costs to United would result in $13 million in additional costs. United believes the magnitude of impact on financial planning processes around operating impacts is low. New GHG regulations could also factor into United further investing in sustainable aviation fuel (SAF) over the next 2-10 years. United continues to actively invest in more fuel-efficient technologies and aircraft. In addition, United has made the largest investments by an airline in sustainable aviation fuel development through its purchase agreement with World Energy and its $30 million equity investment and long-term supply agreement with Fulcrum BioEnergy, which was one of United's largest strategic investments in recent years. In 2019, United also made an additional $40 million commitment toward a new investment vehicle focused on accelerating the development of SAF and other decarbonization technologies. United believes the magnitude of impact on financial planning processes around acquisitions is medium. |

## C3.1f

### (C3.1f) Provide any additional information on how climate-related risks and opportunities have influenced your strategy and financial planning (optional).

# C4. Targets and performance

## C4.1

### (C4.1) Did you have an emissions target that was active in the reporting year?

Both absolute and intensity targets

## C4.1a

### (C4.1a) Provide details of your absolute emissions target(s) and progress made against those targets.

**Target reference number**

Abs 1

**Year target was set**
2018
**Target coverage**
Company-wide
**Scope(s) (or Scope 3 category)**
Scope 1+2 (location-based) +3 (upstream & downstream)
**Base year**
2005
**Covered emissions in base year (metric tons CO2e)**
42344563
**Covered emissions in base year as % of total base year emissions in selected Scope(s) (or Scope 3 category)**
100
**Target year**
2050
**Targeted reduction from base year (%)**
50
**Covered emissions in target year (metric tons CO2e) [auto-calculated]**
21172281.5
**Covered emissions in reporting year (metric tons CO2e)**
42079929
**% of target achieved [auto-calculated]**
1.24990780988813
**Target status in reporting year**
Underway
**Is this a science-based target?**
Yes, we consider this a science-based target, but this target has not been approved as science-based by the Science-Based Targets initiative
**Please explain (including target coverage)**
United is the first U.S. airline to publicly commit to reducing its own greenhouse gas emissions—50% by 2050 relative to 2005 levels. This pledge represents the equivalent of removing 4.5 million vehicles from the road each year, or the total number of cars in Los Angeles and New York City combined.

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**Target reference number**
Abs 2
**Year target was set**
2015
**Target coverage**
Company-wide
**Scope(s) (or Scope 3 category)**
Scope 1
**Base year**
2015
**Covered emissions in base year (metric tons CO2e)**
865546
**Covered emissions in base year as % of total base year emissions in selected Scope(s) (or Scope 3 category)**
2.8
**Target year**
2025
**Targeted reduction from base year (%)**

100
**Covered emissions in target year (metric tons CO2e) [auto-calculated]**
0
**Covered emissions in reporting year (metric tons CO2e)**
0
**% of target achieved [auto-calculated]**
100
**Target status in reporting year**
Underway
**Is this a science-based target?**
No, but we are reporting another target that is science-based
**Please explain (including target coverage)**
In 2015, United made a $30 million equity investment in Fulcrum BioEnergy, whose sustainable aviation fuel (SAF) is to be derived from municipal solid waste and is expected to have a greater than 80% reduction in lifecycle GHG emissions. United has a long-term supply agreement with Fulcrum for 90 million gallons of SAF per year for a minimum of 10 years, but this supply has not yet begun.

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**Target reference number**
Abs 3
**Year target was set**
2012
**Target coverage**
Site/facility
**Scope(s) (or Scope 3 category)**
Scope 1
**Base year**
2012
**Covered emissions in base year (metric tons CO2e)**
28213
**Covered emissions in base year as % of total base year emissions in selected Scope(s) (or Scope 3 category)**
0.09
**Target year**
2017
**Targeted reduction from base year (%)**
11
**Covered emissions in target year (metric tons CO2e) [auto-calculated]**
25109.57
**Covered emissions in reporting year (metric tons CO2e)**
23911
**% of target achieved [auto-calculated]**
138.620816322585
**Target status in reporting year**
Achieved
**Is this a science-based target?**
No, but we are reporting another target that is science-based
**Please explain (including target coverage)**
United has been subject to California's Greenhouse Cap-and-Trade Program since 2012 due to stationary combustion sources at the company's San Francisco Maintenance Center operations. In 2017, United demonstrated a third consecutive year, within a triennial compliance period, of verified covered GHG emissions below the California Cap-and-Trade threshold of 25,000 metric tons. This qualified United to

opt out of the compliance program. United's verified emissions continue to be below 25,000 metric tons, with emissions of 23,911 metric tons in 2019.

## C4.1b

**(C4.1b) Provide details of your emissions intensity target(s) and progress made against those target(s).**

**Target reference number**
Int 1

**Year target was set**
2009

**Target coverage**
Company-wide

**Scope(s) (or Scope 3 category)**
Scope 1

**Intensity metric**
Other, please specify (Metric tonnes CO2e per 1,000 revenue ton-miles)

**Base year**
2009

**Intensity figure in base year (metric tons CO2e per unit of activity)**
1.4185

**% of total base year emissions in selected Scope(s) (or Scope 3 category) covered by this intensity figure**
99.6

**Target year**
2020

**Targeted reduction from base year (%)**
15.32

**Intensity figure in target year (metric tons CO2e per unit of activity) [auto-calculated]**
1.2011858

**% change anticipated in absolute Scope 1+2 emissions**
2.5

**% change anticipated in absolute Scope 3 emissions**
0

**Intensity figure in reporting year (metric tons CO2e per unit of activity)**
1.2626

**% of target achieved [auto-calculated]**
71.7394445461917

**Target status in reporting year**
Underway

**Is this a science-based target?**
Yes, we consider this a science-based target, but this target has not been approved as science-based by the Science Based Targets initiative

**Please explain (including target coverage)**
United's goal of improving mainline fuel efficiency on a revenue ton-mile basis by 1.5% per year is consistent with IATA's fuel efficiency goal for airlines. The goals outlined by IATA also call for carbon-neutral growth starting in the year 2020, which is expected to mark the conclusion of this goal. This goal therefore covers the jet fuel component of United's Scope 1 emissions. In July 2019, the Transition Pathway Initiative (TPI) published a study analyzing the emissions intensity of the most carbon-intensive publicly traded companies. United was included in TPI's analysis of the airline industry and determined to be aligned with a below 2º C scenario; only 12% of the 160 companies received this distinction.

## C4.2

### (C4.2) Did you have any other climate-related targets that were active in the reporting year?

No other climate-related targets

## C4.3

### (C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.

Yes

## C4.3a

### (C4.3a) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO2e savings.

| | Number of initiatives | Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *) |
|---|---|---|
| Under investigation | 23 | |
| To be implemented* | 1 | 692437 |
| Implementation commenced* | 23 | 1975929 |
| Implemented* | 22 | 59137628 |
| Not to be implemented | 0 | |

## C4.3b

### (C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.

**Initiative category & Initiative type**

Other, please specify | Other, please specify (Energy efficiency in operations, new equipment)

**Estimated annual CO2e savings (metric tonnes CO2e)**

29994376

**Scope(s)**

Scope 1

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**

6873014798

**Investment required (unit currency – as specified in C0.4)**

0

**Payback period**

No payback

**Estimated lifetime of the initiative**

Ongoing

**Comment**

Buy new aircraft – Taking delivery of new and more fuel-efficient aircraft is an important factor in United's long-term fleet strategy. As of December 31, 2019, United had 304 mainline aircraft on order. These aircraft are expected to replace older, less efficient aircraft currently in service; each new generation of aircraft has a 15%-20% improvement in fuel efficiency. Because aircraft typically have a lifetime of approximately 25 years, buying new aircraft is an extremely long-term investment. Savings figures shown reflect United's improvement in mainline fuel efficiency since 1977, adjusted for company

size (in available seat-miles) for 2019. Monetary savings were determined by multiplying the gallons of fuel saved by United's consolidated fuel price in 2019. As of December 31, 2019, United had $26.7 billion in capital commitments, which primarily relate to the acquisition of aircraft and related spare engines, and aircraft improvements, but also includes other capital purchase commitments. However, renewing the aircraft fleet has long been embedded into United's business strategy, so they are considered fundamental costs of doing business rather than incremental cost drivers.

---

**Initiative category & Initiative type**

| | |
|---|---|
| Company policy or behavioral change | Resource efficiency |

**Estimated annual CO2e savings (metric tonnes CO2e)**
448366
**Scope(s)**
Scope 1
**Voluntary/Mandatory**
Voluntary
**Annual monetary savings (unit currency – as specified in C0.4)**
114222222
**Investment required (unit currency – as specified in C0.4)**
0
**Payback period**
<1 year
**Estimated lifetime of the initiative**
Ongoing
**Comment**
Optimize flight procedures – United works collaboratively across the organization and with ATC providers to improve fuel efficiency through the implementation of best practices, by providing training to its pilots and dispatchers, and supplying them with the tools needed to execute on those strategies. United has ongoing initiatives in this area, including: - Choosing more optimal flight paths - Flying at optimal speeds and altitudes - Adopting continuous descents prior to landing - Optimizing traffic flow in cooperation with ATC providers to reduce time spent in inefficient holding patterns - Investing in navigation technology on current aircraft, allowing shorter and more efficient approaches In 2015 the Federal Aviation Administration estimated that NextGen ATC would provide airlines with $51.4 billion in cost savings from 2013 to 2030. The savings figure shown assumes that 20% of these benefits accrue to United. Supporting technology innovation and air traffic management have long been embedded into United's business strategy, so they are considered fundamental costs of doing business rather than incremental cost drivers.

---

**Initiative category & Initiative type**

| | |
|---|---|
| Company policy or behavioral change | Other, please specify (Change in maintenance procedures ) |

**Estimated annual CO2e savings (metric tonnes CO2e)**
900000
**Scope(s)**
Scope 1
**Voluntary/Mandatory**
Voluntary
**Annual monetary savings (unit currency – as specified in C0.4)**
1866785
**Investment required (unit currency – as specified in C0.4)**
0
**Payback period**

No payback

**Estimated lifetime of the initiative**

Ongoing

**Comment**

Maintain the aircraft – United works collaboratively across the company to improve fuel efficiency through the implementation of best practices, by providing training to its mechanics, and supplying them with the tools needed to execute on those strategies. United has ongoing initiatives in this area, including: - Adding winglets to aircraft - Washing aircraft to reduce drag - Washing engines to remove unwanted materials and improve efficiency - Real-time monitoring of aircraft performance to identify problems 100% of United's eligible mainline aircraft have been refitted beyond the base design with fuel-saving winglets. These winglets improve fuel efficiency by 3%-5%. In addition, United was the launch partner for the Scimitar winglet, which improves fuel efficiency by an additional 2% over the standard winglets on the Boeing 737 and Boeing 757, and has over 350 aircraft equipped with Scimitar winglets. The savings figures shown reflect the addition of winglets to these aircraft only, and not any further initiatives. Monetary savings were determined by multiplying the gallons of fuel saved by United's consolidated fuel price in 2019. Reducing fuel use has long been embedded into United's business strategy, so it is considered a fundamental cost of doing business rather than an incremental cost driver. The expected payback period of this initiative is proprietary information. Because we are required to provide a value, we have opted to respond 'No payback.'

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**Initiative category & Initiative type**

| | |
|---|---|
| Waste reduction and material circularity | Other, please specify (Weight optimization) |

**Estimated annual CO2e savings (metric tonnes CO2e)**

412828

**Scope(s)**

Scope 1

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**

856289

**Investment required (unit currency – as specified in C0.4)**

0

**Payback period**

<1 year

**Estimated lifetime of the initiative**

Ongoing

**Comment**

Reduce aircraft weight – United reviews virtually everything on the aircraft for lighter-weight alternatives, as lighter aircraft use less fuel and produce less emissions. United has ongoing initiatives in this area, including: - Reducing unnecessary fuel on board - Reducing unnecessary water on board - Using lighter cabin materials - Switching from steel to carbon-fiber brakes The savings figure shown assumes a 1% reduction in United's 2019 fuel use. Monetary savings were determined by multiplying the gallons of fuel saved by United's consolidated fuel price in 2019. Reducing fuel use has long been embedded into United's business strategy, so it is considered a fundamental cost of doing business rather than an incremental cost driver.

---

**Initiative category & Initiative type**

| | |
|---|---|
| Company policy or behavioral change | Resource efficiency |

**Estimated annual CO2e savings (metric tonnes CO2e)**

412828

**Scope(s)**
Scope 1
**Voluntary/Mandatory**
Voluntary
**Annual monetary savings (unit currency – as specified in C0.4)**
856289
**Investment required (unit currency – as specified in C0.4)**
0
**Payback period**
<1 year
**Estimated lifetime of the initiative**
Ongoing
**Comment**
Reduce fuel consumption on the ground – United has ongoing initiatives in this area, including: - Using a single engine to taxi - Avoiding waiting to park at the gate - Avoiding APU use at the gate - Towing aircraft to/from hangars instead of taxiing - Switching from fuel- to electric-powered GSE The savings figure shown assumes a 1% reduction in United's 2019 fuel use. Monetary savings were determined by multiplying the gallons of fuel saved by United's consolidated fuel price in 2019. Reducing fuel use has long been embedded into United's business strategy, so it is considered a fundamental cost of doing business rather than an incremental cost driver.

---

**Initiative category & Initiative type**

| | |
|---|---|
| Other, please specify | Other, please specify (Efficiency in operational processes, optimize network and schedule) |

**Estimated annual CO2e savings (metric tonnes CO2e)**
26965394
**Scope(s)**
Scope 1
**Voluntary/Mandatory**
Voluntary
**Annual monetary savings (unit currency – as specified in C0.4)**
5860102826
**Investment required (unit currency – as specified in C0.4)**
0
**Payback period**
<1 year
**Estimated lifetime of the initiative**
Ongoing
**Comment**
Optimize network and schedule – United has ongoing initiatives in this area, including: - Optimizing passenger loads through revenue management - Upgauging to larger, more efficient aircraft on a route - Using aircraft appropriately sized for the market - Using alliance partners to serve distant cities Savings figures shown reflect United's improvement in mainline fuel efficiency since 1977 attributable to load factor improvements, adjusted for company size (in revenue passenger-miles) for 2019. Monetary savings were determined by multiplying the gallons of fuel saved by United's consolidated fuel price in 2019. Optimizing the network and schedule has long been embedded into United's business strategy, so they are considered fundamental costs of doing business rather than incremental cost drivers.

---

**Initiative category & Initiative type**

| | |
|---|---|
| Low-carbon energy consumption | Liquid biofuels |

**Estimated annual CO2e savings (metric tonnes CO2e)**

3838

**Scope(s)**

Scope 1

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**

0

**Investment required (unit currency – as specified in C0.4)**

70000000

**Payback period**

No payback

**Estimated lifetime of the initiative**

Ongoing

**Comment**

Develop and use sustainable aviation fuel (SAF) – In 2015, United made a $30 million equity investment in Fulcrum BioEnergy, whose SAF is to be derived from municipal solid waste and is expected to have a greater than 80% reduction in lifecycle GHG emissions as compared to traditional jet fuel. United has a long-term supply agreement with Fulcrum for 90 million gallons of SAF per year for a minimum of 10 years, but this supply has not yet begun. In 2019, United also made an additional $40 million commitment toward a new investment vehicle focused on accelerating the development of SAF and other decarbonization technologies. In 2016 United became the first airline to begin using SAF on an ongoing daily basis. United has worked with World Energy since 2009 to achieve this milestone and in 2019 renewed its purchase agreement to buy up to 10 million gallons over the next two years; through the end of 2019, approximately 4 million gallons of this fuel have been purchased. United has integrated this fuel and its greater than 60% reduction in lifecycle GHG emissions as compared to traditional jet fuel into its everyday operations at Los Angeles International Airport, the largest continuous use of SAF in the airline industry to date. The payback period of this initiative is proprietary information. Because we are required to provide a value, we have opted to respond 'No payback.'

## C4.3c

### (C4.3c) What methods do you use to drive investment in emissions reduction activities?

| Method | Comment |
|---|---|
| Compliance with regulatory requirements/standards | The majority of United's international routes and their associated emissions are expected to be included in the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), and company and airline industry growth above the CORSIA baseline would require United to reduce or offset some of its GHG emissions. United's Environmental Affairs, Fleet Strategy, Finance, and Fuel Efficiency departments are working together to determine the optimal strategy to meet United's obligations through a combination of newer, more efficient aircraft purchases, fuel efficiency strategies, sustainable aviation fuel adoption, and carbon offsets. |
| Dedicated budget for energy efficiency | United makes ongoing investments into renewing its aircraft fleet. As of December 31, 2019, United had 304 mainline aircraft on order. These aircraft are expected to replace older, less efficient aircraft currently in service; each new generation of aircraft has a 15%-20% improvement in fuel efficiency. As of December 31, 2019, United had $26.7 billion in capital commitments, which primarily relate to the acquisition of aircraft, related spare engines, and aircraft improvements, but also includes other capital purchase commitments. |
| Dedicated budget for low-carbon product R&D | United has made the largest investments by an airline in sustainable aviation fuel (SAF) development through its purchase agreement with World Energy and its $30 million equity investment and long-term supply agreement with Fulcrum BioEnergy for 90 million gallons of SAF per year for a minimum of 10 years, but this supply has not yet begun. In 2019, United also made an additional $40 million commitment toward a new investment vehicle focused on accelerating the development of SAF and other decarbonization technologies. |

| Method | Comment |
|---|---|
| Dedicated budget for other emissions reduction activities | United's fuel efficiency team analyzes and implements numerous fuel efficiency initiatives, including the areas of: - Optimizing flight procedures - Maintaining the aircraft - Reducing aircraft weight - Reducing fuel consumption on the ground |
| Employee engagement | Some United work groups have key performance indicators (KPIs) focused on fuel efficiency, such as reducing fuel consumption from running aircraft Auxiliary Power Units while parked at the gate, and safely reducing the level of Remaining Fuel on Arrival. United also periodically schedules pilot and dispatcher operational efficiency training sessions specifically designed to harmonize and reinforce United's fuel efficiency policies and procedures. United has implemented automatic reports with KPIs targeting the work groups that impact fuel use and efficiency. |
| Financial optimization calculations | United uses financial savings to drive GHG emissions reductions. Jet fuel consumption was United's second largest cost in 2019 (comprising 23% of operating expenses), and was responsible for 99% of United's Scope 1 and Scope 2 emissions, making conserving fuel and reducing GHG emissions important factors in the company's financial success. |
| Internal incentives/recognition programs | United executives and certain other managers receive stock-based and annual incentive cash-based awards, whose value is linked to the company's financial performance, among other performance metrics. In addition, United's Profit Sharing Plan enables eligible employees to share in the company's financial success when United is profitable and earns more than $10 million in pre-tax income during the fiscal year. United's Bravo program lets any United employee worldwide send a message and a digital "badge" to a United colleague, with acknowledgement or thanks for his or her actions or achievements. One of these badges, the Eco-Skies Warrior badge, is intended for stewards of conservation on the ground, in the air, and throughout United's operations; in 2019, 1,202 Eco-Skies Warrior badges were awarded. Finally, the United 100 program recognizes United employees for going above and beyond the normal course of their jobs. United employees can nominate a co-worker for the United 100 program, which has three levels: Nominee, Quarterly Award Winner, and Annual Award Winner. Projects related to fuel efficiency or emissions reduction projects could provide a basis for recognition in these programs. |
| Partnering with governments on technology development | United is working closely with the FAA toward the full implementation of the FAA's Next Generation Air Transportation System, which would transform the U.S. air traffic control system from a radar-based system with radio communication to a satellite-based system. GPS technology would be used to shorten routes, save time and fuel, reduce air traffic delays, and permit controllers to monitor and manage aircraft with greater safety margins. |

## C4.5

### (C4.5) Do you classify any of your existing goods and/or services as low-carbon products or do they enable a third party to avoid GHG emissions?

Yes

## C4.5a

### (C4.5a) Provide details of your products and/or services that you classify as low-carbon products or that enable a third party to avoid GHG emissions.

#### Level of aggregation

Company-wide

#### Description of product/Group of products

United's services allow for the safe, fast, and efficient transportation of passengers and cargo. Unlike other modes of transport, aviation's speed and network make possible the efficient transportation of passengers and goods across great distances. Air passenger transportation is often incorrectly perceived as extremely carbon intensive. However, according to data from the Bureau of Transportation Statistics, in 2015 U.S. highway travel required 38.6 gallons of fuel per 1,000 passenger-miles. In contrast, in 2019 United's consolidated fuel efficiency was 18.0 gallons of fuel per 1,000 passenger-miles, or 54% lower, a large reduction in passengers' Scope 1 and/or Scope 3 emissions. Had all of United's customers who flew within the United States' contiguous 48 states and Canada in 2018 traveled instead via highway, this would have required an additional 2.5 billion gallons of fuel and resulted in an additional 24 million metric tons of CO2e.

#### Are these low-carbon product(s) or do they enable avoided emissions?

Avoided emissions

**Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions**

Other, please specify (Comparison against other transport modes)

**% revenue from low carbon product(s) in the reporting year**

51

**% of total portfolio value**

<Not Applicable>

**Asset classes/ product types**

<Not Applicable>

**Comment**

The % revenue figure reflects the percentage of United's scheduled capacity within the United States' contiguous 48 states and Canada in 2019.

---

**Level of aggregation**

Company-wide

**Description of product/Group of products**

United's services allow for the safe, fast, and efficient transportation of passengers and cargo. Unlike other modes of transport, aviation's speed and network make possible the efficient transportation of passengers and goods across great distances. Part of United's network strategy is to use its well-located hubs and Boeing 787 fleet to serve international destinations with less demand directly from its hubs rather than via third countries or by requiring passengers to connect with alliance partners. These additional stopovers require additional passenger time and also generate more GHG emissions because of the additional landing and takeoff involved. In 2019 United flew to 19 international destinations that were not served or were not served nonstop from the U.S. by other U.S. network airlines. For example, in 2017 United launched nonstop service from San Francisco to Singapore; on other U.S. airlines (or previously on United), flying to Singapore requires/required a stopover in Tokyo or Hong Kong. This strategy directly reduces passengers' Scope 3 emissions.

**Are these low-carbon product(s) or do they enable avoided emissions?**

Avoided emissions

**Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions**

Other, please specify (Comparison against sector peers)

**% revenue from low carbon product(s) in the reporting year**

5

**% of total portfolio value**

<Not Applicable>

**Asset classes/ product types**

<Not Applicable>

**Comment**

The % revenue figure reflects the percentage of United's scheduled capacity to/from one of the 19 international destinations that were not served or were not served nonstop from the U.S. by other U.S. network airlines in 2019.

---

**Level of aggregation**

Company-wide

**Description of product/Group of products**

On March 11, 2016 United made aviation history by becoming the first airline to begin using sustainable aviation fuel (SAF) on an ongoing daily basis. The launch marked a significant milestone in the airline industry by moving beyond demonstration flights to the use of SAF for United's ongoing operations, and is the largest use of SAF in the airline industry to date. This SAF is produced by World Energy from

sustainable feedstocks such as non-edible natural oils and agricultural wastes. This SAF provides a greater than 60% reduction in lifecycle GHG emissions as compared to traditional jet fuel. United has worked with World Energy since 2009 and in 2019 renewed its purchase agreement to buy up to 10 million gallons over the next two years from World Energy's previously idle refinery in Paramount, California. United is vertically integrating into the SAF supply chain because it believes SAF represents an important pathway for the airline industry to reduce its dependence on traditional fossil fuels, lower its emissions, enhance national security, and support economic growth.

**Are these low-carbon product(s) or do they enable avoided emissions?**

Low-carbon product

**Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions**

Low-Carbon Investment (LCI) Registry Taxonomy

**% revenue from low carbon product(s) in the reporting year**

4

**% of total portfolio value**

<Not Applicable>

**Asset classes/ product types**

<Not Applicable>

**Comment**

The % revenue figure reflects the percentage of United's scheduled capacity departing from Los Angeles in 2019.

---

**Level of aggregation**

Product

**Description of product/Group of products**

In 2017, United added a GHG emissions component to its Global Performance Commitment to corporate accounts. United committed to achieving lower GHG intensity than its two largest U.S.-based competitors each year, as measured by gross CO2e per available seat-mile. Not meeting this goal would result in compensation, in the form of United Services Funds, to eligible corporate accounts In 2018 United successfully met this goal, with 6.3% and 6.8% lower emissions intensity; 2019 results for competitors are not yet available. Had United's capacity been flown at these airlines' CO2e efficiency levels, an additional 2.7 million and 2.9 million metric tons of CO2e, respectively, would have been emitted.

**Are these low-carbon product(s) or do they enable avoided emissions?**

Low-carbon product

**Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions**

Other, please specify (Comparison against sector peers)

**% revenue from low carbon product(s) in the reporting year**

100

**% of total portfolio value**

<Not Applicable>

**Asset classes/ product types**

<Not Applicable>

**Comment**

The % revenue figure represents the percentage of corporate customers eligible to participate in the Global Performance Commitment.

---

**Level of aggregation**

Product

**Description of product/Group of products**

Since 2007, United has offered its passengers and cargo customers the ability to offset GHG emissions associated with their air travel through the company's CarbonChoice offset program. United's CO2 calculator—updated annually—is based on actual routes, aircraft used, load factors, and fuel consumption. Corporate customers can receive customized GHG emissions reports and can purchase offsets to counterbalance the GHG emissions associated with their transportation, effectively allowing them to travel and ship carbon-neutral on United.

**Are these low-carbon product(s) or do they enable avoided emissions?**

Low-carbon product

**Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions**

Other, please specify (Comparison against business as usual)

**% revenue from low carbon product(s) in the reporting year**

0

**% of total portfolio value**

<Not Applicable>

**Asset classes/ product types**

<Not Applicable>

**Comment**

The % revenue figure is 0 because United does not receive any of the proceeds from CarbonChoice. All money received is passed on to or collected by Conservation International to offset GHG emissions.

---

**Level of aggregation**

Group of products

**Description of product/Group of products**

United works closely with its United Express partners to reduce their fuel consumption and associated GHG emissions. United sets targets and holds consistent benchmarking meetings with each partner to review their progress towards a more fuel-efficient operation. In 2018, United retired 7 turboprops and took delivery of 25 Embraer 175s as part of its long-term upgauging initiative; replacing smaller aircraft with fewer flights on larger aircraft generally results in even higher fuel efficiency benefits than just replacing aircraft with newer generation aircraft. In 2018, United announced an order for a further 20 Embraer 175s, and in 2019 announced an order for an additional 20 Embraer 175s.

**Are these low-carbon product(s) or do they enable avoided emissions?**

Avoided emissions

**Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions**

Other, please specify (Comparison against business as usual)

**% revenue from low carbon product(s) in the reporting year**

11

**% of total portfolio value**

<Not Applicable>

**Asset classes/ product types**

<Not Applicable>

**Comment**

The % revenue figure reflects the percentage of United's scheduled capacity flown by United's regional partners in 2019.

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## C5. Emissions methodology

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## C5.1

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**(C5.1) Provide your base year and base year emissions (Scopes 1 and 2).**

**Scope 1**

**Base year start**

January 1 2005

**Base year end**

December 31 2005

**Base year emissions (metric tons CO2e)**

35716104

**Comment**

United's baseline year for Scope 1 emissions is 2005, which is also in alignment with the airline industry's goal to reduce its emissions by 50% in 2050 vs. a 2005 baseline.

**Scope 2 (location-based)**

**Base year start**

January 1 2008

**Base year end**

December 31 2008

**Base year emissions (metric tons CO2e)**

395804

**Comment**

United first began measuring its Scope 2 emissions in 2008.

**Scope 2 (market-based)**

**Base year start**

January 1 2018

**Base year end**

December 31 2018

**Base year emissions (metric tons CO2e)**

201763

**Comment**

United first began measuring its Scope 2 emissions using market-based emissions factors in 2018.

## C5.2

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**(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.**

ISO 14064-1

# C6. Emissions data

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## C6.1

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**(C6.1) What were your organization's gross global Scope 1 emissions in metric tons CO2e?**

**Reporting year**

**Gross global Scope 1 emissions (metric tons CO2e)**

34406941

**Start date**

<Not Applicable>

**End date**

<Not Applicable>

**Comment**

99.6% of this figure is from jet fuel.

## C6.2

---

**(C6.2) Describe your organization's approach to reporting Scope 2 emissions.**

**Row 1**

**Scope 2, location-based**

We are reporting a Scope 2, location-based figure

**Scope 2, market-based**

We are reporting a Scope 2, market-based figure

**Comment**

For most of United's smaller facilities, payment of electricity use is built into the lease of the associated space. In addition, it is possible that electricity use at some United buildings/areas may be tracked at some locations but not others. These two barriers make it difficult to track United's electricity use completely and accurately. For facilities where data was not available, United has adopted accepted modeling approaches to fill the data gaps.

## C6.3

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**(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO2e?**

**Reporting year**

**Scope 2, location-based**

201690

**Scope 2, market-based (if applicable)**

189682

**Start date**

<Not Applicable>

**End date**

<Not Applicable>

**Comment**

## C6.4

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**(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?**

Yes

## C6.4a

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**(C6.4a) Provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure.**

**Source**

F-gas refrigerants

**Relevance of Scope 1 emissions from this source**

Emissions are not relevant

**Relevance of location-based Scope 2 emissions from this source**

No emissions excluded

**Relevance of market-based Scope 2 emissions from this source (if applicable)**

No emissions excluded

**Explain why this source is excluded**

United expects this to be a de minimis source of emissions (<0.01% of total GHG emissions), therefore quantities and types are not centrally tracked.

---

**Source**

F-gas suppressants

**Relevance of Scope 1 emissions from this source**

Emissions are not relevant

**Relevance of location-based Scope 2 emissions from this source**

No emissions excluded

**Relevance of market-based Scope 2 emissions from this source (if applicable)**

No emissions excluded

**Explain why this source is excluded**

United expects this to be a de minimis source of emissions (<0.01% of total GHG emissions), therefore quantities and types are not centrally tracked.

---

**Source**

F-gases used in some aerosol containers

**Relevance of Scope 1 emissions from this source**

Emissions are not relevant

**Relevance of location-based Scope 2 emissions from this source**

No emissions excluded

**Relevance of market-based Scope 2 emissions from this source (if applicable)**

No emissions excluded

**Explain why this source is excluded**

United expects this to be a de minimis source of emissions (<0.01% of total GHG emissions), therefore quantities and types are not centrally tracked.

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## C6.5

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**(C6.5) Account for your organization's gross global Scope 3 emissions, disclosing and explaining any exclusions.**

**Purchased goods and services**

**Evaluation status**

Relevant, calculated

**Metric tonnes CO2e**

4778995

**Emissions calculation methodology**

United conducted an initial estimate of its emissions from the goods and services it purchased. This estimate was made using United's 2019 spend on non-fuel suppliers and multiplying by Trucost's 2015 estimate for Scope 1 and 2 emissions per revenue intensity for U.S. companies. This category has not been verified and is not part of United's official emissions inventory and is therefore excluded from other parts of this year's CDP response.

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

0

**Please explain**

**Capital goods**

**Evaluation status**

Relevant, calculated

**Metric tonnes CO2e**

213980

**Emissions calculation methodology**

United conducted an initial estimate of its emissions from purchasing aircraft. This estimate was made using the weight of aircraft purchased in 2019 and multiplying by the emissions intensity for aluminum production. The key assumptions in this estimate are that aircraft are made 100% from aluminum (aluminum comprises 80% of a typical airliner's weight), and the aluminum was produced in China, which has the most emissions-intensive production in the world. This category has not been verified and

is not part of United's official emissions inventory and is therefore excluded from other parts of this year's CDP response.

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

0

**Please explain**

**Fuel-and-energy-related activities (not included in Scope 1 or 2)**

**Evaluation status**

Relevant, calculated

**Metric tonnes CO2e**

9667443

**Emissions calculation methodology**

United conducted an initial estimate of its emissions related to the production of jet fuel the company used. This estimate was made using the MJ of jet fuel purchased in 2019 and multiplying by ICAO's standard value of 89 grams CO2 per MJ, and then subtracting combustion-related emissions as reported in our Scope 1 and Scope 3, category 4 (regional partners) emissions. This category has not been verified and is not part of United's official emissions inventory and is therefore excluded from other parts of this year's CDP response.

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

0

**Please explain**

**Upstream transportation and distribution**

**Evaluation status**

Relevant, calculated

**Metric tonnes CO2e**

7050476

**Emissions calculation methodology**

The vast majority of United Express operations are comprised of regional partners operating under a Capacity Purchase Agreement (CPA), under which United purchases and provides their fuel. The source of data for United Express fuel consumption is the same fuel accounting system that provides United's mainline jet fuel consumption. Emission factors and calculation methodology for the United Express operations were also the same. Emissions from GSE not owned by United but operated by CPA regional partners used a simplified estimation methodology. The listed figure has been externally verified and is part of United's official emissions inventory and is therefore included in responses elsewhere in this year's CDP response. The emissions have been calculated by multiplying the total of each energy type by the relevant emissions factor from The Climate Registry. General Reporting Protocol, Version 2.0. March 2013.

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

100

**Please explain**

Regional partner aircraft (jet fuel) and ground fleet (diesel)

**Waste generated in operations**

**Evaluation status**

Not relevant, explanation provided

**Metric tonnes CO2e**

<Not Applicable>

**Emissions calculation methodology**

<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

<Not Applicable>

**Please explain**

United's main product is transportation, so waste generated is expected to be de minimis and therefore not relevant. Emissions from this source would be less than 1% of total Scope 3 emissions.

**Business travel**

**Evaluation status**

Not relevant, explanation provided

**Metric tonnes CO2e**

<Not Applicable>

**Emissions calculation methodology**

<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

<Not Applicable>

**Please explain**

Nearly all of United's business travel is on United's fleet and therefore incorporated into the Scope 1 and Scope 3, category 4 (regional partners) emissions calculations. Emissions from this source would be less than 1% of total Scope 3 emissions.

**Employee commuting**

**Evaluation status**

Not relevant, calculated

**Metric tonnes CO2e**

176205

**Emissions calculation methodology**

This figure was determined using United's 2019 employee headcount, estimating the number of commutes per year by work group, assuming that all employees drive to work (likely overstating this figure), and multiplying by the U.S. average commuting distance and average vehicle fuel economy. Although many United employees commute to work via flights, most such travel is on United and therefore incorporated into the Scope 1 and Scope 3, category 4 (regional partners) emissions calculations. This category has been externally verified and is part of United's official emissions inventory and is therefore included in other parts of this year's CDP response.

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

0

**Please explain**

**Upstream leased assets**

**Evaluation status**

Not relevant, explanation provided

**Metric tonnes CO2e**

<Not Applicable>

**Emissions calculation methodology**

<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

<Not Applicable>

**Please explain**

United's main product is transportation, so upstream leased assets are not relevant. Emissions from this source would be less than 1% of total Scope 3 emissions.

**Downstream transportation and distribution**

**Evaluation status**

Not relevant, explanation provided

**Metric tonnes CO2e**

<Not Applicable>

**Emissions calculation methodology**

<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

<Not Applicable>

**Please explain**

United's main product is transportation, so distribution of products is not relevant. Emissions from this source would be less than 1% of total Scope 3 emissions.

**Processing of sold products**

**Evaluation status**

Not relevant, explanation provided

**Metric tonnes CO2e**

<Not Applicable>

**Emissions calculation methodology**

<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

<Not Applicable>

**Please explain**

United's main product is transportation, so the processing of sold products is not relevant. Emissions from this source would be less than 1% of total Scope 3 emissions.

**Use of sold products**

**Evaluation status**

Not relevant, explanation provided

**Metric tonnes CO2e**

<Not Applicable>

**Emissions calculation methodology**

<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

<Not Applicable>

**Please explain**

United's main product is transportation, so the use of sold products is not relevant. Emissions from this source would be less than 1% of total Scope 3 emissions.

**End of life treatment of sold products**

**Evaluation status**

Not relevant, explanation provided

**Metric tonnes CO2e**

<Not Applicable>

**Emissions calculation methodology**

<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

<Not Applicable>

**Please explain**

United's main product is transportation so the end of life treatment of sold products is not relevant. Emissions from this source would be less than 1% of total Scope 3 emissions.

**Downstream leased assets**

**Evaluation status**

Not relevant, explanation provided

**Metric tonnes CO2e**

<Not Applicable>

**Emissions calculation methodology**

<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

<Not Applicable>

**Please explain**

United's main product is transportation, so downstream leased assets are not relevant. While United does lease aircraft to other airlines, these are all to United's regional partners, so these emissions are included in the category Fuel-and-energy-related activities (not included in Scope 1 or 2).

**Franchises**

**Evaluation status**

Not relevant, calculated

**Metric tonnes CO2e**

0

**Emissions calculation methodology**

In 2018 United discontinued its regional partnership with Cape Air, who flew on an 'at-risk' basis under the United Express banner, paying United for the rights to use United's reservations system and brand, while purchasing the fuel consumed on these flights and their ground support equipment (GSE).

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

0

**Please explain**

Regional partner aircraft (jet fuel) and ground fleet (diesel)

**Investments**

**Evaluation status**

Relevant, calculated

**Metric tonnes CO2e**

244617

**Emissions calculation methodology**

On June 26, 2015, United made an equity investment in Azul Brazilian Airlines; United increased its equity investment further in April 2018. Azul publishes data on its jet fuel purchases as part of its financial statements. United determined Azul's total jet fuel-related GHG emissions, and multiplied this figure by United's weighted average ownership stake for the year. On June 30, 2015, United made a $30 million equity investment in Fulcrum BioEnergy, a start-up sustainable aviation fuel producer. Fulcrum provided United with their current GHG emissions, which are currently only for their feedstock processing facility near Reno, Nevada. United multiplied the reported GHG emissions by the appropriate GWP factors and by United's ownership stake in Fulcrum. This category has been externally verified and is part of United's official emissions inventory and is therefore included in other parts of this year's CDP response.

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

100

**Please explain**

**Other (upstream)**

**Evaluation status**

Not relevant, explanation provided

**Metric tonnes CO2e**

<Not Applicable>

**Emissions calculation methodology**

<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

<Not Applicable>

**Please explain**

No other relevant emissions to report.

**Other (downstream)**

**Evaluation status**

Not relevant, explanation provided

**Metric tonnes CO2e**

<Not Applicable>

### Emissions calculation methodology
<Not Applicable>
### Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>
### Please explain
No other relevant emissions to report.

## C6.7

### (C6.7) Are carbon dioxide emissions from biogenic carbon relevant to your organization?
Yes

## C6.7a

### (C6.7a) Provide the emissions from biogenic carbon relevant to your organization in metric tons CO2.

| | CO2 emissions from biogenic carbon (metric tons CO2) | Comment |
|---|---|---|
| Row 1 | 10995 | In 2016, United became the first airline to begin using sustainable aviation fuel (SAF) on an ongoing daily basis. United has worked with World Energy since 2009 to achieve this milestone and in 2019 renewed its purchase agreement to buy up to 10 million gallons over the next two years. United has integrated this fuel and its greater than 60% reduction in lifecycle GHG emissions as compared to traditional jet fuel into its everyday operations at Los Angeles International Airport, the largest continuous use of SAF in the airline industry to date. |

## C6.10

### (C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.
### Intensity figure
0.0007998
### Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)
34596623
### Metric denominator
unit total revenue
### Metric denominator: Unit total
43259000000
### Scope 2 figure used
Market-based
### % change from previous year
1.2
### Direction of change
Decreased
### Reason for change
Although United's Scope 1 and Scope 2 emissions increased by 3.5% in 2019, United's total revenue increased by 4.7%. During 2019 United continued to take delivery of more fuel-efficient aircraft while retiring older, less fuel-efficient aircraft.

### Intensity figure
0.0009627

**Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)**
41646921
**Metric denominator**
unit total revenue
**Metric denominator: Unit total**
43259000000
**Scope 2 figure used**
Market-based
**% change from previous year**
0.9
**Direction of change**
Decreased
**Reason for change**
Because part of United's revenue is from its regional partners' jet fuel consumption, the numerator in this row includes United's Scope 3, category 4 (Upstream transportation and distribution) emissions from United Express partners operating under a Capacity Purchase Agreement (CPA), under which United purchases and provides their fuel. United believes answering the question in this manner provides readers with a more comprehensive understanding of United's emissions intensity. Although these emissions increased by 3.8% in 2019, United's total revenue increased by 4.7%. During 2019 United continued to take delivery of more fuel-efficient aircraft while retiring older, less fuel-efficient aircraft.

## C-TS6.15

**(C-TS6.15) What are your primary intensity (activity-based) metrics that are appropriate to your emissions from transport activities in Scope 1, 2, and 3?**
**Aviation**
**Scopes used for calculation of intensities**
Report Scope 1 + 2 + 3 (category 4)
**Intensity figure**
0.000174
**Metric numerator: emissions in metric tons CO2e**
41646921
**Metric denominator: unit**
p.mile
**Metric denominator: unit total**
239360000000
**% change from previous year**
-0.2
**Please explain any exclusions in your coverage of transport emissions in selected category, and reasons for change in emissions intensity.**
Although United's GHG emissions for this breakdown increased by 3.8% in 2019, United's RPMs (revenue passenger-miles) increased by 4.0%.
**ALL**
**Scopes used for calculation of intensities**
Report Scope 1 + 2
**Intensity figure**
0.001333
**Metric numerator: emissions in metric tons CO2e**
34596623
**Metric denominator: unit**
t.mile

**Metric denominator: unit total**
25949000000
**% change from previous year**
-1.1
**Please explain any exclusions in your coverage of transport emissions in selected category, and reasons for change in emissions intensity.**
This breakdown represents United's progress towards the airline industry's goal of improving fuel efficiency by an average of 1.5% per year from 2009 to 2020. Although United's GHG emissions for this breakdown increased by 3.5% in 2019, United's RTMs (revenue ton-miles) increased by 4.6%.

# C7. Emissions breakdowns

## C7.1

### (C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?
Yes

## C7.1a

### (C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).

| Greenhouse gas | Scope 1 emissions (metric tons of CO2e) | GWP Reference |
|---|---|---|
| CO2 | 34147150 | IPCC Fifth Assessment Report (AR5 – 100 year) |
| CH4 | 6970 | IPCC Fifth Assessment Report (AR5 – 100 year) |
| N2O | 252820 | IPCC Fifth Assessment Report (AR5 – 100 year) |

## C7.2

### (C7.2) Break down your total gross global Scope 1 emissions by country/region.

| Country/Region | Scope 1 emissions (metric tons CO2e) |
|---|---|
| United States of America | 17211568 |
| Other, please specify (International Airspace) | 17186329 |
| Other, please specify (Non-U.S.A.) | 9045 |

## C7.3

### (C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.
By business division
By facility
By activity

## C7.3a

### (C7.3a) Break down your total gross global Scope 1 emissions by business division.

| Business division | Scope 1 emissions (metric ton CO2e) |
|---|---|
| Aircraft | 34257058 |
| Natural gas | 76176 |
| Ground support equipment | 65161 |
| San Francisco Maintenance Facility assets | 28284 |

| Business division | Scope 1 emissions (metric ton CO2e) |
|---|---|
| Dry ice from catering | 4147 |

## C7.3b

### (C7.3b) Break down your total gross global Scope 1 emissions by business facility.

| Facility | Scope 1 emissions (metric tons CO2e) | Latitude | Longitude |
|---|---|---|---|
| Aircraft | 34257058 | 0 | 0 |
| Ground support equipment | 65161 | 0 | 0 |
| San Francisco International Airport | 29279 | 37.6167 | -122.3833 |
| Newark Liberty International Airport | 10100 | 40.7 | -74.1667 |
| Denver International Airport | 8318 | 39.8667 | -104.6667 |
| Chicago O'Hare International Airport | 7600 | 41.9667 | -87.9 |
| Houston Bush Intercontinental Airport | 7053 | 29.9833 | -98.3333 |
| Willis Tower | 5673 | 41.8833 | -87.63333 |
| Washington Dulles International Airport | 1103 | 38.95 | -77.46667 |
| Los Angeles International Airport | 186 | 33.9333 | -118.4 |
| Natural gas and other fuel use at airports | 7092 | 0 | 0 |
| Natural gas use at other facilities | 4169 | 0 | 0 |
| Dry ice from catering | 4147 | 0 | 0 |

## C7.3c

### (C7.3c) Break down your total gross global Scope 1 emissions by business activity.

| Activity | Scope 1 emissions (metric tons CO2e) |
|---|---|
| Mobile sources | 34322221 |
| Stationary sources | 84719 |

## C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4

### (C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4) Break down your organization's total gross global Scope 1 emissions by sector production activity in metric tons CO2e.

| | Gross Scope 1 emissions, metric tons CO2e | Net Scope 1 emissions , metric tons CO2e | Comment |
|---|---|---|---|
| Cement production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Chemicals production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Coal production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Electric utility activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Metals and mining production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Oil and gas production activities (upstream) | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Oil and gas production activities (midstream) | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Oil and gas production activities (downstream) | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Steel production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Transport OEM activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |

| | Gross Scope 1 emissions, metric tons CO2e | Net Scope 1 emissions , metric tons CO2e | Comment |
|---|---|---|---|
| Transport services activities | 34406941 | <Not Applicable> | |

## C7.5

### (C7.5) Break down your total gross global Scope 2 emissions by country/region.

| Country/Region | Scope 2, location-based (metric tons CO2e) | Scope 2, market-based (metric tons CO2e) | Purchased and consumed electricity, heat, steam or cooling (MWh) | Purchased and consumed low-carbon electricity, heat, steam or cooling accounted for in Scope 2 market-based approach (MWh) |
|---|---|---|---|---|
| United States of America | 193424 | 181416 | 483027 | 76713 |
| Other, please specify (Non-U.S.A.) | 8266 | 8266 | 18240 | 0 |

## C7.6

### (C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

By facility

By activity

## C7.6b

### (C7.6b) Break down your total gross global Scope 2 emissions by business facility.

| Facility | Scope 2, location-based (metric tons CO2e) | Scope 2, market-based (metric tons CO2e) |
|---|---|---|
| Houston Bush Intercontinental Airport | 34677 | 34677 |
| Newark Liberty International Airport | 31887 | 39470 |
| Willis Tower | 27278 | 27278 |
| Chicago O'Hare International Airport | 25450 | 25450 |
| Denver International Airport | 19335 | 17090 |
| San Francisco International Airport | 17346 | 0 |
| Los Angeles International Airport | 3260 | 3260 |
| Washington Dulles International Airport | 1302 | 1302 |
| Other airports | 20902 | 20902 |
| Other facilities | 20253 | 20253 |

## C7.6c

### (C7.6c) Break down your total gross global Scope 2 emissions by business activity.

| Activity | Scope 2, location-based (metric tons CO2e) | Scope 2, market-based (metric tons CO2e) |
|---|---|---|
| Electricity purchases | 201690 | 189682 |
| Steam purchases | 0 | 0 |

## C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7

### (C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7) Break down your organization's total gross global Scope 2 emissions by sector production activity in metric tons CO2e.

| | Scope 2, location-based, metric tons CO2e | Scope 2, market-based (if applicable), metric tons CO2e | Comment |
|---|---|---|---|
| Cement production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Chemicals production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Coal production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Metals and mining production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Oil and gas production activities (upstream) | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Oil and gas production activities (midstream) | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Oil and gas production activities (downstream) | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Steel production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Transport OEM activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Transport services activities | 201690 | 189682 | |

## C7.9

### (C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

Increased

## C7.9a

### (C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.

| | Change in emissions (metric tons CO2e) | Direction of change | Emissions value (percentage) | Please explain calculation |
|---|---|---|---|---|
| Change in renewable energy consumption | 3074 | Decreased | 0.01 | % change value is actually 0.0092% of gross global emissions. United continued to use sustainable aviation fuel in its operations in 2019, but used 78% more in its operations than in 2018. (-6,850 - -3,776) = -3,074 (-3,074 ÷ 33,503,787) = -0.0092% |
| Other emissions reduction activities | 35651 | Decreased | 0.11 | United continued its emission reduction activities in 2019, including taking delivery of 8 additional Boeing 787-10 aircraft, which offer substantially reduced fuel consumption and GHG emissions. United also took delivery of 5 fuel-efficient 737 MAX 9 aircraft in 2019, prior to the March 2019 FAA order prohibiting the operation of Boeing 737 MAX series aircraft by U.S. certified operators. United's mainline carbon intensity (as measured in CO2e per available seat-mile) decreased by 0.11% in 2019. Using widely accepted rate-volume variance calculations for each of United's emissions sources not otherwise discussed here, the rate variance from United's 0.11% decrease in mainline emissions intensity is 35,651 metric tons. 33,482,043 × -0.11% - Sum (other variances except rate variance) = -35,561 |
| Divestment | 0 | No change | 0 | |
| Acquisitions | 0 | No change | 0 | |
| Mergers | 0 | No change | 0 | |

| | Change in emissions (metric tons CO2e) | Direction of change | Emissions value (percentage) | Please explain calculation |
|---|---|---|---|---|
| Change in output | 1184513 | Increased | 3.54 | Although United continued its emissions reduction activities in 2019, United mainline output (as measured in available seat-miles) increased by 3.54% in 2019, resulting in higher year-over-year emissions. Using widely accepted rate-volume variance calculations for each of United's emissions sources not otherwise discussed here, the volume variance from United's 3.54% increase in mainline output is 1,184,513 metric tons. 33,482,043 × 3.54% =1,184,513 |
| Change in methodology | 0 | No change | 0 | |
| Change in boundary | 0 | No change | 0 | |
| Change in physical operating conditions | 0 | No change | 0 | |
| Unidentified | 0 | No change | 0 | |
| Other | 0 | No change | 0 | |

## C7.9b

### (C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Market-based

# C8. Energy

## C8.1

### (C8.1) What percentage of your total operational spend in the reporting year was on energy?

More than 20% but less than or equal to 25%

## C8.2

### (C8.2) Select which energy-related activities your organization has undertaken.

| | Indicate whether your organization undertook this energy-related activity in the reporting year |
|---|---|
| Consumption of fuel (excluding feedstocks) | Yes |
| Consumption of purchased or acquired electricity | Yes |
| Consumption of purchased or acquired heat | Yes |
| Consumption of purchased or acquired steam | Yes |
| Consumption of purchased or acquired cooling | Yes |
| Generation of electricity, heat, steam, or cooling | Yes |

## C8.2a

### (C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.

| | Heating value | MWh from renewable sources | MWh from non-renewable sources | Total (renewable and non-renewable) MWh |
|---|---|---|---|---|
| Consumption of fuel (excluding feedstock) | HHV (higher heating value) | 408 | 132537497 | 132537905 |
| Consumption of purchased or acquired electricity | <Not Applicable> | 76713 | 425769 | 502482 |
| Consumption of purchased or acquired heat | <Not Applicable> | 0 | 419751 | 419751 |
| Consumption of purchased or acquired steam | <Not Applicable> | 0 | 0 | 0 |
| Consumption of purchased or acquired cooling | <Not Applicable> | 4147 | 0 | 4147 |
| Consumption of self-generated non-fuel renewable energy | <Not Applicable> | 0 | <Not Applicable> | 0 |
| Total energy consumption | <Not Applicable> | 81268 | 133383015 | 133464283 |

## C8.2b

### (C8.2b) Select the applications of your organization's consumption of fuel.

| | Indicate whether your organization undertakes this fuel application |
|---|---|
| Consumption of fuel for the generation of electricity | No |
| Consumption of fuel for the generation of heat | No |
| Consumption of fuel for the generation of steam | Yes |
| Consumption of fuel for the generation of cooling | Yes |
| Consumption of fuel for co-generation or tri-generation | No |

## C8.2c

### (C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

**Fuels (excluding feedstocks)**

Compressed Natural Gas (CNG)

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

7546

**MWh fuel consumed for self-generation of electricity**

<Not Applicable>

**MWh fuel consumed for self-generation of heat**

0

**MWh fuel consumed for self-generation of steam**

**MWh fuel consumed for self-generation of cooling**

0

**MWh fuel consumed for self-cogeneration or self-trigeneration**

<Not Applicable>

**Emission factor**

6.3136

**Unit**

kg CO2e per gallon

**Emissions factor source**

The Climate Registry. General Reporting Protocol, Version 2.0. March 2013

**Comment**

**Fuels (excluding feedstocks)**
Diesel
**Heating value**
HHV (higher heating value)
**Total fuel MWh consumed by the organization**
181225
**MWh fuel consumed for self-generation of electricity**
<Not Applicable>
**MWh fuel consumed for self-generation of heat**
0
**MWh fuel consumed for self-generation of steam**
**MWh fuel consumed for self-generation of cooling**
0
**MWh fuel consumed for self-cogeneration or self-trigeneration**
<Not Applicable>
**Emission factor**
10.29514
**Unit**
kg CO2 per gallon
**Emissions factor source**
The Climate Registry. General Reporting Protocol, Version 2.0. March 2013
**Comment**

---

**Fuels (excluding feedstocks)**
Jet Kerosene
**Heating value**
HHV (higher heating value)
**Total fuel MWh consumed by the organization**
132274672
**MWh fuel consumed for self-generation of electricity**
<Not Applicable>
**MWh fuel consumed for self-generation of heat**
0
**MWh fuel consumed for self-generation of steam**
**MWh fuel consumed for self-generation of cooling**
0
**MWh fuel consumed for self-cogeneration or self-trigeneration**
<Not Applicable>
**Emission factor**
9.61718
**Unit**
kg CO2e per gallon
**Emissions factor source**
2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 2, Chapter 3, Table 3.6.5: Non-CO2 Emission Factors
**Comment**

---

**Fuels (excluding feedstocks)**
Motor Gasoline
**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

73046

**MWh fuel consumed for self-generation of electricity**

<Not Applicable>

**MWh fuel consumed for self-generation of heat**

0

**MWh fuel consumed for self-generation of steam**

**MWh fuel consumed for self-generation of cooling**

0

**MWh fuel consumed for self-cogeneration or self-trigeneration**

<Not Applicable>

**Emission factor**

8.8523

**Unit**

kg CO2e per gallon

**Emissions factor source**

The Climate Registry. General Reporting Protocol, Version 2.0. March 2013

**Comment**

---

**Fuels (excluding feedstocks)**

Propane Gas

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

1416

**MWh fuel consumed for self-generation of electricity**

<Not Applicable>

**MWh fuel consumed for self-generation of heat**

0

**MWh fuel consumed for self-generation of steam**

**MWh fuel consumed for self-generation of cooling**

0

**MWh fuel consumed for self-cogeneration or self-trigeneration**

<Not Applicable>

**Emission factor**

5.59

**Unit**

kg CO2 per gallon

**Emissions factor source**

The Climate Registry. General Reporting Protocol, Version 2.0. March 2013

**Comment**

---

## C8.2d

---

**(C8.2d) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.**

| | Total Gross generation (MWh) | Generation that is consumed by the organization (MWh) | Gross generation from renewable sources (MWh) | Generation from renewable sources that is consumed by the organization (MWh) |
|---|---|---|---|---|
| Electricity | 0 | 0 | 0 | 76713 |
| Heat | 0 | 0 | 0 | 0 |
| Steam | 132047 | 132047 | 0 | 0 |
| Cooling | 0 | 0 | 0 | 22921 |

## C8.2e

**(C8.2e) Provide details on the electricity, heat, steam, and/or cooling amounts that were accounted for at a zero emission factor in the market-based Scope 2 figure reported in C6.3.**

**Sourcing method**

Other, please specify (Contract with suppliers or utilities (e.g. green tariff), not supported by energy attribute certificates)

**Low-carbon technology type**

Solar

**Country/region of consumption of low-carbon electricity, heat, steam or cooling**

North America

**MWh consumed accounted for at a zero emission factor**

76713

**Comment**

United's electricity purchases at San Francisco International Airport (SFO) were zero-emissions in 2019. United purchases its electricity through the airport, which has achieved certification for being net-zero emissions through multiple low-carbon technology types, including solar PV and hydropower. SFO represented 15% of United's electricity purchases in 2019.

## C-TS8.5

**(C-TS8.5) Provide any efficiency metrics that are appropriate for your organization's transport products and/or services.**

**Activity**

Aviation

**Metric figure**

0.01407

**Metric numerator**

Other, please specify (gallons of fuel)

**Metric denominator**

Available seat.mile

**Metric numerator: Unit total**

3563000000

**Metric denominator: Unit total**

253278000000

**% change from last year**

-0.1

**Please explain**

This figure represents the gallons of jet fuel consumed per available seat-mile flown by United Airlines' mainline aircraft (Scope 1 emissions).

**Activity**

Aviation
**Metric figure**
0.01671
**Metric numerator**
Other, please specify (gallons of fuel)
**Metric denominator**
p.mile
**Metric numerator: Unit total**
3563000000
**Metric denominator: Unit total**
213243000000
**% change from last year**
-0.6
**Please explain**
This figure represents the gallons of jet fuel consumed per revenue passenger-mile flown by United Airlines' mainline aircraft (Scope 1 emissions).

---

**Activity**
Aviation
**Metric figure**
0.1336
**Metric numerator**
Other, please specify (gallons of fuel)
**Metric denominator**
Revenue-ton.mile
**Metric numerator: Unit total**
3563000000
**Metric denominator: Unit total**
26672000000
**% change from last year**
0.6
**Please explain**
This figure represents the gallons of jet fuel consumed per revenue ton-mile (i.e., both passengers and cargo) flown by United Airlines' mainline aircraft (Scope 1 emissions).

---

**Activity**
Aviation
**Metric figure**
0.01506
**Metric numerator**
Other, please specify (gallons of fuel)
**Metric denominator**
Available seat.mile
**Metric numerator: Unit total**
4292000000
**Metric denominator: Unit total**
284999000000
**% change from last year**
0.2
**Please explain**

This figure represents the gallons of jet fuel consumed per available seat-mile flown by both United Airlines' mainline aircraft (Scope 1 emissions) and United Express regional partners (Scope 3 emissions).

---

**Activity**
Aviation
**Metric figure**
0.01793
**Metric numerator**
Other, please specify (gallons of fuel)
**Metric denominator**
p.mile
**Metric numerator: Unit total**
4292000000
**Metric denominator: Unit total**
239360000000
**% change from last year**
-0.2
**Please explain**
This figure represents the gallons of jet fuel consumed per revenue passenger-mile flown by both United Airlines' mainline aircraft (Scope 1 emissions) and United Express regional partners (Scope 3 emissions).

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## C9. Additional metrics

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## C9.1

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**(C9.1) Provide any additional climate-related metrics relevant to your business.**

## C-TO9.3/C-TS9.3

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**(C-TO9.3/C-TS9.3) Provide tracking metrics for the implementation of low-carbon transport technology over the reporting year.**
**Activity**
Aviation
**Metric**
Fleet adoption
**Technology**
Other, please specify (Winglets on mainline aircraft)
**Metric figure**
100
**Metric unit**
Other, please specify (% of eligible aircraft equipped)
**Explanation**
The value stated is a percentage. 100% of United's eligible mainline aircraft have been refitted beyond the base design with fuel-saving winglets.

---

**Activity**
Aviation
**Metric**
Yearly purchase
**Technology**
Other, please specify (Sustainable aviation fuel (SAF))

**Metric figure**
1153652
**Metric unit**
Other, please specify (Gallons of SAF bought)
**Explanation**
In 2016, United became the first airline to begin using SAF on an ongoing daily basis. United has worked with World Energy since 2009 and in 2019 renewed its purchase agreement to buy up to 10 million gallons over the next two years; through the end of 2019 approximately 4 million gallons of this fuel have been purchased. This SAF has a greater than 60% reduction in lifecycle GHG emissions as compared to traditional jet fuel.

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**Activity**
Aviation
**Metric**
Fleet adoption
**Technology**
Other, please specify (Electric ground support equipment (GSE))
**Metric figure**
43
**Metric unit**
Other, please specify (% eligible GSE that are electric-powered)
**Explanation**
The value stated is a percentage. Over 3,800 pieces of United's GSE are powered by electricity rather than conventional fuel. At the end of 2019, 43% of United's eligible GSE fleet had been electrified. In 2019, United partnered with ITW GSE to pilot the ITW 7400 electric mobile ground power unit (GPU), which drastically cuts GHG emissions by 90% and reduces workplace noise pollution. The pilot is the first use of this equipment in North America, and United is the first major U.S. airline to use a fully electric GPU for its fleet.

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## C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6

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### (C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6) Does your organization invest in research and development (R&D) of low-carbon products or services related to your sector activities?

| | Investment in low-carbon R&D | Comment |
|---|---|---|
| Row 1 | Yes | Jet fuel consumption was United's second largest cost in 2019 (comprising of 23% of operating expenses), so United invests in research and development that provide low-carbon alternatives to jet fuel. These investments include newer, more fuel-efficient aircraft; sustainable aviation fuel; and electric ground support equipment (GSE). |

## C-TO9.6a/C-TS9.6a

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### (C-TO9.6a/C-TS9.6a) Provide details of your organization's investments in low-carbon R&D for transport-related activities over the last three years.
**Activity**
Aviation
**Technology area**
Alternative fuels

**Stage of development in the reporting year**
Small scale commercial deployment
**Average % of total R&D investment over the last 3 years**
≤20%
**R&D investment figure in the reporting year (optional)**
**Comment**
In 2016, United became the first airline to begin using sustainable aviation fuel (SAF) on an ongoing daily basis. United has worked with World Energy since 2009 to achieve this milestone and in 2019 renewed its purchase agreement to buy up to 10 million gallons over the next two years. United had integrated this fuel, and its 60% reduction in lifecycle GHG emissions as compared to traditional jet fuel, into its everyday operations at Los Angeles International Airport, the largest continuous use of SAF in the airline industry to date.

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**Activity**
Aviation
**Technology area**
Alternative fuels
**Stage of development in the reporting year**
Full/commercial-scale demonstration
**Average % of total R&D investment over the last 3 years**
≤20%
**R&D investment figure in the reporting year (optional)**
**Comment**
United continues to actively invest in more fuel-efficient technologies and aircraft. In addition, United has made the largest investments by an airline in sustainable aviation fuel (SAF) development through its purchase agreement with World Energy and its $30 million equity investment and long-term supply agreement with Fulcrum BioEnergy for 90 million gallons of SAF per year for a minimum of 10 years, but this supply has not yet begun. In 2019, United also made an additional $40 million commitment toward a new investment vehicle focused on accelerating the development of SAF and other decarbonization technologies.

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**Activity**
Aviation
**Technology area**
Ground handling operations
**Stage of development in the reporting year**
Pilot demonstration
**Average % of total R&D investment over the last 3 years**
≤20%
**R&D investment figure in the reporting year (optional)**
**Comment**
While 43% of United's eligible ground support equipment (GSE) fleet is electrified, rather than powered by conventional fuel, there is still a portion of the fleet for which there are no commercially available electric alternatives. In 2019, United partnered with ITW GSE to pilot the ITW 7400 electric mobile ground power unit (GPU), which drastically cuts GHG emissions by 90% and reduces workplace noise pollution. The pilot is the first use of this equipment in North America, and United is the first major U.S. airline to use a fully electric GPU for its fleet.

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## C10. Verification

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## C10.1

### (C10.1) Indicate the verification/assurance status that applies to your reported emissions.

| | Verification/assurance status |
|---|---|
| Scope 1 | Third-party verification or assurance process in place |
| Scope 2 (location-based or market-based) | Third-party verification or assurance process in place |
| Scope 3 | Third-party verification or assurance process in place |

## C10.1a

### (C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements.

**Verification or assurance cycle in place**
Annual process
**Status in the current reporting year**
Complete
**Type of verification or assurance**
Limited assurance
**Attach the statement**
United Airlines 2019 Emissions Assurance Statement.pdf
**Page/ section reference**
2
**Relevant standard**
ISO14064-3
**Proportion of reported emissions verified (%)**
100

## C10.1b

### (C10.1b) Provide further details of the verification/assurance undertaken for your Scope 2 emissions and attach the relevant statements.

**Scope 2 approach**
Scope 2 location-based
**Verification or assurance cycle in place**
Annual process
**Status in the current reporting year**
Complete
**Type of verification or assurance**
Limited assurance
**Attach the statement**
United Airlines 2019 Emissions Assurance Statement.pdf
**Page/ section reference**
2
**Relevant standard**
ISO14064-3
**Proportion of reported emissions verified (%)**
100

**Scope 2 approach**
Scope 2 market-based

**Verification or assurance cycle in place**
Annual process
**Status in the current reporting year**
Complete
**Type of verification or assurance**
Limited assurance
**Attach the statement**
United Airlines 2019 Emissions Assurance Statement.pdf
**Page/ section reference**
2
**Relevant standard**
ISO14064-3
**Proportion of reported emissions verified (%)**
100

## C10.1c

**(C10.1c) Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.**
**Scope 3 category**
Scope 3: Upstream transportation and distribution
**Verification or assurance cycle in place**
Annual process
**Status in the current reporting year**
Complete
**Type of verification or assurance**
Limited assurance
**Attach the statement**
United Airlines 2019 Emissions Assurance Statement.pdf
**Page/section reference**
1
**Relevant standard**
ISO14064-3
**Proportion of reported emissions verified (%)**
100

**Scope 3 category**
Scope 3: Employee commuting
**Verification or assurance cycle in place**
Annual process
**Status in the current reporting year**
Complete
**Type of verification or assurance**
Limited assurance
**Attach the statement**
United Airlines 2019 Emissions Assurance Statement.pdf
**Page/section reference**
1
**Relevant standard**
ISO14064-3
**Proportion of reported emissions verified (%)**

100

**Scope 3 category**
Scope 3: Investments
**Verification or assurance cycle in place**
Annual process
**Status in the current reporting year**
Complete
**Type of verification or assurance**
Limited assurance
**Attach the statement**
United Airlines 2019 Emissions Assurance Statement.pdf
**Page/section reference**
1
**Relevant standard**
ISO14064-3
**Proportion of reported emissions verified (%)**
100

**Scope 3 category**
Scope 3: Franchises
**Verification or assurance cycle in place**
Annual process
**Status in the current reporting year**
Complete
**Type of verification or assurance**
Limited assurance
**Attach the statement**
United Airlines 2019 Emissions Assurance Statement.pdf
**Page/section reference**
1
**Relevant standard**
ISO14064-3
**Proportion of reported emissions verified (%)**
100

## C10.2

**(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?**
Yes

## C10.2a

**(C10.2a) Which data points within your CDP disclosure have been verified, and which verification standards were used?**

| Disclosure module verification relates to | Data verified | Verification standard | Please explain |
|---|---|---|---|
| C6. Emissions data | Other, please specify (Scope 1 and 2 per Revenue Scope 1, 2, and 3 (category 4) per Revenue) | ISO14064-3 | ERM Certification and Verification Services Inc. (ERM CVS) provided assurance for United's greenhouse gas inventory and related metrics. |
| C7. Emissions breakdown | Year on year change in emissions (Scope 1) | ISO14064-3 | ERM Certification and Verification Services Inc. (ERM CVS) provided assurance for United's greenhouse gas inventory and related metrics. |
| C7. Emissions breakdown | Year on year change in emissions (Scope 2) | ISO14064-3 | ERM Certification and Verification Services Inc. (ERM CVS) provided assurance for United's greenhouse gas inventory and related metrics. |
| C7. Emissions breakdown | Year on year change in emissions (Scope 3) | ISO14064-3 | ERM Certification and Verification Services Inc. (ERM CVS) provided assurance for United's greenhouse gas inventory and related metrics. |
| C7. Emissions breakdown | Other, please specify (Year on year change in emissions (Scope 1 and Scope 2, location-based)) | ISO14064-3 | ERM Certification and Verification Services Inc. (ERM CVS) provided assurance for United's greenhouse gas inventory and related metrics. |
| C7. Emissions breakdown | Other, please specify (Year on year change in emissions (Scope 1 and Scope 2, market-based)) | ISO14064-3 | ERM Certification and Verification Services Inc. (ERM CVS) provided assurance for United's greenhouse gas inventory and related metrics. |
| C7. Emissions breakdown | Other, please specify (Year on year change in emissions (Scope 1 and Scope 3, category 4)) | ISO14064-3 | ERM Certification and Verification Services Inc. (ERM CVS) provided assurance for United's greenhouse gas inventory and related metrics. |
| C8. Energy | Other, please specify (Scope 1, 2, and 3 (category 4) per Consolidated ASM Scope 1, 2, and 3 (category 4) per Consolidated RPM) | ISO14064-3 | ERM Certification and Verification Services Inc. (ERM CVS) provided assurance for United's greenhouse gas inventory and related metrics. United Airlines 2019 Emissions Assurance Statement.pdf |

# C11. Carbon pricing

## C11.1

### (C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?

Yes

## C11.1a

### (C11.1a) Select the carbon pricing regulation(s) which impacts your operations.

California CaT - ETS

EU ETS

Other carbon tax, please specify (ICAO's Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA))

## C11.1b

### (C11.1b) Complete the following table for each of the emissions trading schemes you are regulated by.

### California CaT

### % of Scope 1 emissions covered by the ETS

0.07

### % of Scope 2 emissions covered by the ETS

0
**Period start date**
January 1 2019
**Period end date**
December 31 2019
**Allowances allocated**
0
**Allowances purchased**
0
**Verified Scope 1 emissions in metric tons CO2e**
23887
**Verified Scope 2 emissions in metric tons CO2e**
0
**Details of ownership**
Facilities we own and operate
**Comment**
0.0694% is the true value of emissions covered by California CaT. In 2017 United demonstrated a third consecutive year, within a triennial compliance period, of verified covered GHG emissions below the California Cap-and-Trade threshold of 25,000 metric tons. This qualified United to opt out of the compliance program. Rather than leave the program entirely, United is now a Voluntarily Associated Entity, which allows it to purchase, hold, sell, or retire allowances or ARB offset credits without future year compliance obligations.
**EU ETS**
**% of Scope 1 emissions covered by the ETS**
0
**% of Scope 2 emissions covered by the ETS**
0
**Period start date**
January 1 2019
**Period end date**
December 31 2019
**Allowances allocated**
0
**Allowances purchased**
0
**Verified Scope 1 emissions in metric tons CO2e**
396
**Verified Scope 2 emissions in metric tons CO2e**
0
**Details of ownership**
Other, please specify (Aircraft we operate, owned and leased)
**Comment**
0.0012% is the value of emissions covered by EU ETS. United was not required to undergo verification due to an EU ETS Directive (amended on December 29, 2017) extending the option of simplified reporting procedures to aircraft operators with annual GHG emissions from intra-EEA flights of less than 3,000 metric tons. Operational improvements that United has implemented have resulted in fewer diversions that require intra-EU flights within the current scope of the EU ETS, which allows United to maintain its status as a small emitter under the EU ETS. Per EU ETS Simplified Reporting Procedures, United used Eurocontrol CRCO records to submit its 2019 EU ETS emissions.

## C11.1c

**(C11.1c) Complete the following table for each of the tax systems you are regulated by.**
**Other carbon tax, please specify**
**Period start date**
January 1 2021
**Period end date**
December 31 2035
**% of total Scope 1 emissions covered by tax**
33
**Total cost of tax paid**
0
**Comment**
While the Paris Agreement does not currently affect United, ICAO's (International Civil Aviation Organization, the UN agency for aviation) global market-based measure in the form of CORSIA complements the domestic-focused Paris Agreement, which did not address international aviation emissions. CORSIA, adopted by ICAO in 2016, addresses any annual increase in total GHG emissions from airlines' international flying above baseline levels. Due to the COVID-19 global pandemic, ICAO recently amended CORSIA such that 2019 emissions will be the baseline year, against which emissions in future years are compared. Approximately 33% of United's 2019 capacity (including regional partners) was flown between country-pairs that have volunteered for the first phase of CORSIA, which begins in 2021. If additional countries join in subsequent years, this number is expected to increase.

## C11.1d

**(C11.1d) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?**

United's climate strategy is focused primarily on mitigating GHG emissions from its aircraft, as 99% of United's Scope 1 and Scope 2 emissions result from jet fuel consumption. Jet fuel consumption was United's second largest cost in 2019 (comprising 23% of operating expenses), making conserving fuel and reducing GHG emissions important factors in the company's financial success. United is committed to pursuing reductions in fuel consumption including, but not limited to, improvements in aircraft fuel efficiency. In the short term, United is pursuing several fuel efficiency measures. In the long term, United has taken a leading role in developing the market for sustainable aviation fuel. In addition, United mitigates its impact on climate change through investments in its aircraft fleet.

European Union ETS:
United has actively engaged and prepared for both the administrative and financial aspects of compliance with the European Union Emissions Trading Scheme (EU ETS) since the EU amended the legislation, in 2008, to include aviation emissions in the scheme. United has established the required monitoring, reporting, and verification methods for its GHG emissions regulated under the EU ETS, met all regulatory requirements, and surrendered all necessary allowances since the legislation was adopted.

In 2016, ICAO adopted a global market-based measure in the form of the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) to address any annual increase in total GHG emissions from airlines' international flights above a baseline level. To allow time for ICAO to develop and implement CORSIA, the European Commission adopted an amendment to the EU ETS Directive, narrowing the scope of EU ETS to flights only within the European Economic Area (intra-EEA) until December 31, 2023. The European Commission is currently monitoring CORSIA's implementation in order to decide whether and how to amend EU ETS after 2023.
United also reports EU ETS to the United Kingdom as its Competent Authority. In January 2020, the United Kingdom left the European Union, with an interim extension to its inclusion in the EU ETS regulatory program until the end of December 2020. Starting January 1, 2021, however, the United

Kingdom will likely pursue its own market-based carbon scheme, with a yet unknown relationship and alignment with EU ETS. United continues to be engaged in the regulatory process, but the precise nature of any amendments to the EU ETS or the potential for the U.S. or foreign governments to further regulate aviation GHG emissions and their applicability to United cannot be predicted at this time.

California's Greenhouse Cap-and-Trade Program:
United has been subject to California's Greenhouse Cap-and-Trade Program since 2012 due to the stationary source emissions generated by the company's San Francisco Maintenance Center operations. United has established the required monitoring, reporting, and verification methods for its GHG emissions regulated under the Program, met all regulatory requirements, and surrendered all necessary allowances since the regulation entered effect.
ICAO Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA):
The majority of United's international routes and the associated emissions are expected to be included in CORSIA, and company and airline industry growth above the CORSIA baseline would require United to reduce or offset some of its GHG emissions. United's Environmental Affairs, Fleet Strategy, Finance, and Fuel Efficiency departments are working together to determine the optimal strategy to meet United's obligations through a combination of aircraft purchases, fuel efficiency strategies, sustainable aviation fuel (SAF) adoption, and offset purchases. United also continues to actively invest in more fuel-efficient technologies and aircraft. United continued its emission reduction activities in 2019, including taking delivery of 8 additional Boeing 787-10 aircraft, which offer substantially reduced fuel consumption and GHG emissions. United also took delivery of 5 fuel-efficient 737 MAX 9 aircraft in 2019, prior to the March 2019 FAA order prohibiting the operation of Boeing 737 MAX series aircraft by U.S. certified operators. Since 2013 United has had a long-term mainline upgauging initiative; replacing smaller aircraft with fewer flights on larger aircraft generally results in even higher fuel efficiency benefits than just replacing aircraft with newer generation aircraft. In addition, United has made the largest investments by an airline globally in SAF development through its purchase agreement with World Energy and its $30 million equity investment and long-term supply agreement with Fulcrum BioEnergy. In 2019, United also made an additional $40 million commitment toward a new investment vehicle focused on accelerating the development of SAF and other decarbonization technologies.

## C11.2

### (C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?

Yes

## C11.2a

### (C11.2a) Provide details of the project-based carbon credits originated or purchased by your organization in the reporting period.

**Credit origination or credit purchase**

Credit purchase

**Project type**

Forests

**Project identification**

United made aviation history on June 5, 2019 (World Environment Day) by flying the most eco-friendly commercial flight of its kind in the history of aviation: on the Flight for the Planet, United became the first airline to demonstrate all of the following key actions on a single commercial flight: utilization of sustainable aviation fuel, zero cabin waste efforts, carbon offsetting, and operational fuel efficiency optimization. The Alto Mayo project, located in Peru's Alto Mayo Protected Forest, provides forest protection, conservation, and reforestation across 450,000 acres. Beyond the natural carbon mitigation

benefits, this project promotes sustainable communities by increasing community productivity and local income.

**Verified to which standard**

VCS (Verified Carbon Standard)

**Number of credits (metric tonnes CO2e)**

40

**Number of credits (metric tonnes CO2e): Risk adjusted volume**

40

**Credits cancelled**

Yes

**Purpose, e.g. compliance**

Voluntary Offsetting

---

**Credit origination or credit purchase**

Credit purchase

**Project type**

Forests

**Project identification**

In September 2019 United announced that it would offset the travel emissions of the first 25,000 travelers aged 18-22 who booked tickets through United's mobile app. This promotion went through December 2019. The Alto Mayo project, located in Peru's Alto Mayo Protected Forest, provides forest protection, conservation, and reforestation across 450,000 acres. Beyond the natural carbon mitigation benefits, this project promotes sustainable communities by increasing community productivity and local income. The Chyulu Hills project, located in southeast Keya, protects forests and natural resources. It also supports employment of forest and game rangers, safeguards the Chyulu Hills water catchment, and provide communities with improved social services in health and education, employment and business opportunities across 1 million acres. In addition to these benefits, this project promotes wildlife conservation, including populations of increasingly threatened African elephants and the critically endangered black rhino.

**Verified to which standard**

VCS (Verified Carbon Standard)

**Number of credits (metric tonnes CO2e)**

15385

**Number of credits (metric tonnes CO2e): Risk adjusted volume**

15385

**Credits cancelled**

Yes

**Purpose, e.g. compliance**

Voluntary Offsetting

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## C11.3

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**(C11.3) Does your organization use an internal price on carbon?**

Yes

## C11.3a

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**(C11.3a) Provide details of how your organization uses an internal price on carbon.**

**Objective for implementing an internal carbon price**

Navigate GHG regulations

**GHG Scope**

Scope 1

**Application**

United has started to incorporate a carbon price into its fleet purchase and fuel efficiency investment decisions. The most immediate need is to address United's upcoming compliance obligations as part of the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA). CORSIA is expected to address any annual increase in total GHG emissions from airlines' international flying above baseline levels. Due to the COVID-19 global pandemic, ICAO recently amended CORSIA such that 2019 emissions will be the baseline year, against which emissions in future years are compared. In any year from 2021 onward when international aviation's GHG emissions covered by the scheme exceed this baseline, this difference represents international aviation's offsetting requirements for that year.

**Actual price(s) used (Currency /metric ton)**

8

**Variance of price(s) used**

United is currently evaluating a range of carbon prices rather than a specific carbon price due to numerous uncertainties regarding CORSIA, including: - Lack of uncertainty of the CORSIA baseline for latter phases of the scheme (the amendment to 2019 emissions for the baseline is currently only applicable for the first phase, 2021-23) - Lack of certainty around the price of these carbon instruments The $8 per metric ton figure in this table represents the Low scenario in the IEA's (International Energy Agency) forecast for 2020 carbon prices. ICAO uses IEA forecasts to estimate the cost to the airline industry of CORSIA in 2025 to be $1.5 billion under ICAO's Optimistic scenario (with Additional Low carbon price), at a price of $6 per metric ton. Price forecasts for 2020 range from $6 to $20 per metric ton.

**Type of internal carbon price**

Shadow price

**Impact & implication**

A 1% exposure to ICAO's industry estimate would cost United $15 million in 2025. United uses an internal price of carbon to determine the future impact of CORSIA. The majority of United's international routes and the emissions are expected to be included in CORSIA, and company and airline industry growth above the CORSIA baseline would require United to reduce or offset some of its GHG emissions. United's Environmental Affairs, Fleet Strategy, Finance, and Fuel Efficiency departments are working together to determine the optimal strategy to meet United's obligations through a combination of aircraft purchases, fuel efficiency strategies, sustainable aviation fuel adoption, and offset purchases.

## C12. Engagement

## C12.1

**(C12.1) Do you engage with your value chain on climate-related issues?**

Yes, our suppliers

Yes, our customers

## C12.1a

**(C12.1a) Provide details of your climate-related supplier engagement strategy.**

**Type of engagement**

Compliance & onboarding

**Details of engagement**

Climate change is integrated into supplier evaluation processes

**% of suppliers by number**

50

**% total procurement spend (direct and indirect)**

75

**% of supplier-related Scope 3 emissions as reported in C6.5**

99

**Rationale for the coverage of your engagement**

Where possible, United seeks out suppliers with commitments to sustainable business practices in order to enhance the sustainability of United's operations, products, and services. Because nearly all of United's emissions are related to jet fuel consumption, United has worked closely with the following groups of suppliers for many years to improve its fuel efficiency: - Aircraft and engine manufacturers: United has long been a global launch customer for seventeen new aircraft types, and through its fleet investments and focus on fuel efficiency, has been able to improve its fuel efficiency by 80% since the first generation of jets. - Maintenance providers: United was among the first airlines to use Pratt & Whitney's EcoPower system, which uses atomized water to improves fuel efficiency and reduce GHG emissions by washing engines. United was also the first airline to fly with Aviation Partners Boeing's new Scimitar winglets, which improve fuel efficiency by an additional 2% beyond the standard winglets available on the Boeing 737 and Boeing 757. - Airports: United has partnered to develop sufficient runway capacity while also ensuring that airports have the necessary infrastructure to power aircraft using electricity while parked at the gate. More recently United has partnered with airports to provide infrastructure to convert its ground fleet from fuel- to electric-powered, and also partnered with Los Angeles International Airport to provide sustainable aviation fuel (SAF) for the company's aircraft. - ATC providers: United has worked with ATC providers to ensure optimal flight paths and altitudes while reducing time spent in inefficient holding patterns. - Onboard suppliers: United strongly encourages suppliers to develop lighter materials for use on board aircraft, as lighter materials require less fuel to carry them. For example, in 2017 United switched to a lighter, 10% recycled content paper for its inflight service guide. While each guide became lighter by a mere 1.1 ounce, this change saves 220,000 gallons of fuel and 2,100 metric tons of CO2e per year.

**Impact of engagement, including measures of success**

United measures its success by the overall improvement in fuel efficiency. Through these collaborations, United has been able to improve its fuel efficiency by 80% since the first generation of jets. Starting with certain key suppliers, United has also integrated environmentally focused questions into its Request for Proposal process. Success is measured by how the use of suppliers' product or services reduces United's impact on the environment. In 2014, United surveyed its suppliers to help it better understand suppliers' environmental performance and make better procurement decisions. The initiative underscored United's commitment to environmental sustainability and also aligned with United's participation in the United Nations Global Compact, which encourages signatories to promote environmental practices throughout their supply chains. United was the first U.S. airline to join the Global Compact. Supplier engagements are prioritized based on their expected fuel efficiency improvement. In addition, suppliers of SAF hold the greatest GHG emissions reduction potential, so United has sought out suppliers who could provide significant volumes of SAF. United measures its success by the size of the investments it has made, the lifecycle CO2 reductions the SAF would achieve, and the company's history of firsts in SAF, including: - 2009: first demonstration flight by a U.S. airline - 2011: first commercial passenger flight by a U.S. airline - 2013: first definitive, ongoing agreement by an airline globally - 2016: first airline globally to fly on an ongoing daily basis - 2019: first airline to renew a SAF agreement

**Comment**

The % of supplier figures are as a percentage of United suppliers with spend in excess of $1 million in 2019. Because nearly all of United's emissions are related to jet fuel consumption, the % emissions figure has been answered covering all Scope 1, 2, and 3 emissions. United believes answering the question in this manner provides readers with a more comprehensive understanding of United's engagement with its suppliers.

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**Type of engagement**

Engagement & incentivization (changing supplier behavior)

**Details of engagement**
Offer financial incentives for suppliers who reduce your downstream emissions (Scopes 3)
**% of suppliers by number**
0.3
**% total procurement spend (direct and indirect)**
21
**% of supplier-related Scope 3 emissions as reported in C6.5**
94.4
**Rationale for the coverage of your engagement**
United Express partners are a key part of reducing United's GHG emissions. These regional partners enable United to fly the right size aircraft for a given route or time to avoid excess fuel consumption and the associated GHG emissions. In addition, they allow United to offer nonstop rather than multi-stop service to smaller cities, further saving fuel and emissions. These partners have been chosen as they represent the majority of United's Scope 3 emissions.
**Impact of engagement, including measures of success**
Beyond network strategy, United works closely with its United Express partners. United sets targets and holds consistent benchmarking meetings with each regional partner to review their progress towards a more fuel-efficient and less GHG intensive operation. United measures the success of its United Express partners by evaluating their ability to deliver results against these targets.
**Comment**
The % of supplier figures are as a percentage of United suppliers with spend in excess of $1 million in 2019.

## C12.1b

**(C12.1b) Give details of your climate-related engagement strategy with your customers.**
**Type of engagement**
Education/information sharing
**Details of engagement**
Run an engagement campaign to educate customers about the climate change impacts of (using) your products, goods, and/or services
**% of customers by number**
100
**% of customer - related Scope 3 emissions as reported in C6.5**
100
**Portfolio coverage (total or outstanding)**
<Not Applicable>
**Please explain the rationale for selecting this group of customers and scope of engagement**
The size of engagement figure is the percentage of customers booking via united.com. Since 2007, United has offered its passengers and cargo customers the ability to offset GHG emissions associated with their air travel through the company's CarbonChoice offset program. United's CO2 calculator is based on actual routes, aircraft used, load factors, and fuel consumption. Corporate customers can receive customized GHG emissions reports and can purchase offsets to counterbalance the GHG emissions associated with their transportation, effectively allowing them to travel and ship carbon-neutral on United. United has decided to engage with 100% of online customers because the company is easily able to provide customers with an option to purchase CarbonChoice offsets for their travels. Offset projects offered by United's environmental partner Conservation International are also designed to provide social and economic benefits to communities where those projects are located.
**Impact of engagement, including measures of success**
Engaging customers to be mindful of and reduce their GHG emissions are the top priorities for United's offset program. United considers a measure of success for this engagement strategy to be customers

representing at least $1 billion in annual revenue inquiring about United's sustainability performance and their own travel emissions. In 2019, United received sustainability inquiries from over 160 corporate customers representing $2.3 billion in annual revenue. Because nearly all of United's emissions are related to jet fuel consumption, the % emissions figure has been answered covering all Scope 1, 2, and 3 emissions. United believes answering the question in this manner provides readers with a more comprehensive understanding of United's engagement with its customers.

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**Type of engagement**

Education/information sharing

**Details of engagement**

Run an engagement campaign to educate customers about the climate change impacts of (using) your products, goods, and/or services

**% of customers by number**

100

**% of customer - related Scope 3 emissions as reported in C6.5**

100

**Portfolio coverage (total or outstanding)**

<Not Applicable>

**Please explain the rationale for selecting this group of customers and scope of engagement**

The size of engagement figure is the percentage of eligible corporate customers. In 2017, United added a GHG emissions component to its Global Performance Commitment to corporate accounts. United committed to achieving lower GHG intensity than its two largest U.S.-based competitors each year, as measured by gross CO2e per available seat-mile. Not meeting this goal would result in compensation, in the form of United Services Funds, to eligible corporate accounts.

**Impact of engagement, including measures of success**

Engaging corporate customers to be mindful of their GHG emissions and select a less GHG-intensive airline are the top priorities for the emissions component of the Global Performance Commitment. United considers a measure of success for this engagement strategy to be customers representing at least $1 billion in annual revenue inquiring about United's sustainability performance and their own travel emissions, and for United to successfully achieve lower GHG intensity than its two largest U.S.-based competitors. In 2019, United received sustainability inquiries from over 160 corporate customers representing $2.3 billion in annual revenue. In 2018, United successfully met the GHG emissions component of its Global Performance Commitment, with 6.3% and 6.8% lower emissions intensity; 2019 results for competitors are not yet available. Because nearly all of United's emissions are related to jet fuel consumption, the % emissions figure has been answered covering all Scope 1, 2, and 3 emissions. United believes answering the question in this manner provides readers with a more comprehensive understanding of United's engagement with its customers.

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## C12.3

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**(C12.3) Do you engage in activities that could either directly or indirectly influence public policy on climate-related issues through any of the following?**

Direct engagement with policy makers

Trade associations

Funding research organizations

Other

## C12.3a

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**(C12.3a) On what issues have you been engaging directly with policy makers?**

| Focus of legislation | Corporate position | Details of engagement | Proposed legislative solution |
|---|---|---|---|
| Other, please specify (Global market carbon control) | Support | United is working closely with its industry trade organizations, Airlines for America, the International Air Transport Association, and the Air Transport Action Group, to develop and implement new technologies including sustainable aviation fuel (SAF), to increase fuel and operational efficiencies, improve air traffic control systems and infrastructure, and advocate for supportive government policies and investment. This work has included the development of a CO2 efficiency standard for aircraft and the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), both of which were adopted by ICAO in 2016. United is also actively involved in the ICAO process through its membership as an expert in ICAO's Committee on Aviation Environmental Protection (CAEP) Working Group 4 and Fuels Task Group, which conduct technical work to facilitate the development of CORSIA and the inclusion of SAF in the scheme. | An international and cooperative global solution for aviation GHG emissions, as opposed to a patchwork of different and conflicting emission taxes and regulatory programs across the globe. |
| Energy efficiency | Support | United is working closely with its industry trade organizations, Airlines for America, the International Air Transport Association, and the Air Transport Action Group, to develop and implement new technologies including SAF to increase fuel and operational efficiencies, improve air traffic control systems and infrastructure, and advocate for supportive government policies and investment. This work includes fully implementing the Federal Aviation Administration's Next Generation Air Transportation System for air traffic control (FAA NextGen ATC), which would transform the U.S. air traffic control system from a radar-based system with radio communication to a satellite-based system. GPS technology would be used to shorten routes, save time and fuel, reduce air traffic delays, and permit controllers to monitor and manage aircraft with greater safety margins. | Separating the ATC function from the federal government and moving it to a newly created not-for-profit organization. The proposed ATC organization would be governed by a board that both represents and is accountable to users of the system and is paid for by user fees, ensuring a stable source of funding. The FAA would continue to focus on its most important mission, ensuring airspace safety. United believes ATC reform is necessary to expedite and ensure the efficient modernization of the U.S. ATC system, leading to increased safety of operations, significantly lower GHG emissions, and reduced operating costs. United and its trade organizations also continue to advocate for modernization of the ATC system in the EU and other international regions, due to the environmental benefits and associated cost savings. |
| Climate finance | Support | United assembled a broad coalition of aviation industry stakeholders to lobby to revise California's Low Carbon Fuel Standard, a per-gallon credit for producers of low-carbon fuels. | United's SAF was excluded from generating credits prior to 2019. United worked with the California Air Resources Board (CARB) to provide the technical analyses necessary to include aviation fuel in this crediting system effective January 1, 2019, further spurring the development of the SAF industry. United continues to seek additional incentives for SAF in multiple geographies. |

## C12.3b

### (C12.3b) Are you on the board of any trade associations or do you provide funding beyond membership?

Yes

## C12.3c

### (C12.3c) Enter the details of those trade associations that are likely to take a position on climate change legislation.

**Trade association**

Airlines for America (A4A)

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

A4A member airlines have a long-standing commitment to improving fuel efficiency and promoting the commercialization of sustainable aviation fuel, thereby reducing their CO2 emissions. A4A's commitment supports a global market-based measure approach to aviation climate change policy under ICAO, and promotes critical technology, air traffic management, and energy and infrastructure advances. A4A's goals are in alignment with the goals set forth in the airline industry's commitment to action on climate change. These goals are: 1) Improving fuel efficiency by an average of 1.5% per year from 2009 to 2020 2) Stabilizing CO2 emissions from 2020 with carbon-neutral growth, subject to appropriate government investment in technological and infrastructure improvements 3) Reducing net CO2 emissions from aviation by 50% by 2050 relative to 2005 levels

**How have you influenced, or are you attempting to influence their position?**

United has engaged in the development of CORSIA since 2009. United was chair of A4A's Environment Council in 2016 and in 2017 was chair of the International Noise and Emissions Committee.

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**Trade association**

International Air Transport Association (IATA)

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

IATA's work and position is very similar to A4A's, who also engages directly in the work of IATA.

**How have you influenced, or are you attempting to influence their position?**

United is a member of IATA and was a member of IATA's Climate Change Task Force that developed the airline industry's commitment to action on climate change; United remains engaged through its observer status in IATA's CORSIA Working Group that continues this work. In 2017, United served as vice-chair of IATA's Environment Committee (ENCOM), which drives IATA's global environmental policy.

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**Trade association**

Air Transport Action Group (ATAG)

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

ATAG is an association promoting aviation's sustainable growth on behalf of all aviation companies, including airlines, airports, aircraft and engine manufacturers, and ATC providers. ATAG's policy position is very similar to A4A and IATA's, both of which also engage directly in the work of ATAG.

**How have you influenced, or are you attempting to influence their position?**

United regularly advises ATAG on its outreach and communications efforts.

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## C12.3d

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**(C12.3d) Do you publicly disclose a list of all research organizations that you fund?**

Yes

## C12.3e

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**(C12.3e) Provide details of the other engagement activities that you undertake.**

United is a member of IATA and was a member of IATA's Climate Change Task Force that developed the airline industry's commitment to action on climate change. United remains engaged through its observer

status in IATA's CORSIA Working Group that continues this work. In 2017, United served as vice-chair of IATA's Environment Committee (ENCOM), which focuses on global environment policy, and is also actively involved in the ICAO process through its membership as an expert in ICAO's Committee on Aviation Environmental Protection (CAEP) – Alternative Fuels Task Force (AFTF) and Global Market-Based-Measures Technical Task Force (GMTF).

These groups advocate the goals set forth in the airline industry's commitment to action on climate change. These goals are:
1) Improving fuel efficiency by an average of 1.5% per year from 2009 to 2020
2) Stabilizing GHG emissions from 2020 with carbon-neutral growth, subject to appropriate government investment in technological and infrastructure improvements
3) Reducing net GHG emissions from aviation by 50% by 2050 relative to 2005 emission levels

These groups engage in this work by conducting technical work to facilitate the development of CORSIA, the aircraft CO2 efficiency standard, and the commercialization of sustainable aviation fuel.

United has supported Conservation International since 1999 and is currently a member of their Business and Sustainability Council, a community of companies that use their business experience and resources to protect nature. In addition to bringing attention to conservation issues, Conservation International experts have assisted United on science, policy, and sustainability issues and practices.

In 2016 United also became a member of below50. below50 is a global collaboration of World Business Council for Sustainable Development (WBCSD), Roundtable for Sustainable Biomaterials (RSB), and Sustainable Energy for All (SE4ALL), that brings together the entire value-chain for sustainable fuels with at least 50% less GHG emissions than conventional fossil fuels. below50 aims to create demand for these fuels and scale up their deployment by:
- Increasing the number of companies choosing below50 fuels
- Creating inter-sectoral B2B opportunities across supply chains
- Demonstrating that below50 fuels makes good economic, social and environmental sense
- Addressing legislative and financial barriers to sourcing below50 fuels

United engages in this work by participating in ongoing meetings to drive global and regional policy and address financial barriers to the scale-up of sustainable fuels.

## C12.3f

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**(C12.3f) What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?**

United's engagement on environmental policy issues is coordinated with its International Regulatory Affairs and Government Affairs departments. At the senior executive level, environmental programs and policies, including climate change, are overseen by the President and the Senior Vice President of Government Affairs & Global International Policy. United's Managing Director of Global Environmental Affairs and Sustainability has day-to-day responsibility for environmental matters. The Public Responsibility Committee of the Board provides board oversight for United's policies and positioning with respect to social responsibility and public policy, including environmental responsibility. In addition to scheduled Public Responsibility Committee meetings, members of the committee meet with certain United officers to receive updates and discuss key issues directly relevant to its purpose as described above. On an annual basis, the Public Responsibility Committee reviews United's environmental programs and policies, initiatives related to climate change, environmental regulations that impact United, and progress in fulfilling United's sustainability objectives and environmental commitments.

## C12.4

**(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).**

**Publication**
In mainstream reports, in line with the CDSB framework (as amended to incorporate the TCFD recommendations)
**Status**
Complete
**Attach the document**
United Airlines - 2019 Annual Report on Form 10-K.pdf
**Page/Section reference**
Whole document
**Content elements**
Governance
Risks & opportunities
Other metrics
**Comment**
Annual Report on Form 10-K of United Continental Holdings, Inc. and United Airlines, Inc. for the fiscal year ended December 31, 2019 https://ir.united.com/static-files/d4964ef6-f8f1-44ef-a230-cfd63faf9655

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**Publication**
In voluntary sustainability report
**Status**
Complete
**Attach the document**
United Airlines - 2017 Corporate Responsibility Report.pdf
**Page/Section reference**
Whole document
**Content elements**
Emissions figures
Emission targets
Other metrics
**Comment**
United Airlines – Corporate Responsibility Report http://crreport.united.com

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**Publication**
In voluntary communications
**Status**
Complete
**Attach the document**
2019-5-22 United Expands Commitment to Powering More Flights with Biofuel.pdf
**Page/Section reference**
Whole document
**Content elements**
Strategy
Emissions figures
Other metrics
**Comment**
Press release – May 22, 2019 United Expands Commitment to Powering More Flights with Biofuel https://hub.united.com/united-biofuel-commitment-world-energy-2635867299.html

**Publication**
In voluntary communications
**Status**
Complete
**Attach the document**
2019-6-5 United flight for the Planet most eco friendly flight.pdf
**Page/Section reference**
Whole document
**Content elements**
Strategy
Emissions figures
Other metrics
**Comment**
Press release – June 5, 2019 United Flight for the Planet Most Eco-Friendly Flight
https://hub.united.com/united-most-eco-friendly--flight-2638700079.html

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**Publication**
In voluntary communications
**Status**
Complete
**Attach the document**
2019-10-25 United Airlines Pledges $40 Million To Further Decarbonize Commercial Air Travel.pdf
**Page/Section reference**
Whole document
**Content elements**
Strategy
Emissions figures
Other metrics
**Comment**
Press release – October 25, 2019 United Pledges to Further Decarbonize Commercial Air Travel
https://hub.united.com/united-pledges-to-further-decarbonize-commercial-air-travel-2641103060.html

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**Publication**
In voluntary communications
**Status**
Complete
**Attach the document**
United Airlines - 2019 Other Attachments.docx
**Page/Section reference**
Whole document
**Content elements**
Strategy
Emissions figures
Other metrics
**Comment**
United Hub – Eco-Skies http://hub.united.com/eco-skies

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## C15. Signoff

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## C-FI

### (C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

## C15.1

### (C15.1) Provide details for the person that has signed off (approved) your CDP climate change response.

| | Job title | Corresponding job category |
|---|---|---|
| Row 1 | Chief Executive Officer (CEO) | Chief Executive Officer (CEO) |

# SC. Supply chain module

## SC0.0

### (SC0.0) If you would like to do so, please provide a separate introduction to this module.

United's shared purpose is "Connecting People. Uniting the World." We are more focused than ever on our commitment to customers through a series of innovations and improvements designed to help build a great experience: Every customer. Every flight. Every day. In 2019, United Airlines and United Express together operated approximately 4,900 flights a day to 361 airports across six continents, and operated more than 1.7 million flights carrying more than 162 million customers. United is proud to have the world's most comprehensive route network, including U.S. mainland hubs in Chicago, Denver, Houston, Los Angeles, New York/Newark, San Francisco, and Washington, D.C. As of December 31, 2019, United's operations included 791 mainline aircraft and the airline's United Express carriers operated 581 regional aircraft. United is a founding member of Star Alliance, which in 2019 provided service to 195 countries via 28 member airlines. For more information, visit united.com, follow @United on Twitter and Instagram or connect on Facebook. The common stock of United's parent, United Airlines Holdings, Inc., is traded on the Nasdaq under the symbol "UAL".

United's Eco-Skies program represents the company's commitment to the environment and the actions taken every day to create a sustainable future. At United, we're on a mission to make sustainable flying the new standard, and our path to reduce our "wingprint," in the air, on the ground, and extending to our communities. In January 2017, for the second time since launching its industry-leading Eco-Skies program, United Airlines was named the Eco-Airline of the Year by Air Transport World magazine. The award recognizes an airline globally for its environmental leadership as demonstrated by consistent and impactful environmental action within the company and in the airline industry. The magazine awarded United with the top honor for multiple initiatives in 2016 and prior years, including becoming the first airline to begin using sustainable aviation fuel (SAF) on an ongoing daily basis, marking a significant milestone in the airline industry, by moving beyond demonstrations and test programs to the use of SAF in ongoing operations. In 2018, United Airlines ranked No. 1 among global carriers in Newsweek's Global 500 Green Rankings, one of the most recognized environmental performance assessments of the world's largest publicly traded companies. In 2019, United flew the most eco-friendly commercial flight of its kind in the history of aviation: on the Flight for the Planet, United became the first known airline to demonstrate all of the following key actions on a single commercial flight: utilization of SAF, zero cabin waste efforts, carbon offsetting, and operational efficiencies. Today, we consume almost half the global supply of SAF through daily flights departing from Los Angeles, demonstrating a commitment to and support for the growing market for lower carbon alternatives.

United's four-pillar commitment to the environment consists of:
1) Fuel efficiency and emissions reduction: increasing fuel efficiency and reducing emissions through technology and process innovation

2) Sustainable fuel sources: investing in environmentally responsible and cost-efficient sustainable fuels
3) Sustainable products and materials management: improving the sustainability of United's products and facilities
4) Eco-Skies partners: partnering to promote sustainability and protect our environment.

## SC0.1

### (SC0.1) What is your company's annual revenue for the stated reporting period?

| | Annual Revenue |
|---|---|
| Row 1 | 43259000000 |

## SC0.2

### (SC0.2) Do you have an ISIN for your company that you would be willing to share with CDP?

Yes

## SC0.2a

### (SC0.2a) Please use the table below to share your ISIN.

| | ISIN country code (2 letters) | ISIN numeric identifier and single check digit (10 numbers overall) |
|---|---|---|
| Row 1 | US | 9100471096 |

## SC1.1

### (SC1.1) Allocate your emissions to your customers listed below according to the goods or services you have sold them in this reporting period.

**Requesting member**

Accenture

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO2e**

48515

**Uncertainty (±%)**

1

**Major sources of emissions**

- Scope 1: Fuel consumed by mainline aircraft, ground support equipment, and facilities - Scope 2: Electricity use at facilities - Scope 3: Fuel consumed by regional partner aircraft and ground support equipment

**Verified**

No

**Allocation method**

Allocation not necessary due to type of primary data available

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

United allocated its GHG emissions by examining the actual emissions from fuel consumption for all United flights flown by Accenture customers; actual emissions from fuel consumption for flights comprise approximately 99% of United's emissions inventory. United then scaled up this figure to account for emissions from non-aircraft sources and allocated a portion of these emissions to Accenture. The

emissions figure shown assumes a higher allocation for travel in premium cabins, which was not the case in prior years. If all cabins were allocated emissions equally, this figure would be 42,000; United is able to provide figures using other methodologies as well if desired. In 2019 Accenture customers on United flew with an average fuel efficiency of 52.9 miles per gallon and at an average speed of 342 miles per hour. The speed figure reflects time from scheduled departure to actual arrival.

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**Requesting member**
Avianca Holdings S.A.
**Scope of emissions**
Scope 1
**Allocation level**
Company wide
**Allocation level detail**
<Not Applicable>
**Emissions in metric tonnes of CO2e**
15591
**Uncertainty (±%)**
1
**Major sources of emissions**
- Scope 1: Fuel consumed by mainline aircraft, ground support equipment, and facilities - Scope 2: Electricity use at facilities - Scope 3: Fuel consumed by regional partner aircraft and ground support equipment
**Verified**
No
**Allocation method**
Allocation not necessary due to type of primary data available
**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**
United allocated its GHG emissions by examining the actual emissions from fuel consumption for all United flights flown by Avianca-booked customers; actual emissions from fuel consumption for flights comprise approximately 99% of United's emissions inventory. United then scaled up this figure to account for emissions from non-aircraft sources and allocated a portion of these emissions to Avianca customers. The emissions figure shown assumes a higher allocation for travel in premium cabins, which was not the case in prior years. If all cabins were allocated emissions equally, this figure would be 15,877; United is able to provide figures using other methodologies as well if desired. In 2019 Avianca-booked customers on United flew with an average fuel efficiency of 62.0 miles per gallon and at an average speed of 385 miles per hour. The speed figure reflects time from scheduled departure to actual arrival.

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**Requesting member**
Bank of America
**Scope of emissions**
Scope 1
**Allocation level**
Company wide
**Allocation level detail**
<Not Applicable>
**Emissions in metric tonnes of CO2e**
15887
**Uncertainty (±%)**
1
**Major sources of emissions**

- Scope 1: Fuel consumed by mainline aircraft, ground support equipment, and facilities - Scope 2: Electricity use at facilities - Scope 3: Fuel consumed by regional partner aircraft and ground support equipment

**Verified**

No

**Allocation method**

Allocation not necessary due to type of primary data available

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

United allocated its GHG emissions by examining the actual emissions from fuel consumption for all United flights flown by Bank of America customers; actual emissions from fuel consumption for flights comprise approximately 99% of United's emissions inventory. United then scaled up this figure to account for emissions from non-aircraft sources and allocated a portion of these emissions to Bank of America. The emissions figure shown assumes a higher allocation for travel in premium cabins, which was not the case in prior years. If all cabins were allocated emissions equally, this figure would be 11,512; United is able to provide figures using other methodologies as well if desired. In 2019 Bank of America customers on United flew with an average fuel efficiency of 43.8 miles per gallon and at an average speed of 352 miles per hour. The speed figure reflects time from scheduled departure to actual arrival.

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**Requesting member**

Cisco Systems, Inc.

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO2e**

25032

**Uncertainty (±%)**

1

**Major sources of emissions**

- Scope 1: Fuel consumed by mainline aircraft, ground support equipment, and facilities - Scope 2: Electricity use at facilities - Scope 3: Fuel consumed by regional partner aircraft and ground support equipment

**Verified**

No

**Allocation method**

Allocation not necessary due to type of primary data available

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

United allocated its GHG emissions by examining the actual emissions from fuel consumption for all United flights flown by Cisco customers; actual emissions from fuel consumption for flights comprise approximately 99% of United's emissions inventory. United then scaled up this figure to account for emissions from non-aircraft sources and allocated a portion of these emissions to Cisco. The emissions figure shown assumes a higher allocation for travel in premium cabins. If all cabins were allocated emissions equally, this figure would be 24,463; United is able to provide figures using other methodologies as well if desired. In 2019 Cisco customers on United flew with an average fuel efficiency of 67.5 miles per gallon and at an average speed of 413 miles per hour. The speed figure reflects time from scheduled departure to actual arrival.

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**Requesting member**
Eaton Corporation
**Scope of emissions**
Scope 1
**Allocation level**
Company wide
**Allocation level detail**
<Not Applicable>
**Emissions in metric tonnes of CO2e**
4352
**Uncertainty (±%)**
1
**Major sources of emissions**
- Scope 1: Fuel consumed by mainline aircraft, ground support equipment, and facilities - Scope 2: Electricity use at facilities - Scope 3: Fuel consumed by regional partner aircraft and ground support equipment
**Verified**
No
**Allocation method**
Allocation not necessary due to type of primary data available
**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**
United allocated its GHG emissions by examining the actual emissions from fuel consumption for all United flights flown by Eaton customers; actual emissions from fuel consumption for flights comprise approximately 99% of United's emissions inventory. United then scaled up this figure to account for emissions from non-aircraft sources and allocated a portion of these emissions to Eaton. The emissions figure shown assumes a higher allocation for travel in premium cabins, which was not the case in prior years. If all cabins were allocated emissions equally, this figure would be 3,736; United is able to provide figures using other methodologies as well if desired. In 2019 Eaton customers on United flew with an average fuel efficiency of 47.8 miles per gallon and at an average speed of 346 miles per hour. The speed figure reflects time from scheduled departure to actual arrival.

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**Requesting member**
Grupo Bimbo, S.A.B. de C.V.
**Scope of emissions**
Scope 1
**Allocation level**
Company wide
**Allocation level detail**
<Not Applicable>
**Emissions in metric tonnes of CO2e**
674
**Uncertainty (±%)**
1
**Major sources of emissions**
- Scope 1: Fuel consumed by mainline aircraft, ground support equipment, and facilities - Scope 2: Electricity use at facilities - Scope 3: Fuel consumed by regional partner aircraft and ground support equipment
**Verified**
No
**Allocation method**

Allocation not necessary due to type of primary data available

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

United allocated its GHG emissions by examining the actual emissions from fuel consumption for all United flights flown by Grupo Bimbo customers; actual emissions from fuel consumption for flights comprise approximately 99% of United's emissions inventory. United then scaled up this figure to account for emissions from non-aircraft sources and allocated a portion of these emissions to Grupo Bimbo. The emissions figure shown assumes a higher allocation for travel in premium cabins. If all cabins were allocated emissions equally, this figure would be 675; United is able to provide figures using other methodologies as well if desired. In 2019 Grupo Bimbo customers on United flew with an average fuel efficiency of 56.1 miles per gallon and at an average speed of 325 miles per hour. The speed figure reflects time from scheduled departure to actual arrival.

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**Requesting member**

Hewlett Packard Enterprise Company

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO2e**

10910

**Uncertainty (±%)**

1

**Major sources of emissions**

- Scope 1: Fuel consumed by mainline aircraft, ground support equipment, and facilities - Scope 2: Electricity use at facilities - Scope 3: Fuel consumed by regional partner aircraft and ground support equipment

**Verified**

No

**Allocation method**

Allocation not necessary due to type of primary data available

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

United allocated its GHG emissions by examining the actual emissions from fuel consumption for all United flights flown by Hewlett Packard Enterprise Company customers; actual emissions from fuel consumption for flights comprise approximately 99% of United's emissions inventory. United then scaled up this figure to account for emissions from non-aircraft sources and allocated a portion of these emissions to Hewlett Packard Enterprise Company. The emissions figure shown assumes a higher allocation for travel in premium cabins, which was not the case in prior years. If all cabins were allocated emissions equally, this figure would be 10,200; United is able to provide figures using other methodologies as well if desired. In 2019 Hewlett Packard Enterprise Company customers on United flew with an average fuel efficiency of 64.7 miles per gallon and at an average speed of 403 miles per hour. The speed figure reflects time from scheduled departure to actual arrival.

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**Requesting member**

HP Inc

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO2e**

13656

**Uncertainty (±%)**

1

**Major sources of emissions**

- Scope 1: Fuel consumed by mainline aircraft, ground support equipment, and facilities - Scope 2: Electricity use at facilities - Scope 3: Fuel consumed by regional partner aircraft and ground support equipment

**Verified**

No

**Allocation method**

Allocation not necessary due to type of primary data available

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

United allocated its GHG emissions by examining the actual emissions from fuel consumption for all United flights flown by HP Inc. customers; actual emissions from fuel consumption for flights comprise approximately 99% of United's emissions inventory. United then scaled up this figure to account for emissions from non-aircraft sources and allocated a portion of these emissions to HP Inc. The emissions figure shown assumes a higher allocation for travel in premium cabins, which was not the case in prior years. If all cabins were allocated emissions equally, this figure would be 13,041; United is able to provide figures using other methodologies as well if desired. In 2019 HP Inc. customers on United flew with an average fuel efficiency of 68.3 miles per gallon and at an average speed of 424 miles per hour. The speed figure reflects time from scheduled departure to actual arrival.

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**Requesting member**

L'Oréal

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO2e**

3509

**Uncertainty (±%)**

1

**Major sources of emissions**

- Scope 1: Fuel consumed by mainline aircraft, ground support equipment, and facilities - Scope 2: Electricity use at facilities - Scope 3: Fuel consumed by regional partner aircraft and ground support equipment

**Verified**

No

**Allocation method**

Allocation not necessary due to type of primary data available

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

United allocated its GHG emissions by examining the actual emissions from fuel consumption for all United flights flown by L'Oréal customers; actual emissions from fuel consumption for flights comprise

approximately 99% of United's emissions inventory. United then scaled up this figure to account for emissions from non-aircraft sources and allocated a portion of these emissions to L'Oréal. The emissions figure shown assumes a higher allocation for travel in premium cabins, which was not the case in prior years. If all cabins were allocated emissions equally, this figure would be 3,593; United is able to provide figures using other methodologies as well if desired. In 2019 L'Oréal customers on United flew with an average fuel efficiency of 66.2 miles per gallon and at an average speed of 373 miles per hour. The speed figure reflects time from scheduled departure to actual arrival.

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**Requesting member**
MetLife, Inc.
**Scope of emissions**
Scope 1
**Allocation level**
Company wide
**Allocation level detail**
<Not Applicable>
**Emissions in metric tonnes of CO2e**
3080
**Uncertainty (±%)**
1
**Major sources of emissions**
- Scope 1: Fuel consumed by mainline aircraft, ground support equipment, and facilities - Scope 2: Electricity use at facilities - Scope 3: Fuel consumed by regional partner aircraft and ground support equipment
**Verified**
No
**Allocation method**
Allocation not necessary due to type of primary data available
**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**
United allocated its GHG emissions by examining the actual emissions from fuel consumption for all United flights flown by MetLife customers; actual emissions from fuel consumption for flights comprise approximately 99% of United's emissions inventory. United then scaled up this figure to account for emissions from non-aircraft sources and allocated a portion of these emissions to MetLife. The emissions figure shown assumes a higher allocation for travel in premium cabins, which was not the case in prior years. If all cabins were allocated emissions equally, this figure would be 2,390; United is able to provide figures using other methodologies as well if desired. In 2019 MetLife customers on United flew with an average fuel efficiency of 46.9 miles per gallon and at an average speed of 351 miles per hour. The speed figure reflects time from scheduled departure to actual arrival.

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**Requesting member**
Stanley Black & Decker, Inc.
**Scope of emissions**
Scope 1
**Allocation level**
Company wide
**Allocation level detail**
<Not Applicable>
**Emissions in metric tonnes of CO2e**
920
**Uncertainty (±%)**

1

**Major sources of emissions**

- Scope 1: Fuel consumed by mainline aircraft, ground support equipment, and facilities - Scope 2: Electricity use at facilities - Scope 3: Fuel consumed by regional partner aircraft and ground support equipment

**Verified**

No

**Allocation method**

Allocation not necessary due to type of primary data available

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

United allocated its GHG emissions by examining the actual emissions from fuel consumption for all United flights flown by Stanley Black & Decker customers; actual emissions from fuel consumption for flights comprise approximately 99% of United's emissions inventory. United then scaled up this figure to account for emissions from non-aircraft sources and allocated a portion of these emissions to Stanley Black & Decker. The emissions figure shown assumes a higher allocation for travel in premium cabins, which was not the case in prior years. If all cabins were allocated emissions equally, this figure would be 966; United is able to provide figures using other methodologies as well if desired. In 2019 Stanley Black & Decker customers on United flew with an average fuel efficiency of 65.1 miles per gallon and at an average speed of 373 miles per hour. The speed figure reflects time from scheduled departure to actual arrival.

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**Requesting member**

TD Bank Group

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Allocation level detail**

<Not Applicable>

**Emissions in metric tonnes of CO2e**

1242

**Uncertainty (±%)**

1

**Major sources of emissions**

- Scope 1: Fuel consumed by mainline aircraft, ground support equipment, and facilities - Scope 2: Electricity use at facilities - Scope 3: Fuel consumed by regional partner aircraft and ground support equipment

**Verified**

No

**Allocation method**

Allocation not necessary due to type of primary data available

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

United allocated its GHG emissions by examining the actual emissions from fuel consumption for all United flights flown by TD Bank customers; actual emissions from fuel consumption for flights comprise approximately 99% of United's emissions inventory. United then scaled up this figure to account for emissions from non-aircraft sources and allocated a portion of these emissions to TD Bank. The emissions figure shown assumes a higher allocation for travel in premium cabins, which was not the case in prior years. If all cabins were allocated emissions equally, this figure would be 1,064; United is able to provide figures using other methodologies as well if desired. In 2019 TD Bank customers on United flew

with an average fuel efficiency of 47.3 miles per gallon and at an average speed of 321 miles per hour. The speed figure reflects time from scheduled departure to actual arrival.

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**Requesting member**
The Allstate Corporation
**Scope of emissions**
Scope 1
**Allocation level**
Company wide
**Allocation level detail**
<Not Applicable>
**Emissions in metric tonnes of CO2e**
5843
**Uncertainty (±%)**
1
**Major sources of emissions**
- Scope 1: Fuel consumed by mainline aircraft, ground support equipment, and facilities - Scope 2: Electricity use at facilities - Scope 3: Fuel consumed by regional partner aircraft and ground support equipment
**Verified**
No
**Allocation method**
Allocation not necessary due to type of primary data available
**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**
United allocated its GHG emissions by examining the actual emissions from fuel consumption for all United flights flown by Allstate customers; actual emissions from fuel consumption for flights comprise approximately 99% of United's emissions inventory. United then scaled up this figure to account for emissions from non-aircraft sources and allocated a portion of these emissions to Allstate. The emissions figure shown assumes a higher allocation for travel in premium cabins. If all cabins were allocated emissions equally, this figure would be 5,638; United is able to provide figures using other methodologies as well if desired. In 2019 Allstate customers on United flew with an average fuel efficiency of 56.4 miles per gallon and at an average speed of 330 miles per hour. The speed figure reflects time from scheduled departure to actual arrival.

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**Requesting member**
Wells Fargo & Company
**Scope of emissions**
Scope 1
**Allocation level**
Company wide
**Allocation level detail**
<Not Applicable>
**Emissions in metric tonnes of CO2e**
11315
**Uncertainty (±%)**
1
**Major sources of emissions**
- Scope 1: Fuel consumed by mainline aircraft, ground support equipment, and facilities - Scope 2: Electricity use at facilities - Scope 3: Fuel consumed by regional partner aircraft and ground support equipment

**Verified**
No
**Allocation method**
Allocation not necessary due to type of primary data available
**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**
United allocated its GHG emissions by examining the actual emissions from fuel consumption for all United flights flown by Wells Fargo customers; actual emissions from fuel consumption for flights comprise approximately 99% of United's emissions inventory. United then scaled up this figure to account for emissions from non-aircraft sources and allocated a portion of these emissions to Wells Fargo. The emissions figure shown assumes a higher allocation for travel in premium cabins, which was not the case in prior years. If all cabins were allocated emissions equally, this figure would be 10,633; United is able to provide figures using other methodologies as well if desired. In 2019 Wells Fargo customers on United flew with an average fuel efficiency of 55.1 miles per gallon and at an average speed of 335 miles per hour. The speed figure reflects time from scheduled departure to actual arrival.

## SC1.2

**(SC1.2) Where published information has been used in completing SC1.1, please provide a reference(s).**
United Airlines developed and manages calculations related to United's GHG footprint. The vast majority (99%) of United's GHG emissions result from jet fuel combustion, with some GHG emissions from ground support equipment (GSE), natural gas, and emissions associated with purchased electricity and steam. United allocates emissions to its customers by examining individual travelers' actual flights, aircraft used, load factors, and fuel **consumption**. United's methodology closely aligns with those used by other airlines and the International Civil Aviation Organization.

## SC1.3

**(SC1.3) What are the challenges in allocating emissions to different customers, and what would help you to overcome these challenges?**

| Allocation challenges | Please explain what would help you overcome these challenges |
|---|---|
| Other, please specify (Allocation method not universally agreed) | While the methodology in determining emissions of a particular flight and the onboard passengers and cargo are very straightforward, methods of allocating emissions between passengers and cargo, or between individual passengers who may be in different ticketed cabins, do not have universal consensus. Examples of allocation problems include: - Passengers can choose to book in different classes of service. United regularly upgrades select customers, including many from its corporate customers, resulting in mismatches between booked and flown classes of service. A customer may have chosen to voluntarily offset their emissions, assuming they would be flying in one cabin, and ultimately travel in another. It is not clear which class of service such customers should be allocated to for emissions footprint purposes. - Passenger travel is generally two-directional, while cargo flows are often dominated in one direction. For example, flights from the U.S. to Asia have very little cargo, while flights from Asia to the U.S. have a great deal of cargo. When apportioning CO2, the normal approach is to do so on a per flight basis—which means that a given shipment on a U.S.-Asia has a higher CO2 footprint than Asia-U.S. cargo. However, the aircraft needs to fly the high-footprint flight to be able to complete the low-footprint flight. |

## SC1.4

**(SC1.4) Do you plan to develop your capabilities to allocate emissions to your customers in the future?**
Yes

## SC1.4a

**(SC1.4a) Describe how you plan to develop your capabilities.**

United continues to identify additional relevant and material sources of emissions to incorporate into its emissions inventory. In addition, United participates in airline industry dialogue on best practices in emissions footprint calculations and is a founding member of the Sustainable Air Freight Alliance (SAFA), a collaboration between shippers, freight forwarders, and airlines to track and reduce carbon dioxide emissions from air freight and promote responsible freight transport.

## SC2.1

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**(SC2.1) Please propose any mutually beneficial climate-related projects you could collaborate on with specific CDP Supply Chain members.**

**Requesting member**

Accenture

**Group type of project**

New product or service

**Type of project**

New product or service that has a lower upstream emissions footprint

**Emissions targeted**

Actions that would reduce our own operational emissions (our scope 1 & 2)

**Estimated timeframe for carbon reductions to be realized**

0-1 year

**Estimated lifetime CO2e savings**

48515

**Estimated payback**

Other, please specify (None)

**Details of proposal**

The CO2e savings shown represents 2019 travel emissions. United is currently the largest user of sustainable aviation fuel, which offers significant reductions in lifecycle GHG emissions as compared to traditional jet fuel. United could allocate the associated emissions reductions to your travel on United. We would be eager to have further conversations regarding this opportunity.

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**Requesting member**

Avianca Holdings S.A.

**Group type of project**

New product or service

**Type of project**

New product or service that has a lower upstream emissions footprint

**Emissions targeted**

Actions that would reduce both our own and our customers' emissions

**Estimated timeframe for carbon reductions to be realized**

0-1 year

**Estimated lifetime CO2e savings**

15591

**Estimated payback**

Other, please specify (None)

**Details of proposal**

The CO2e savings shown represents 2019 travel emissions. United is currently the largest user of sustainable aviation fuel, which offers significant reductions in lifecycle GHG emissions as compared to traditional jet fuel. United could allocate the associated emissions reductions to your travel on United. We would be eager to have further conversations regarding this opportunity.

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**Requesting member**

Bank of America

**Group type of project**
New product or service
**Type of project**
New product or service that has a lower upstream emissions footprint
**Emissions targeted**
Actions that would reduce our own operational emissions (our scope 1 & 2)
**Estimated timeframe for carbon reductions to be realized**
0-1 year
**Estimated lifetime CO2e savings**
15887
**Estimated payback**
Other, please specify (None)
**Details of proposal**
The CO2e savings shown represents 2019 travel emissions. United is currently the largest user of sustainable aviation fuel, which offers significant reductions in lifecycle GHG emissions as compared to traditional jet fuel. United could allocate the associated emissions reductions to your travel on United. We would be eager to have further conversations regarding this opportunity.

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**Requesting member**
Cisco Systems, Inc.
**Group type of project**
New product or service
**Type of project**
New product or service that has a lower upstream emissions footprint
**Emissions targeted**
Actions that would reduce our own operational emissions (our scope 1 & 2)
**Estimated timeframe for carbon reductions to be realized**
0-1 year
**Estimated lifetime CO2e savings**
25032
**Estimated payback**
Other, please specify (None)
**Details of proposal**
The CO2e savings shown represents 2019 travel emissions. United is currently the largest user of sustainable aviation fuel, which offers significant reductions in lifecycle GHG emissions as compared to traditional jet fuel. United could allocate the associated emissions reductions to your travel on United. We would be eager to have further conversations regarding this opportunity.

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**Requesting member**
Eaton Corporation
**Group type of project**
New product or service
**Type of project**
New product or service that has a lower upstream emissions footprint
**Emissions targeted**
Actions that would reduce our own operational emissions (our scope 1 & 2)
**Estimated timeframe for carbon reductions to be realized**
0-1 year
**Estimated lifetime CO2e savings**
4352
**Estimated payback**

Other, please specify (None)

**Details of proposal**

The CO2e savings shown represents 2019 travel emissions. United is currently the largest user of sustainable aviation fuel, which offers significant reductions in lifecycle GHG emissions as compared to traditional jet fuel. United could allocate the associated emissions reductions to your travel on United. We would be eager to have further conversations regarding this opportunity.

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**Requesting member**

Grupo Bimbo, S.A.B. de C.V.

**Group type of project**

New product or service

**Type of project**

New product or service that has a lower upstream emissions footprint

**Emissions targeted**

Actions that would reduce our own operational emissions (our scope 1 & 2)

**Estimated timeframe for carbon reductions to be realized**

0-1 year

**Estimated lifetime CO2e savings**

674

**Estimated payback**

Other, please specify (None)

**Details of proposal**

The CO2e savings shown represents 2019 travel emissions. United is currently the largest user of sustainable aviation fuel, which offers significant reductions in lifecycle GHG emissions as compared to traditional jet fuel. United could allocate the associated emissions reductions to your travel on United. We would be eager to have further conversations regarding this opportunity.

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**Requesting member**

Hewlett Packard Enterprise Company

**Group type of project**

New product or service

**Type of project**

New product or service that has a lower upstream emissions footprint

**Emissions targeted**

Actions that would reduce our own operational emissions (our scope 1 & 2)

**Estimated timeframe for carbon reductions to be realized**

0-1 year

**Estimated lifetime CO2e savings**

10910

**Estimated payback**

Other, please specify (None)

**Details of proposal**

The CO2e savings shown represents 2019 travel emissions. United is currently the largest user of sustainable aviation fuel, which offers significant reductions in lifecycle GHG emissions as compared to traditional jet fuel. United could allocate the associated emissions reductions to your travel on United. We would be eager to have further conversations regarding this opportunity.

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**Requesting member**

HP Inc

**Group type of project**

New product or service

**Type of project**
New product or service that has a lower upstream emissions footprint
**Emissions targeted**
Actions that would reduce our own operational emissions (our scope 1 & 2)
**Estimated timeframe for carbon reductions to be realized**
0-1 year
**Estimated lifetime CO2e savings**
13656
**Estimated payback**
Other, please specify (None)
**Details of proposal**
The CO2e savings shown represents 2019 travel emissions. United is currently the largest user of sustainable aviation fuel, which offers significant reductions in lifecycle GHG emissions as compared to traditional jet fuel. United could allocate the associated emissions reductions to your travel on United. We would be eager to have further conversations regarding this opportunity.

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**Requesting member**
L'Oréal
**Group type of project**
New product or service
**Type of project**
New product or service that has a lower upstream emissions footprint
**Emissions targeted**
Actions that would reduce our own operational emissions (our scope 1 & 2)
**Estimated timeframe for carbon reductions to be realized**
0-1 year
**Estimated lifetime CO2e savings**
3509
**Estimated payback**
Other, please specify (None)
**Details of proposal**
The CO2e savings shown represents 2019 travel emissions. United is currently the largest user of sustainable aviation fuel, which offers significant reductions in lifecycle GHG emissions as compared to traditional jet fuel. United could allocate the associated emissions reductions to your travel on United. We would be eager to have further conversations regarding this opportunity.

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**Requesting member**
MetLife, Inc.
**Group type of project**
New product or service
**Type of project**
New product or service that has a lower upstream emissions footprint
**Emissions targeted**
Actions that would reduce our own operational emissions (our scope 1 & 2)
**Estimated timeframe for carbon reductions to be realized**
0-1 year
**Estimated lifetime CO2e savings**
3080
**Estimated payback**
Other, please specify (None)
**Details of proposal**

The CO2e savings shown represents 2019 travel emissions. United is currently the largest user of sustainable aviation fuel, which offers significant reductions in lifecycle GHG emissions as compared to traditional jet fuel. United could allocate the associated emissions reductions to your travel on United. We would be eager to have further conversations regarding this opportunity.

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**Requesting member**
Stanley Black & Decker, Inc.
**Group type of project**
New product or service
**Type of project**
New product or service that has a lower upstream emissions footprint
**Emissions targeted**
Actions that would reduce our own operational emissions (our scope 1 & 2)
**Estimated timeframe for carbon reductions to be realized**
0-1 year
**Estimated lifetime CO2e savings**
920
**Estimated payback**
Other, please specify (None)
**Details of proposal**
The CO2e savings shown represents 2019 travel emissions. United is currently the largest user of sustainable aviation fuel, which offers significant reductions in lifecycle GHG emissions as compared to traditional jet fuel. United could allocate the associated emissions reductions to your travel on United. We would be eager to have further conversations regarding this opportunity.

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**Requesting member**
TD Bank Group
**Group type of project**
New product or service
**Type of project**
New product or service that has a lower upstream emissions footprint
**Emissions targeted**
Actions that would reduce our own operational emissions (our scope 1 & 2)
**Estimated timeframe for carbon reductions to be realized**
0-1 year
**Estimated lifetime CO2e savings**
1242
**Estimated payback**
Other, please specify (None)
**Details of proposal**
The CO2e savings shown represents 2019 travel emissions. United is currently the largest user of sustainable aviation fuel, which offers significant reductions in lifecycle GHG emissions as compared to traditional jet fuel. United could allocate the associated emissions reductions to your travel on United. We would be eager to have further conversations regarding this opportunity.

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**Requesting member**
The Allstate Corporation
**Group type of project**
New product or service
**Type of project**
New product or service that has a lower upstream emissions footprint

**Emissions targeted**
Actions that would reduce our own operational emissions (our scope 1 & 2)
**Estimated timeframe for carbon reductions to be realized**
0-1 year
**Estimated lifetime CO2e savings**
5843
**Estimated payback**
Other, please specify (None)
**Details of proposal**
The CO2e savings shown represents 2019 travel emissions. United is currently the largest user of sustainable aviation fuel, which offers significant reductions in lifecycle GHG emissions as compared to traditional jet fuel. United could allocate the associated emissions reductions to your travel on United. We would be eager to have further conversations regarding this opportunity.

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**Requesting member**
Wells Fargo & Company
**Group type of project**
New product or service
**Type of project**
New product or service that has a lower upstream emissions footprint
**Emissions targeted**
Actions that would reduce our own operational emissions (our scope 1 & 2)
**Estimated timeframe for carbon reductions to be realized**
0-1 year
**Estimated lifetime CO2e savings**
11315
**Estimated payback**
Other, please specify (None)
**Details of proposal**
The CO2e savings shown represents 2019 travel emissions. United is currently the largest user of sustainable aviation fuel, which offers significant reductions in lifecycle GHG emissions as compared to traditional jet fuel. United could allocate the associated emissions reductions to your travel on United. We would be eager to have further conversations regarding this opportunity.

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## SC2.2

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**(SC2.2) Have requests or initiatives by CDP Supply Chain members prompted your organization to take organizational-level emissions reduction initiatives?**
No

## SC3.1

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**(SC3.1) Do you want to enroll in the 2020-2021 CDP Action Exchange initiative?**
No

## SC3.2

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**(SC3.2) Is your company a participating supplier in CDP's 2019-2020 Action Exchange initiative?**
No

## SC4.1

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**(SC4.1) Are you providing product level data for your organization's goods or services?**

No, I am not providing data

## Submit your response

### In which language are you submitting your response?

English

### Please confirm how your response should be handled by CDP

| | I am submitting to | Public or Non-Public Submission | Are you ready to submit the additional Supply Chain Questions? |
|---|---|---|---|
| I am submitting my response | Investors<br>Customers | Public | Yes, submit Supply Chain Questions now |

### Please confirm below

I have read and accept the applicable Terms