Welcome to your CDP Climate Change Questionnaire 2022

C0. Introduction

C0.1

(C0.1) Give a general description and introduction to your organization.

Every day, more than half a million people depend on American Airlines to take them to the moments that matter most in their lives. We fly over borders, walls and stereotypes to connect people from different races, religions, nationalities, economic backgrounds and sexual orientations. We make the world a more connected and inclusive place. And we do it professionally and safely for more than 500,000 customers per day across five continents.

American Airlines Group (AAG) is a holding company for American Airlines. Together with wholly owned and third-party regional carriers operating as American Eagle, in 2019, AAG operated an average of nearly 6,700 flights per day to 350 destinations in more than 50 countries from its hubs in Charlotte, Chicago, Dallas/Fort Worth, Los Angeles, Miami, New York, Philadelphia, Phoenix and Washington, D.C. American is also a founding member of the **one**world alliance, whose members in 2020 set a goal to achieve net zero emissions by 2050, making **one**world the first global airline alliance to set that goal. Shares of American Airlines Group Inc. trade on Nasdaq under the ticker symbol AAL and the company's stock is included in the S&P 500.

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
Reporting year	January 1, 2021	December 31, 2021	No

C0.3

(C0.3) Select the countries/areas in which you operate.

Antigua and Barbuda
Argentina

Aruba
Australia
Bahamas
Barbados
Belize
Bermuda
Bolivia (Plurinational State of)
Brazil
Canada
Cayman Islands
Chile
China
Colombia
Costa Rica
Croatia
Cuba
Czechia
Democratic People's Republic of Korea
Dominican Republic
Ecuador
El Salvador
France
Germany
Greece
Grenada
Guadeloupe
Guatemala
Guyana
Haiti
Honduras
Hungary
Iceland
Ireland
Italy
Jamaica
Japan
Martinique
Mexico
Netherlands
New Zealand
Nicaragua
Panama
Peru
Portugal
Puerto Rico
Saint Kitts and Nevis

Saint Lucia
Spain
Switzerland
Turks and Caicos Islands
United Kingdom of Great Britain and Northern Ireland
United States of America
United States Virgin Islands
Uruguay
Venezuela (Bolivarian Republic of)

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

C0.8

(C0.8) Does your organization have an ISIN code or another unique identifier (e.g., Ticker, CUSIP, etc.)?

Indicate whether you are able to provide a unique identifier for your organization	Provide your unique identifier
Yes, a Ticker symbol	We trade on NASDQ as ALL

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	At the Board level, the Corporate Governance, Public Responsibility and Safety (CGPRS) Committee has primary responsibility for overseeing American's sustainability strategy, including climate change risks and opportunities, as well as the Company's objectives, efforts, progress and achievements. That responsibility is clearly delineated in the Committee's charter. The CGPRS is deeply engaged on American's climate strategy and receives regular updates throughout the year on progress toward our goals and data on our performance. One example of a climate-related decision the Committee made in 2021 was to approve the Company's recommendation to commit to a science-based target (SBT). American Airlines submitted its application in 2021 and in April 2022, became the first airline globally with an SBT approved by the Science-Based Targets initiative (SBTi).
Chief Executive Officer (CEO)	In 2022, we formally named the Chief Executive Officer, who also serves on our Board of Directors, with responsibility for oversight of American's climate change strategy. The CEO attends all meetings of the Corporate Governance, Public Responsibility and Safety (CGPRS) committee.

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	Please explain
Scheduled – all meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding business plans Monitoring and overseeing progress against goals and	American's Board of Directors oversees the company's enterprise-wide approach to risk management. Either as a full Board or through one or more of its committees, the Board reviews management's strategy and its assessment of material risks impacting our business, including potential climate-related risks. Specifically, the Corporate Governance, Public Responsibility & Safety (CGPRCS) Committee of the Board has primary responsibility for oversight of

	targets for addressing climate-related issues Other, please specify Reviewing goals	American's sustainability efforts. In early 2020, the Committee's charter was updated to formally codify this role, including explicit reference to its oversight of climate-related risks and opportunities. Additionally, climate-related issues are a standing agenda item on the agenda for the CGPRS Committee's quarterly meetings.

C1.1d

(C1.1d) Does your organization have at least one board member with competence on climate-related issues?

	Board member(s) have competence on climate-related issues	Criteria used to assess competence of board member(s) on climate-related issues
Row 1	Yes	Several directors on American's board of directors have competency in climate-related issues, based on the following criteria: - Education: They have taken a course designed specifically to equip corporate directors with the information and tools they need to oversee climate risk and strategy for their companies - Experience: They have worked on sustainability-related topics in prior work experience - Training: They have been provided with training from the internal sustainability team on the climate change challenge for the aviation industry, the company's emissions reductions program and priorities, the emissions savings related to air traffic control modernization, the markets for sustainable aviation fuel and carbon offsets and global regulatory regimes to reduce aviation emissions, among other topics.

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)	Responsibility	Frequency of reporting to the board on climate-related issues
Chief Executive Officer (CEO)	Both assessing and managing climate-related risks and opportunities	Quarterly
Sustainability committee	Both assessing and managing climate-related risks and opportunities	Quarterly

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).

American's Managing Director of ESG is responsible for developing and coordinating the company's overall climate strategy and driving its implementation. She reports into a Climate Change Steering Committee — which is led by an Executive Vice President and includes representatives from Airport Operations, Flight Operations, Technical Operations, Cargo, Finance, Safety, People and Communications, Legal, Government Affairs and Investor Relations — that provides direction and guidance to the many departments with responsibility for aspects of the company's climate strategy. For example, the Airport Operations team does resiliency planning for more frequent and severe weather events; the Fuel Procurement team works to secure cost-competitive supplies of sustainable aviation fuel (SAF); and the Flight Operations and Fleet Engineering teams are charged with improving fuel efficiency in the air and on the ground.

The Climate Change Steering Committee meets regularly with the CEO on climate-related issues, and the CEO reports on relevant climate-related topics to the board on a quarterly basis.

This organizational structure makes sense for American because it concentrates responsibility for implementation of the company's climate change strategy in a single executive (the Managing Director of ESG), but then ensures that individual reports into a broad group of senior leaders across the company who are both kept informed and charged with implementing specific pieces of that strategy. And both the Managing Director and the Committee report into the CEO, who serves on and reports to the Board of Directors.

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	American Airlines does provide monetary incentives for the management of climate-related issues.

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 incentivized	Comment

Corporate executive team	Monetary reward	Energy reduction project	Short- and long-term incentive pay for the management group is based on company financial performance. Since jet fuel consumption is the leading source of American's GHG emissions and is also one of American's largest categories of expense, the management group can raise its incentive pay if it is successful in reducing the company's fuel consumption – which in turn increases the company's profitability -- and the associated emissions.
All employees	Monetary reward	Emissions reduction project	All employees below the management level, including employees represented by unions, benefit from American's profit sharing program. Since jet fuel consumption is the leading source of American's GHG emissions and is also one of American's largest categories of expense, all employees eligible for profit sharing have the ability to increase their compensation if the company is successful in reducing its fuel consumption and the associated emissions.

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	Our short-term horizon aligns with the International Air Transport Association (IATA) short-term strategy to improve the industry's carbon efficiency annually.
Medium-term	2	15	Our medium-term horizon aligns with the International Air Transport Association (IATA) medium-term strategy to cap the growth in the industry's carbon emissions from international flights. Match up with SBT and goal to reach 10% SAF by 2030
Long-term	15	30	Our long-term horizon aligns with the International Air Transport Association (IATA) long-term strategy to reduce the industry's carbon emissions by 50% by 2050 from a 2005 baseline.

C2.1b

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

Currently, the firm takes an integrated approach to risk identification, assessment and management. Through the multidisciplinary company-wide risk identification, assessment and management processes described above, we continually monitor climate risks on an ongoing basis and assess those risks across short, intermediate and long-term time horizons on a case-by-case basis. In the context of this report, we define substantive financial and strategic impacts when assessing climate-related risks as those impacts that meet or surpass our financial thresholds, or those impacts that have a direct or indirect impact on our operations, such as risks that may cause significant flight delays, increase flight input prices, limit our ability to maximize our weight load on flights, etc. The quantifiable indicators used to define substantive financial or strategic impacts are those that would cause the firm a loss or gain great enough to change our internal approach to managing the risk or opportunity, which we have determined to be 1% of our pre-tax income. Because the company's pre-tax income was negative in 2021 due to the COVID pandemic, we decided that the 1% of pre-tax income in 2019 remained relevant for 2021 as well, given the company's anticipated financial recovery from the pandemic.

C2.2

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

Value chain stage(s) covered

Direct operations
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
Long-term

Description of process

Because climate change is a pressing challenge for our company and our planet, American takes a coordinated approach to ensuring we have robust governance of climate-related risks and opportunities. It begins with Board-level oversight and accountability and extends to our day-to-day operations. Our Board is responsible for the oversight of the Company's ongoing assessment and management of material risks

impacting our business.

The process we use to identify climate-related risks and/or opportunities that may have a substantive financial impact is through our enterprise-wide approach to risk management which is overseen by the Board. It is designed to support the achievement of organizational objectives, including strategic objectives, to improve long-term organizational performance and to enhance stockholder value. A fundamental part of risk management is not only understanding the risks we face and what steps management is taking to manage those risks, but also understanding what level of risk is appropriate. Through this existing enterprise-wide risk management process, American monitors and manages a broad range of strategic, financial, and operational risks, including risks associated with climate change. Those risks include those related to climate change transition and resilience policies, carbon trading and compliance regulatory regimes, among others.

Specifically, the Corporate Governance, Public Responsibility and Safety (CGPRS) Committee oversees our governance-related risk management policies, programs and practices with respect to a range of issues, including environmental and climate change risks. The CGPRS Committee assesses our obligations and risks and reviews the adequacy of our policies, programs and practices to meet those obligations and risks. The CGPRS Committee meets regularly with the VP, Sustainability and other responsible officers to discuss and advise on developing risks and safety standards.

The process we use to assess climate-related risks and/or opportunities identified that may have a substantive financial impact is through the CGPRS Committee's meetings and discussions with the VP, Sustainability and other responsible officers who monitor developments within and outside the U.S. and who are engaged with national and international trade associations. We bring these risks for discussion and assessment to a set of internal teams that – based on the specific risk --- usually includes Regulatory Affairs, Legal, Finance, Corporate Real Estate and Fuel Purchasing. That group of internal stakeholders prepares an analysis of the risk and impact to American, including financial, operational and reputational impacts, and delivers that assessment and a set of recommended actions to American's senior leadership team (which includes the CEO and his direct reports). Based on feedback from the senior leadership team, we prepare a summary of the risk and the planned response for the CGPRS Committee of our Board of Directors, which has primary responsibility for oversight of the risks and opportunities from climate change.

We also use the TCFD framework to guide our risk assessment. Starting in 2020 and continuing through today, we use climate scenario analysis to engage senior leaders in Regulatory Affairs, Finance, Legal, Corporate Real Estate and Fuel Purchasing, in assessing the physical and transition climate-related risks and opportunities facing the company over the short, medium and long term. In 2021, we expanded our assessment to include 400 sites in the physical risk evaluation; exploring geographic regions in which we operate that are projected to experience greater impacts; examining more closely the effects of potential changes in policy, technologies and markets; and refining

and updating the scenarios we used to model and assess potential risks and opportunities. The insights from this ongoing process are directly informing our climate strategy and updates to our pathway to net zero. The use of the TCFD framework also helps us more deeply integrate climate risk analysis into our enterprise-wide risk management and business, strategy and financial planning processes.

The process we use to respond to the climate-related risks and/or opportunities identified that may have substantive financial impact is for management to develop or establish an appropriate risk management strategy. The Board, either directly or through one or more of its committees, reviews our business strategy and management's assessment of the related risks and discusses with management the appropriate level of risk. The Board believes that the most significant risks we face are most properly directly overseen by the full Board or, in certain cases, the appropriate standing committee. The last steps in our procedure is to incorporate feedback from the Committee into our plan and action and report back to the Committee as needed on our progress in mitigating the risk.

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	Aviation is a highly regulated industry. To ensure we are complying with regulations, we continuously monitor any changes to current regulations to assess their potential impact. Given American's large carbon footprint and potential exposure to climate change, changes to climate related regulations could have a material financial and/or operational impact on American. For example, the cost of compliance for American's inclusion in the European Union's Emissions Trading Scheme (ETS) when monitoring started in 2010 was originally estimated to be more than $20 million annually, which was a risk to the business in terms of profitability and expense management. Subsequent changes to the scope of the ETS substantially reduced our financial exposure. Airline industry trade associations played an important role in helping reduce the scope of the ETS by excluding our compliance obligation for emissions from flights outside of the European Union. Our Climate Change Steering Committee is responsible for monitoring and assessing risk related to current regulations.
Emerging regulation	Relevant, always included	American continuously monitors emerging domestic and international regulations related to climate change through our Government Affairs department. We are also members of Airlines for America (A4A) and the International Air Transport Association (IATA), which keep us abreast of emerging regulations. Given American's large carbon

		footprint and potential exposure to climate change, emerging climate related regulations could have a material financial and/or operational impact on American. For example, American supported the adoption of CORSIA to serve as a single, global market-based measure for addressing international aviation GHG emissions, pre-empting unilateral and duplicative taxes, charges and emissions trading schemes. However, in 2021, the European Union has proposed mandates for the use of sustainable aviation fuel. These and other potential new taxes and regulatory schemes pose a risk to our business in that we may have to pay higher taxes and would also have to manage the regulatory and reporting burden of multiple regulatory regimes in different markets. We believe these mandates undermine the role of CORSIA as the single, global market-based measure to address carbon emissions from international aviation. Our Climate Change Steering Committee is responsible for monitoring and assessing risk related to emerging regulations.
Technology	Relevant, always included	The airline industry is very competitive and historically has had below-average profit margins. To remain profitable, it is critical that American's products and services be price-competitive with other airlines. New technology spurred by efforts to reduce jet fuel consumption and its associated GHG emissions could give an airline a competitive advantage by reducing its costs. The risk to our business is that we are late to adopt a new technology that could improve our fuel efficiency and reduce our costs, thereby putting our products and services at a disadvantage to those of our competitors, reducing our market share and profitability. It is therefore imperative that American monitor and quickly adopt new technology related to reducing emissions in order to be at the forefront of any new technology breakthroughs. For example, 12 years ago, new winglet technology enabled aircraft to reduce fuel consumption by up to 5% on long-haul flights, which provided a significant cost advantage at a time when the price of fuel was high. American was the first airline to retrofit its aircraft with winglets, which helped it survive a challenging period for the industry. More recently, American is monitoring developments relating to sustainable aviation fuel as well as the activities of other airlines in this area. As new technology is developed and new product pathways approved for use, it is important that American position itself to quickly take advantage of any breakthroughs and be able to respond to competitors' efforts as well.
Legal	Relevant, always included	As a large company with extensive global operations, potential legal issues are always a consideration in our risk assessments, including climate-change related risk assessments. We may face specific risks such as litigation or regulatory proceedings in the event a stakeholder files a lawsuit against our company on the basis of climate change impacts. For example, in 2010, the São Paulo State Public

		Prosecutor's Office filed actions against more than 30 airlines, including American and its competitors, seeking compensation for GHG emissions. More than ten years later, one of those actions is pending analysis by the Superior Court of Justice. As climate-change focused litigation increases around the world, failure to monitor and prepare for potential legal risks could cause reputational and financial damage to our company.
Market	Relevant, always included	Our customers have a choice in travel, so it is important that we understand their decision-making process in selecting an airline. Changes in travel patterns due to passenger concerns about air travel's carbon footprint could have a significant impact on our revenue. For example, if customers perceive that we are not aware of and acting to reduce the contribution of our operations to climate change, they may choose to fly with another airline, reducing our profitability and market share. As part of our efforts to manage this risk, in early 2020 American surveyed passengers on their concerns about the carbon emissions of air travel. The survey captured the type of passenger (how frequently they fly American) and their origin airport (where the passenger lives). We plan to continue to periodically survey customers and monitor any changes in their views on this issue.
Reputation	Relevant, always included	American is aware of its position as an emitter of GHGs and the reputational risks to the company and the aviation industry related to the threat of climate change. We understand that the industry risks being targeted by the United States government and the governments of other countries (e.g., the European Union and others) with additional taxes and fees, which could reduce our profitability, if we are not responsible in addressing our emissions. To help mitigate potential reputational risks, American endorsed the International Civil Aviation Organization's (ICAO) Carbon Offset and Reduction Scheme for International Aviation (CORSIA) that was adopted in 2016. With its adoption, aviation is the first industry to voluntarily cap the growth in its emissions.
Acute physical	Relevant, always included	Acute physical events, such as hurricanes, typhoons or severe storms, have the potential to disrupt fuel deliveries to airports where American has major operations and could potentially disrupt the production of fuel by our key jet fuel suppliers. A lack of sufficient fuel supply could result in our need to cancel flights and disrupt the travel plans of our customers, which would increase higher costs and/or reduce revenues. For example, a recent storm in 2022 caused the interruption of jet fuel delivery at our Dallas/Fort Worth International Airport hub. To avoid any operational interruptions, American had to source jet fuel on short notice and at additional cost.

Chronic physical	Relevant, always included	Chronic physical events, such as extreme heat, can affect the safety of our employees, especially those who work outside. As such, this risk is often included in any safety risk assessments related to employees who work outdoors during summer months, particularly in hot and/or humid locations, such as our hub operations in Phoenix, Dallas/Fort Worth, and Miami. American conducts job safety analyses on a routine basis.

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?

Upstream

Risk type & Primary climate-related risk driver

Acute physical

Cyclone, hurricane, typhoon

Primary potential financial impact

Increased direct costs

Company-specific description

More frequent and intense hurricanes could disrupt fuel delivery to airports where American has major hubs. To address this potential risk, American needs a back-up plan to mitigate potential fuel delivery disruptions. To ensure flights do not get disrupted by potential fuel shortages, American has worked to store more fuel at high-risk airports where we operate and/ or build more fuel storage capacity at the airports that do not currently have sufficient capacity to adequately store the volume of fuel we need to operate when a hurricane disrupts a refinery or pipeline. For example, in 2022, jet fuel deliveries through a proprietary pipeline to Dallas-Fort Worth (DFW), American's largest hub, were delayed when a hurricane resulted in the loss of power at the refinery of one of our larger fuel suppliers. To avoid the cancelation of flights and the disruption of customers' travel plans, and because we did not at that time have sufficient fuel stored, American had to arrange the delivery of additional fuel from a different refinery and ship it on a different pipeline.

As a result of this event American is now working towards ensuring all major hubs have an adequate buffer of jet fuel supply.

Time horizon

Short-term

Likelihood

Likely

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

84,000

Potential financial impact figure – maximum (currency)

226,800

Explanation of financial impact figure

If American were forced to source jet fuel from another refinery, we would have to pay the spot price for jet fuel and potentially other delivery costs as well. As an example, if the spot price for jet fuel was 5 cents more per gallon (it varies widely), sourcing 40,000 to 45,0000 barrels per day on the spot market for our operations at Dallas-Fort Worth airport would cost American an additional $84,000 (5 cents x 42 gallons per barrel x 40,000 barrels per day) = $84,000 for one day of operations). If a pipeline was not available, we might have tanker fuel to DFW airport, which means adding fuel to incoming flights to provide a fuel source for outgoing flights. Tankering costs vary but could be as much as 12 cents per gallon. If we had to tanker fuel to DFW, it would cost $226,800 (12 cents x 42 gallons per barrel x 45,000 barrels per day).

Cost of response to risk

158,000,000

Description of response and explanation of cost calculation

In response to higher risks from hurricanes to the steady supply of jet fuel, American has assessed our fuel storage at our key hubs and has embarked on a program to acquire more fuel storage at storage-constrained airports. For example, American leads the fuel consortium at Philadelphia International Airport (PHL), which is an American hub. After reviewing the fuel storage situation at the airport, we realized that there was not sufficient supply on site if a hurricane were to disrupt our fuel supply. Due to this finding we led the building of four new jet fuel storage tanks with a combined capacity of 252 million gallons that was completed in 2021. The cost of building these new tanks

and the ancillary systems they need (fire safety) was $79 million.
American is the largest tenant at PHL. Assuming we bear 50% of the costs of any construction, the cost to American for this project was $39.5 million. As a result of this project at PHL, we are evaluating storage at other airports we serve. Assuming we identify four airports in need of additional storage, this initiative could increase fuel storage by approximately 1 billion gallons of fuel. We would expect these projects to be completed over a 10 year period . If we build additional storage at four more hub airports, using the PHL costs as a benchmark, we would expect to pay $158 million over the next 10 years ($39.5 million x 4 airports).

Comment

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Chronic physical
Changing precipitation patterns and types (rain, hail, snow/ice)

Primary potential financial impact

Other, please specify

Decreased revenue due to reduced service capacity

Company-specific description

Changes in precipitation patterns can impact our operational performance by causing delayed flights and flight cancellations. To ensure the highest level of safety during weather events, the flow of aircraft arrivals and departures may be restricted, and during severe weather, all arrivals and departures may be stopped until the weather becomes less extreme. Particularly when these weather events occur at our hub airports, American's on-time dependability is reduced and cancellations increase. These issues are particularly relevant in certain geographical regions, including the Midwest and Southwest. In these regions, we have several important hub airports, such as Dallas-Fort Worth International Airport and Chicago's O'Hare Airport. In 2020, we diverted ~0.28% of flights in the US. Based on our historical averages, roughly 85% of these diversions, or 0.24% of all flights, are due to weather events. We expect this to potentially increase over time as weather patterns change and the severity of events increase.

While American integrates weather forecasts into our route planning and scheduling, climate change may present risks in the future for our direct operations due to shifting precipitation patterns that may increase the frequency and severity of extreme weather events.

Time horizon

Short-term

Likelihood

Very likely

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

200,000

Potential financial impact figure – maximum (currency)

600,000

Explanation of financial impact figure

Airline sources estimate that a 30-minute delay on a given flight can result in over $2,000 in additional direct and indirect costs to an airline, while a diverted flight can result in $10,000 to $15,000 in additional direct costs to an airline. As such, a small storm that results in 20 diverted flights can cost an airline $200,000 (20 diversions x $10,000 per flight), while a larger storm that results in 300 delayed flights can cost an airline $600,000 (300 delays x $2000 per flight).

Cost of response to risk

5,000,000

Description of response and explanation of cost calculation

American closely tracks and monitors weather impacts on flight dependability, and management works to continuously improve our dependability. American also continuously seeks out opportunities to improve dependability and mitigate the impact of changes to weather patterns. For example, flight plans are developed hours before a flight departs, so they do not account for unexpected changes in weather while the aircraft is in en route. As a result, the pilot may not be aware of potential opportunities to reduce flight time and emissions. To address this issue, American uses the NASA-developed Dynamic Weather Routes system that identifies more efficient routings around weather systems while an aircraft is en route to its destination. Using this system has resulted in fewer arrival delays and reduced fuel and emissions. American is also developing software tools to assist customers affected by weather. For example, customers whose flights are impacted by weather can now use their preferred electronic device to select new routings and re-book themselves without talking with an agent. We estimate the cost to manage operational disruptions due to weather events at $5 million annually, which includes the salary and benefits of employees in functions dedicated to service recovery at our Integrated Operations Center, Day of Departure group, and

allocation of Information Technology personnel dedicated to developing and supporting IT tools related to mitigating the effects of operational disruptions.

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

Changing temperature (air, freshwater, marine water)

Primary potential financial impact

Other, please specify

Decreased revenues due to reduced service capacity

Company-specific description

Rising temperatures reduce the performance capability of aircraft. Hotter air is less dense, which means there is less air beneath the wings for lifting the aircraft and less air to flow through the jet engines. To compensate for the impacts caused by warmer temperatures, aircraft must be lighter at take-off, which could mean that an American flight is not able to take all the planned passengers and/or cargo. Hotter temperatures impact American's operations most frequently in Arizona, Nevada, Colorado, Utah, and certain parts of Texas during the summer months. For example, in 2019 (2020 and 2021 do not provide comparable data due to reduced demand caused by COVID), an average of 90 passengers per month departing Phoenix airport (PHX) between June and August could not be accommodated due to weight restrictions. We expect summer temperatures to increase, and that the scope of this risk will increase over time as more locations and times of each year are affected. We estimated a loss of $52,000 in revenue based on average revenue per segment, or 0.000125% of total passenger revenue due to weight restrictions. A portion of these unaccommodated passengers could have been accommodated if temperatures throughout the Southwest United States were cooler.

Time horizon

Short-term

Likelihood

Very likely

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

81,000

Potential financial impact figure – maximum (currency)

162,000

Explanation of financial impact figure

Annually, an average of 90 passengers per month departing Phoenix airport (PHX) between June and August could not be accommodated due to weight restrictions. American Airlines accommodates these passengers on later flights and provides them with vouchers for future travel that could average $600 per passenger. Assuming 50% to 100% of unaccommodated PHX passengers due to weight restrictions were caused by extreme heat, American's estimated cost is $81,000 (90 passengers x 3 months x $600 x 50%) to $162,000 (90 passengers x 3 months x $600 x 100%) per year in lost future revenue. We are working to expand this analysis to further markets that are affected by temperature-related restrictions.

Cost of response to risk

53,550

Description of response and explanation of cost calculation

Rising temperatures pose a threat to our operations, especially in the Southwest United States during the summer. When air is too hot, it is not dense enough for some planes to take off at full capacity, which decreases American's revenue for these flights and risks upsetting our customers through delays, diversions, and rescheduling. Therefore, we have to innovate to find ways to maintain as much capacity as possible and shift our operations to be resilient in warmer conditions. As part of our effort to manage this risk, American has employed strategies to reduce the weight of our aircraft in these regions as a part of our business continuity planning. Examples of weight reduction initiatives include cargo hold reductions, and plane modifications including lighter paints and configuration changes. As a result of these efforts, we estimate that we can reduce passenger reductions on some of our more heavily utilized aircraft up to 2 passengers per flight during extreme temperatures. Our cost to respond to this risk is derived from capacity reductions we enforce at the Phoenix airport from July 1 to August 4. This is the first market where we track temperature-related reductions, and we are working to expand this analysis to other affected markets. American reduces the selling capacity of A321 aircraft departing PHX to Philadelphia by up to 17 seats, which also reduces our potential to sell these seats. Assuming we could have sold 30% of these extra seats at $300 one-way for the 35-day period, American would have made an additional $53,550 (17 seats x 30% x $300 x 35) in revenue. We consider this lost revenue opportunity as the cost to respond to 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?

Upstream

Opportunity type

Energy source

Primary climate-related opportunity driver

Use of lower-emission sources of energy

Primary potential financial impact

Other, please specify

Reduced cost to potential future carbon regulation

Company-specific description

To achieve meaningful reductions in GHG emissions in the future, American will need to rely on the commercialization of cost-competitive sustainable aviation fuel (SAF) with significantly lower life-cycle carbon emissions than petroleum-based jet fuel. To incentivize the development of the SAF industry, the International Civil Aviation Organization (ICAO) will allow airlines to use lower lifecycle carbon emissions from sustainable aviation fuel (SAF) to meet their compliance obligations under the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA). American has the opportunity to reduce its compliance costs for CORSIA by taking delivery of and otherwise promoting the commercialization of cost-competitive SAF. In 2021, American signed a purchase agreement with Aemetis for delivery of 112 million gallons of SAF for delivery starting in 2024 and continuing through 2030. Qualifying SAF after January 1, 2021 will be eligible for use to meet CORSIA obligation for emissions reductions.

Time horizon

Long-term

Likelihood

Very likely

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

1,000,000

Potential financial impact figure – maximum (currency)

2,000,000

Explanation of financial impact figure

American has the opportunity to reduce its compliance obligations under CORSIA by using cost competitive SAF. CORSIA's goal is to cap emissions from international aviation at 2019 levels, either through the purchase of qualifying offsets or through the use of SAF that meets specific sustainability crtieria. Assuming we have access to annual deliveries of cost-competitive SAF that reduces carbon emissions by 100,000 metric tons of CO2, we could reduce our need to purchase 100,000 tons of offsets annually. If offset costs are $ $20 per tonne, American could reduce its annual cost to comply with CORSIA by $2 million (100,000 x $20) annually.

Cost to realize opportunity

18,000,000

Strategy to realize opportunity and explanation of cost calculation

Climate change will pose a number of threats to the aviation industry, especially as increases in severe weather alter operations, affect flight planning, and impact fuel supply throughout the supply chain. Therefore, it is essential for American to do our part in decarbonizing the aviation industry in order to limit the impacts climate change may have on our business. One of the key pieces of our decarbonization strategy is to promote the development of the market for (SAF), which is currently much too small to meet industry-level decarbonization targets. To promote the commercialization of SAF, American is working to signal to producers that it is a willing purchaser of SAF. For example, in 2020, American signed an agreement to purchase 9 million gallons of SAF over the next three years. At the time, this was the largest commitment to take delivery of SAF in the industry. SAF supply is currently very limited since its estimated production cost is $2 to $3 per gallon more than petroleum jet fuel. Based on this premium, American is investing $18 million to $27 million over three years to promote the commercialization of SAF and the decarbonization of our fuel supply, which is the source of our cost to realize this opportunity. As a result, we were able to reduce our emissions by roughly 3600 metric tons in 2020, and hope to expand our purchasing and utilization of SAF over time as a part of our strategy to hit net-zero emissions by 2050.

Comment

Identifier

Opp2

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Energy source

Primary climate-related opportunity driver

Use of new technologies

Primary potential financial impact

Reduced indirect (operating) costs

Company-specific description

American is in the midst of the most extensive fleet renewal program in aviation history. Over the past few years, the average age of American's fleet has decreased to 10.8 years, the lowest of any U.S. network carrier. Aircraft like the Boeing 737 MAX improve fuel efficiency by up to 20 percent over similarly sized aircraft, which reduces the fuel purchases required and therefore reduces operating costs. In 2020, American took delivery of 10 additional Boeing 737 MAX aircraft and we have another 47 on order, and we have another 59 on order over the next six years.

Time horizon

Medium-term

Likelihood

Virtually certain

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

130,000,000

Potential financial impact figure – maximum (currency)

260,000,000

Explanation of financial impact figure

More efficient aircraft help American reduce fuel expenses. In a typical year, American spends about $8 million per mainline aircraft in fuel expense assuming historical fuel prices. Over the next three years, American has delivery orders for 162 new aircraft that are between 10% to 20% more efficient than the previous generation of aircraft. Assuming this range of fuel efficiency gains and similar fuel expense per aircraft, these new aircraft deliveries could reduce American's fuel expense by $130 million ($8 million x 162 x 10%) to $260 million annually ($8 million x 162 x 20%). Fuel savings from these new aircraft will also help American reduce its carbon emissions by 600,000 to 1.2 million tonnes by 2024.

Cost to realize opportunity

6,500,000,000

Strategy to realize opportunity and explanation of cost calculation

As part of American's fleet renewal strategy, we take delivery of new aircraft to retire older aircraft and to prepare for any increase in projected service. The rate at which older aircraft are replaced will depend on the fuel efficiency benefit from new aircraft, as well as many other factors, such as performance, maintenance expense, dependability and crew training requirements. Since 2013, American has invested $24 billion to introduce 595 new aircraft into our fleet, including 47 new aircraft in 2020 alone. At the same time, we retired a similar number of older, less fuel-efficient aircraft. In 2020, American retired 158 older mainline and regional airplanes; and from 2013 to March 31, 2021, we retired 667 aircraft. The result of this investment was to give us the youngest fleet among U.S. network carriers. At the beginning of 2021, American had 192 aircraft on order, including 162 orders with deliveries scheduled within the next five years. Assuming a similar cost per aircraft, American would need to invest approximately $6.5 billion (average cost of $40.3 million, which is $24 billion divided by 595 aircraft) for the 162 aircraft that are scheduled to be delivered.

Comment

C3. Business Strategy

C3.1

(C3.1) Does your organization’s strategy include a transition plan that aligns with a 1.5°C world?

Row 1

Transition plan

Yes, we have a transition plan which aligns with a 1.5°C world

Publicly available transition plan

Yes

Mechanism by which feedback is collected from shareholders on your transition plan

We have a different feedback mechanism in place

Description of feedback mechanism

We regularly engage with a wide range of stakeholders to get their feedback on our climate change strategy. In 2021, we met 1:1 with investors (including not only our largest investors but also smaller investors), environmental groups and policymakers to hear their views and use that feedback to further inform our strategy. We find these individual meetings give us a greater ability to understand our stakeholders' perspectives. We also meet with employees regularly to share our strategy and get their feedback.

Frequency of feedback collection

More frequently than annually

Attach any relevant documents which detail your transition plan (optional)

page 9 to 18

aag-esg-report-2021.pdf

C3.2

(C3.2) Does your organization use climate-related scenario analysis to inform its strategy?

	Use of climate-related scenario analysis to inform strategy
Row 1	Yes, qualitative and quantitative

C3.2a

(C3.2a) Provide details of your organization's use of climate-related scenario analysis.

Climate-related scenario	Scenario analysis coverage	Temperature alignment of scenario	Parameters, assumptions, analytical choices
Transition scenarios IEA STEPS (previously IEA NPS)	Company-wide		The STEPS provides a more conservative benchmark for the future, because it does not assume that governments will reach all announced goals. Instead, it takes a more granular, sector-by-sector look at what has actually been put in place to reach these and other energy-related objectives, taking account of not just existing policies and measures but also of those that are under development. The STEPS explores where the energy system might go without a major additional steer from policymakers. The policies assessed in STEPS cover a broad spectrum. These include but are not limited to

			Nationally Determined Contributions under the Paris Agreement. In practice, the bottom-up modelling effort in this scenario requires a great deal of detail at the sectoral level, including pricing policies, efficiency standards and schemes, electrification programmes as well as specific infrastructure projects.
Transition scenarios IEA SDS	Company-wide		As a “well below 2°C” pathway, the SDS represents a gateway to the outcomes targeted by the Paris Agreement. The SDS assumes a surge in clean energy policies and investment that puts the energy system on track for key Sustainable Development Goals (SDGs). Under SDS, all current net zero pledges are achieved in full and there are extensive efforts to realize near-term emissions reductions. For example, advanced economies reach net zero emissions by 2050, China around 2060, and all other countries by 2070 at the latest. Since WEO-2020, SDS also integrates the stimulus packages required for a global sustainable recovery from Covid-19. Investments in the 2021-2023 period are therefore aligned with the Sustainable Recovery depicted in the World Energy Outlook Special Report. To allow for meaningful comparison of the energy drivers and outcomes between the scenarios, the underlying assumptions on public health and economic growth in the SDS are the same as in the STEPS.
Physical climate scenarios RCP 8.5	Company-wide		This scenario assumes that no major global effort to limit greenhouse gas emissions will go into effect. RCP 8.5 is characterized by increasing greenhouse gas emissions over time representative for scenarios in the literature that lead to high greenhouse gas concentration levels. It is estimated that end-of-century increases in global mean surface temperature will be in the range of 3.2 to 5.4°C.
Physical climate scenarios RCP 4.5	Company-wide		This scenario implies coordinated action to limit greenhouse gas emissions to achieve a global temperature warming limit of approximately 2 degrees Celsius. It is a stabilization scenario where total radiative forcing is stabilized before 2100 by employment of a range of technologies and strategies for reducing greenhouse gas emissions. Within this scenario itself, it is estimated that end-of-century increases in global mean surface temperature will be in the range of 1.7 to 3.2°C. If the current pledges and

			voluntary agreements of the Paris agreement were implemented in full, the implied warming is approximately 3.0 degrees Celsius.

C3.2b

(C3.2b) Provide details of the focal questions your organization seeks to address by using climate-related scenario analysis, and summarize the results with respect to these questions.

Row 1

Focal questions

Focal questions:
(1) What are the physical climate-related risks and impacts on American Airlines? Risk and severity to critical facilities and supply chain– basis to engage with airports and fuel suppliers on their plans, own resiliency planning internally.
(2) What is the transition climate-relation risks and impact on American Airlines? Examining more closely the impact of potential changes in policy, technologies and markets on American Airlines.
Rational for selecting the scenarios:
TCFD analysis – We have used different possible climate scenario (RCP8.5, RCP4.5, STEPS and SDS) to understand the range of climate-related impacts and opportunities on American Airlines.
For physical climate-related risk assessment, we used both a high emission scenario (RCP8.5) and a low-emission scenario (RCP4.5) from IPCC to understand the major hubs' exposure and vulnerability to physical climate-related risks including extreme temperature, drought, water stress, wildfire, fluvial flooding and coastal flooding. The reason for choosing RCP8.5 for physical risk assessment is to prepare for the "worst-case scenario" and develop associated resilience strategy and planning. And RCP4.5 scenario presents a climate trajectory that is more aligned with current climate reality and could help American Airlines to test its current operation resilience.
We chose the Sustainable Development Scenario (SDS) and Stated Policy Scenario (STEPS) from International Energy Agency (IEA). The reason for choosing both transition scenarios is to show the range of potential impacts from transition activities such as changes in policy, technologies and markets and how they might influence American Airlines' risk management, business strategy and financial performance.

Results of the climate-related scenario analysis with respect to the focal questions

In 2020, we conducted a forward-looking scenario analysis that focused on identifying and assessing the physical and transition climate-related risks and opportunities facing the company over the short, medium and long terms. In 2021, we built on this by undertaking a more in-depth analysis, expanding the number of sites included in the evaluation, expanding the analysis across our value chain to include some key suppliers, and exploring regions around the world in which we operate that are projected

to experience greater impacts.
For the physical risk analysis, we did a climate risk screening of approximately 400 of our and key supplier facilities a including airports, cargo facilities, data centers, maintenance facilities, offices and training centers. For each site, we assessed the risk associated with temperature, coastal flooding, river (fluvial) flooding, tropical cyclone (Eastern Atlantic basin only), water stress, drought and wildfire. For each site, we assessed the exposure and implications of the projected key physical hazards in 2030 and 2050, based on the scenarios used (RC8.5 and RCP4.5). Once analyzed, we worked with our real estate team to focus on the assets most at risk and strategically important to American. With this list, we gathered site level information to help us better understand what, if any, current measures are in place to minimize the climate hazards (referred to as adaptive capacity), and how to minimize future projected hazards. We used these result as basis to engage with our largest supplier of jet fuel to understand its assessment of future projected climate hazards and its adaptation and resilience planning.
The analysis suggests that physical impacts are projected to increase over time. Additionally, the geographic areas in the U.S. that are projected to drive the greatest losses for us over time are the Southwest, Southeast, and Mid-Atlantic. Outside the U.S., areas of focus are the Caribbean and South America.
We also deepened and refined our analysis of our exposure to transition risks related to climate change, including the policy and legal, technology, market, reputation and operational risks — as well as opportunities — that could arise from these transitions. We used IEA's 2021 Stated Policy Scenario (STEPS) and Sustainable Development Scenarios (SDS) for the transition climate scenario analysis.
The results of the analysis suggests that potential tax on carbon around the world may increase American's operating fuel cost in the future. However, this analysis also showcased the benefits of implementing carbon reduction efforts during the transition to low-carbon economy. For example, under the SDS scenario, carbon pricing is projected to be higher than under a STEPS scenario. American's current efforts to decarbonize the operation by using more efficient aircraft and increasing our use of SAF will result in lower carbon emissions and will reduce or avoid potential carbon taxes in the future.

C3.3

(C3.3) 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	American's business strategy is based on three key pillars, one of which is to build American to thrive forever. Addressing the threat of climate change is critical to this

		pillar, as changes in weather patterns, both acute and chronic, will enhance risks to our operations and supply chain in the form of more severe storms in the Gulf of Mexico and changes in weather patterns that may alter flight plans or capacity amongst others. In 2020, we set a goal to reach net-zero emissions by 2050 in order to combat the risks posed by climate change, and we published an initial pathway to meet that goal, relying on fuel efficiency within our operations, the purchase of more fuel-efficient aircraft, air traffic modernization, sustainable fuels and carbon offsets. As part of this initial pathway, we also identified opportunity to expand our product offerings. The development of a robust market for sustainable aviation fuel (SAF) is a critical element of our strategy to reduce our emissions, but today there is little SAF being produced, and it is very expensive. We must participate in the market for SAF and find innovative ways to expand both the supply and demand for SAF. In response, in 2020, we entered into an agreement to purchase 9 million gallons of SAF over three years, one of the largest offtake agreements in our industry, and we began taking deliveries of SAF at San Francisco International Airport in June 2020. As a result, we reduced our Scope 1 emissions by 3,600 metric tons from the portion of this fuel utilized in 2020. We will continue to acquire SAF in larger volumes in the future as a part of our 2050 net-zero strategy. This SAF purchase also allowed us to develop a product offering for our corporate customers to sell them the emissions reduction value of our SAF, for their use in offsetting their Scope 3 emissions from air travel with American. This new product, which we began offering in October 2020, culminated in transactions with two customers in early 2021 and will reduce their combined Scope 3 emissions by 31,550 metric tons over the life of the deal. The purpose of both of these actions – purchasing SAF and signaling demand through transactions with our customers – is to boost the production and availability of SAF.
Supply chain and/or value chain	Yes	Maximizing the fuel efficiency of our aircraft is both a core focus of our climate change strategy and a key business objective. Fuel reductions lead to decreased direct costs for the organization and also have a direct correlation to emissions reductions. Therefore, we must maintain an optimal fleet renewal strategy to optimize financial performance and fuel savings. Over the past several years, American has undertaken the most extensive fleet renewal

		effort in the history of our industry. Since 2013, we have taken delivery of 595 new, more fuel-efficient aircraft—at a cost of $24 billion—including the Boeing 737 MAX and the Airbus 321neo, which were developed with the latest engine and airframe technologies. Our fleet renewal effort will have the greatest near-term impact on emissions, since each new generation of aircraft targets fuel-efficiency improvements of 10–15%. Over the same period, we retired a similar number of less fuel-efficient planes, including the last of our McDonnell Douglas MD-80 aircraft in 2019. And because of the reduction in demand due to the COVID-19 pandemic, we accelerated the retirement of four additional mainline aircraft types—Embraer E190s, Boeing 757s, Boeing 767s and Airbus A330-300s—and two regional fleet types–Embraer 140s and Bombardier CRJ200s. In total, we have retired 667 older aircraft since 2013. And as of March 31, 2021, American now has the youngest mainline fleet of any U.S. network airline, with an average age of 10.8 years, with more than half (57%) of our mainline aircraft being less than 10 years old. As a result of fleet renewal, we have been able to reduce emissions per available seat year over year, with a reduction of 1.7% from 2020 to 2021 despite the COVID 19 pandemic. Fleet renewal will continue to be a core focus of our climate change strategy. Over the next five years, we expect to take delivery of nearly 200 new aircraft, which will further improve our fuel efficiency.
Investment in R&D	Yes	Reducing fuel expense and the resulting emissions is an important near- and long-term business objective. More frequent and more severe weather events caused by climate change will impact our operations to a greater extent over time, affecting flight plans, capacity, and ground operations. We must invest in new technology over the short, medium, and long term to better manage these events and reduce their impact to our operations and our customers. For example, in 2019, we invested in new technology that helps our pilots identify when weather events may cause flight delays. American further customized this technology for our own use. Flight plans are generally developed 4-6 hours in advance of a flight, and while a flight is en route, the new American FMS+ technology alerts the pilot to a change in weather that could cause a delay and the associated increased fuel burn.

		FMS+ also identifies for the pilot a new, optimized flight altitude and speed to avoid delays. By mid-2020, we were using this technology on 85% of our mainline aircraft and by the end of March 2021, we had saved 1.75 million gallons of fuel, equivalent to 16,600 metric tons of CO2 emissions. We expect over time to expand our use of this technology, further reducing our emissions.
Operations	Yes	Jet fuel emissions represent 98% of our Scope 1 and Scope 2 emissions. Reducing fuel expense and the resulting emissions is an important near- and long-term business objective to reduce costs and reach Net-zero emissions by 2050. Therefore, while we must pursue reductions in fuel use en route, we must also reduce jet fuel consumption pre- and post-flight. For example, in 2020, we enhanced pilot training with the goal of increasing our use of single-engine taxi operation (i.e., using just one aircraft engine to taxi to the gate after landing). American also monitors the use of single engine taxi by aircraft type and provides this feedback to fleet managers to help measure progress and achieve our targets. As a result of the improved training and feedback, through the twelve months ending in March 2021, our use of this technique reduced our CO2 emissions by approximately 19,000 metric tons. We expect our use of this technique to improve over time, further reducing our emissions.

C3.4

(C3.4) 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	Direct costs	The climate-related opportunity to invest in the market for sustainable aviation fuel (SAF) has a significant impact on our financial planning, both now and over the long term. It is a key part of our strategy to meet net-zero emissions by 2050, as well as our intermediate, medium-term targets that we are planning to meet net-zero. This is a climate-related opportunity because the use of SAF can significantly decrease our emissions, and emissions reductions will be a key factor in our license to operate over the next 30 years, as customer expectations around sustainability grow, and CORSIA regulations to reduce emissions take effect. However, because the SAF market is in the early stages of its

		development – and because public policies globally have not yet come together to promote its cost-effective development – SAF costs significantly more than fossil-based jet fuel. In 2020, American Airlines used nearly 2.3 billion gallons of jet fuel in our operations, so even a small premium to purchase SAF has a big impact on our profitability. As such, American must find a cost-effective pathway to grow the use of SAF in our operations. We believe one way to reduce the cost premium of SAF is to increase the volume of production. In 2020, we signed a commitment to purchase nine million gallons of SAF over a three year period (July 2020 – April 2023) from Neste, a leading producer of renewable products. At the time, it was the largest SAF commitment of any passenger airline, which we believe helped us get a competitive price. Over time, and as the market develops, we expect to purchase SAF in greater quantities, which we expect will help further reduce the premium for SAF. The impact to our financial planning is that we have to project the financial implications on our direct costs by modeling different scenarios for purchasing beyond our 2023 existing commitment for the cost and availability of SAF over the near, mid and long-term planning horizons. Assuming our increased purchases of SAF would eventually reduce its premium to jet fuel to $0.50 per gallon, it would cost American $574 million to replace 50% of its 2020 fuel consumption with SAF. As a result, this would reduce life cycle emissions by an estimated 9.9 million metric tonnes of CO2e.

C3.5

(C3.5) In your organization's financial accounting, do you identify spending/revenue that is aligned with your organization's transition to a 1.5°C world?

Yes

C3.5a

(C3.5a) Quantify the percentage share of your spending/revenue that is aligned with your organization's transition to a 1.5°C world.

Financial Metric

CAPEX

Percentage share of selected financial metric aligned with a 1.5°C world in the reporting year (%)

75

Percentage share of selected financial metric planned to align with a 1.5°C world in 2025 (%)

75

Percentage share of selected financial metric planned to align with a 1.5°C world in 2030 (%)

75

Describe the methodology used to identify spending/revenue that is aligned with a 1.5°C world

We have identified the investment spend related to our purchase of the newest, most fuel efficient aircraft (e.g., the Boeing 737 MAX and 787 family and the Airbus A321neo) and engines as aligned with a 1.5 C degree world. Recognizing that aviation does not have the tools it needs to decarbonize today, purchasing newer aircraft is the single most consequential investment we can make today to reduce our emissions. In 2021, 75% of our annual capital expense was dedicated to purchasing these aircraft, and we expect that that ratio will roughly remain constant going forward.

C4. Targets and performance

C4.1

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

Absolute target

Intensity target

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

2020

Target coverage

Company-wide

Scope(s)

Scope 1

Scope 2 accounting method

Scope 3 category(ies)

Base year

2019

Base year Scope 1 emissions covered by target (metric tons CO2e)

33,730,088

Base year Scope 2 emissions covered by target (metric tons CO2e)

Base year Scope 3 emissions covered by target (metric tons CO2e)

Total base year emissions covered by target in all selected Scopes (metric tons CO2e)

33,730,088

Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1

88

Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2

Base year Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)

Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes

88

Target year

2025

Targeted reduction from base year (%)

1.25

Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]

33,308,461.9

Scope 1 emissions in reporting year covered by target (metric tons CO2e)

26,578,201

Scope 2 emissions in reporting year covered by target (metric tons CO2e)

Scope 3 emissions in reporting year covered by target (metric tons CO2e)

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)

26,578,201

% of target achieved relative to base year [auto-calculated]

1,696.2628736694

Target status in reporting year

Underway

Is this a science-based target?

No, but we are reporting another target that is science-based

Target ambition

Please explain target coverage and identify any exclusions

American set a 5-year target in 2020 to achieve a 1.25% reduction in Scope 1 emissions through reducing fuel consumption by at least 50 million gallons from existing company-wide aircraft using a 2019 baseline. Emissions from aircraft that enter the fleet after January 1, 2019 or are retired prior to the target deadline are excluded from this target. The 2019 baseline was adjusted in 2021 to reflect aircraft that were retired in 2020 and 2021, and the baseline will be adjusted in the subsequent years as additional aircraft retire.

Plan for achieving target, and progress made to the end of the reporting year

American greatly exceeded its target, however, most of the emissions reduction was due to reduced flying as a result of the pandemic. We expected emissions to revert to pre-pandemic levels in the coming years which will erase most of those gains.
We continue to implement fuel savings initiatives and we believe we are on track to meet our 2025 goal by improving efficiency.

List the emissions reduction initiatives which contributed most to achieving this target

Target reference number

Abs 2

Year target was set

2021

Target coverage

Company-wide

Scope(s)

Scope 2

Scope 2 accounting method

Market-based

Scope 3 category(ies)

Base year

2019

Base year Scope 1 emissions covered by target (metric tons CO2e)

Base year Scope 2 emissions covered by target (metric tons CO2e)

274,333

Base year Scope 3 emissions covered by target (metric tons CO2e)

Total base year emissions covered by target in all selected Scopes (metric tons CO2e)

274,333

Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1

Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2

100

Base year Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)

Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes

100

Target year

2035

Targeted reduction from base year (%)

40

Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]

164,599.8

Scope 1 emissions in reporting year covered by target (metric tons CO2e)

Scope 2 emissions in reporting year covered by target (metric tons CO2e)

249,112

Scope 3 emissions in reporting year covered by target (metric tons CO2e)

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)

249,112

% of target achieved relative to base year [auto-calculated]

22.9839282915

Target status in reporting year

Underway

Is this a science-based target?

Yes, and this target has been approved by the Science Based Targets initiative

Target ambition

Well-below 2°C aligned

Please explain target coverage and identify any exclusions

American set and submitted this target in 2021, and it was approved by SBTi in April 2022.

Plan for achieving target, and progress made to the end of the reporting year

American continues to focus on reducing its Scope 2 emissions, and we are on track to meet this target.

List the emissions reduction initiatives which contributed most to achieving this target

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

2021

Target coverage

Company-wide

Scope(s)

Scope 1
Scope 3

Scope 2 accounting method

Scope 3 category(ies)

Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2)
Category 4: Upstream transportation and distribution

Intensity metric

Metric tons CO2e per unit of service provided

Base year

2019

Intensity figure in base year for Scope 1 (metric tons CO2e per unit of activity)

1,228

Intensity figure in base year for Scope 2 (metric tons CO2e per unit of activity)

Intensity figure in base year for Scope 3 (metric tons CO2e per unit of activity)

1,228

Intensity figure in base year for all selected Scopes (metric tons CO2e per unit of activity)

1,228

% of total base year emissions in Scope 1 covered by this Scope 1 intensity figure

99

% of total base year emissions in Scope 2 covered by this Scope 2 intensity figure

% of total base year emissions in Scope 3 (in all Scope 3 categories) covered by this Scope 3 intensity figure

78

% of total base year emissions in all selected Scopes covered by this intensity figure

89

Target year

2035

Targeted reduction from base year (%)

45

Intensity figure in target year for all selected Scopes (metric tons CO2e per unit of activity) [auto-calculated]

675.4

% change anticipated in absolute Scope 1+2 emissions

25

% change anticipated in absolute Scope 3 emissions

25

Intensity figure in reporting year for Scope 1 (metric tons CO2e per unit of activity)

1,317

Intensity figure in reporting year for Scope 2 (metric tons CO2e per unit of activity)

Intensity figure in reporting year for Scope 3 (metric tons CO2e per unit of activity)

1,317

Intensity figure in reporting year for all selected Scopes (metric tons CO2e per unit of activity)

1,317

% of target achieved relative to base year [auto-calculated]

-16.1056822295

Target status in reporting year

Underway

Is this a science-based target?

Yes, and this target has been approved by the Science Based Targets initiative

Target ambition

Well-below 2°C aligned

Please explain target coverage and identify any exclusions

American's SBTi-approved Scope 1 and Scope 3 (categories 3 and 4) target includes all jet fuel related emissions, which includes emissions from the combustion of jet fuel and emissions from its production (upstream). Jet fuel makes up 99% of our Scope 1 emissions and approximately 94% of total scope 1 and Scope 3 emissions.

Plan for achieving target, and progress made to the end of the reporting year

American did not make any progress towards this goal in 2021 due to the effects of the pandemic, which reduced passenger traffic by 36% compared to the base line year of 2019. We believe we will make progress in coming years as we continue to renew our

fleet of aircraft, implement additional fuel saving initiatives and take delivery of low GHG sustainable aviation fuel.

List the emissions reduction initiatives which contributed most to achieving this target

C4.2

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

Target(s) to increase low-carbon energy consumption or production
Net-zero target(s)

C4.2a

(C4.2a) Provide details of your target(s) to increase low-carbon energy consumption or production.

Target reference number
Low 1

Year target was set
2019

Target coverage
Country/region

Target type: energy carrier
Other, please specify
renewable energy procurement

Target type: activity
Consumption

Target type: energy source
Renewable energy source(s) only

Base year
2018

Consumption or production of selected energy carrier in base year (MWh)
0

% share of low-carbon or renewable energy in base year
100

Target year

2025

% share of low-carbon or renewable energy in target year

100

% share of low-carbon or renewable energy in reporting year

100

% of target achieved relative to base year [auto-calculated]

Target status in reporting year

Underway

Is this target part of an emissions target?

While not exclusively a part of American Airlines' existing GHG reduction targets, it is prudent to point out that increasing our carbon-free energy consumption can lead to improved performance on our intensity target.

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

Please explain target coverage and identify any exclusions

American has a goal to source 100% renewable electricity at our facilities in the North Texas region through 2025. The North Texas region represents 35% of American's total electricity consumption. Over the years, American has increased renewable electricity use in the North Texas region to 100% of consumption, and maintaining this usage through 2025 will be critical in order for American to meet its company wide goal to source 2.5 gigajoules (GJ) of renewable energy company-wide by 2025. Our renewable electricity and energy targets are aimed at helping position American to achieve its Net Zero by 2050 goal.

Plan for achieving target, and progress made to the end of the reporting year

American is procuring renewable electricity at our facilities in North Texas.

List the actions which contributed most to achieving this target

---

Target reference number

Low 2

Year target was set

2020

Target coverage

Company-wide

Target type: energy carrier

Other, please specify

SAF consumption as a percent of total jet fuel consumption

Target type: activity

Consumption

Target type: energy source

Low-carbon energy source(s)

Base year

2019

Consumption or production of selected energy carrier in base year (MWh)

0

% share of low-carbon or renewable energy in base year

0

Target year

2030

% share of low-carbon or renewable energy in target year

10

% share of low-carbon or renewable energy in reporting year

0.05

% of target achieved relative to base year [auto-calculated]

0.5

Target status in reporting year

Underway

Is this target part of an emissions target?

This 2030 target to replace 10% of our jet fuel with SAF by 2030 provides a waypoint to keep us on track in meeting our 2035 SBTi goal, which requires a 45% reduction in our emissions intensity.

Is this target part of an overarching initiative?

Other, please specify

This target is supporting the Biden Administration's target for the U.S. airline industry to source 3 billion gallons of SAF by 2030. Our 10% SAF goal represents our expected share of the 3 billion gallons of SAF.

Please explain target coverage and identify any exclusions

Target includes the use of all jet fuel, which makes up 99% of Scope 1 emissions and over 90% of all Scope1, 2 and 3 emissions.

Plan for achieving target, and progress made to the end of the reporting year

American sourced 1.4 million gallons of SAF in 2021, up over 200% from 2020. We also signed two additional offtake agreements for 16 million gallons of neat SAF per year over 2024-2030 and for 100 million gallons of neat SAF per year over 2026-2030.

List the actions which contributed most to achieving this target

C4.2c

(C4.2c) Provide details of your net-zero target(s).

Target reference number

NZ1

Target coverage

Company-wide

Absolute/intensity emission target(s) linked to this net-zero target

Abs1

Target year for achieving net zero

2050

Is this a science-based target?

Yes, we consider this a science-based target, and we have committed to seek validation of this target by the Science Based Targets initiative in the next 2 years

Please explain target coverage and identify any exclusions

Our intermediate (2035) science based targets cover Scope 1, Scope 2 and categories 3 and 4 of our Scope 3 emissions (which represent more than two-thirds of our Scope 3 emissions). The coverage includes all of our emissions from jet fuel. Our net zero target for 2050 has the same scope as our 2035 target.

Do you intend to neutralize any unabated emissions with permanent carbon removals at the target year?

Yes

Planned milestones and/or near-term investments for neutralization at target year

American is a founding member of Breakthrough Energy Catalyst (BEC), which is working to accelerate the development and commercialization of technologies critical to decarbonizing. One of BEC's four focus technologies is direct air capture, which could provide a permanent carbon removal opportunity for American. American has committed to invest $100 million in Catalyst over the next 5 years.

Planned actions to mitigate emissions beyond your value chain (optional)

American is looking to mitigate emissions beyond our value chain after we have exhausted all of our in-sector carbon reduction opportunities.

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	0	0
To be implemented*	1	26,500
Implementation commenced*	1	9,200
Implemented*	2	104,400
Not to be implemented	0	0

C4.3b

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

Initiative category & Initiative type

Energy efficiency in production processes

Product or service design

Estimated annual CO2e savings (metric tonnes CO2e)

65,500

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 1

Voluntary/Mandatory

Voluntary

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

27,600,000

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

1,200,000,000

Payback period

>25 years

Estimated lifetime of the initiative

6-10 years

Comment

American upgraded its the aircraft interiors of several aircraft types which included the replacement of older seats with new lighter seats. We estimate that the weight savings from the seats will result in 6.9 million gallons of fuel savings annually.

Initiative category & Initiative type

Energy efficiency in production processes

Product or service design

Estimated annual CO2e savings (metric tonnes CO2e)

38,900

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 1

Voluntary/Mandatory

Voluntary

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

16,400,000

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

0

Payback period

<1 year

Estimated lifetime of the initiative

>30 years

Comment

American reduced excess aircraft weight by removing its complimentary onboard magazine, American Way, from all aircraft as well as seat back screens from select aircraft. We estimate that the weight savings from these changes will result in 4.1 million gallons of fuel savings annually.

C4.3c

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

Method	Comment

Financial optimization calculations	Jet fuel is among the top expenses for American Airlines, and we use the company-wide budget process to drive a wide range of efforts, including financial investments, in activities that will reduce fuel use and emissions. For example, to reduce fuel use, we have invested in a program to upgrade ground power units at airport terminals across our hubs, which in turn will allow flight crews to use ground power, instead of the less efficient on-board auxiliary power units (APUs) that use jet fuel, to keep the aircraft cool and the aircraft's electrical systems functioning while the plane is on the ground. By estimating how many minutes of APU use and associated fuel consumption will be avoided with an investment in a ground power unit, our Finance group will determine whether the payback meets our internal hurdle rate. We have a number of similar other initiatives under way, some of which require behavior change (e.g., single engine taxiing) or special auditing procedures (e.g., on-board weight reductions).

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products?

Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products.

Level of aggregation

Group of products or services

Taxonomy used to classify product(s) or service(s) as low carbon

The EU Taxonomy for environmentally sustainable economic activities

Type of product(s) or service(s)

Aviation

Other, please specify

fuel-efficient aircrafts

Description of product(s) or service(s)

Since 2013, American has invested more than $24 billion in modernizing our fleet by taking delivery of more than 600 new aircraft. Over the same period, we retired 670 older, less fuel-efficient planes through the end of 2021. The result: American has the youngest mainline fleet among U.S. network carriers, with an average age of 11.3 years old. At the end of 2021, 55% of American's mainline fleet was 10 years old or less.

Have you estimated the avoided emissions of this low-carbon product(s) or service(s)

Yes

Methodology used to calculate avoided emissions

Other, please specify

American calculates avoided emissions by comparing actual emissions with the emissions assuming the intensity ratio (emissions per available seat mile) of the baseline year of 2013

Life cycle stage(s) covered for the low-carbon product(s) or services(s)

Use stage

Functional unit used

carbon emissions per passenger seat

Reference product/service or baseline scenario used

fleet emissions from 2013

Life cycle stage(s) covered for the reference product/service or baseline scenario

Use stage

Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario

19,000,000

Explain your calculation of avoided emissions, including any assumptions

737 MAX and the Airbus A321neo, which incorporate the latest engine and airframe technologies, made up 17% of our total available seat miles (ASMs) in 2021. Approximately $3.6 billion, or 12% of our revenue during the year, stemmed from passengers flying on the market-leading, fuel-efficient aircraft in our fleet. The Boeing 737 MAX 8 reduces fuel use and CO2 emissions by an additional 14% over today's other most fuel-efficient single-aisle airplanes — and 20% better than the original 737 Next Generation aircraft when they first entered service.1 The Airbus A320neo Family delivers 20% fuel savings and CO2 reduction compared to previous generation Airbus aircraft. At the end of 2021, American had 42 Boeing 737 MAX 8 aircraft in our fleet. In January 2022, we announced our plans to exercise purchase options on an additional 30 Boeing 737 MAX 8 aircraft, with 15 scheduled for delivery in 2023 and 15 scheduled for delivery in 2024. We also had
44 Airbus A321neo aircraft in our fleet at the end of 2021 and have agreed to purchase an additional 76 aircraft for delivery through 2026. Largely as a result of flying these more efficient aircraft,
we have improved our fuel efficiency by 10.2% compared with 2013, based on fuel burn per ASM. That adds up to 1.9 billion gallons of fuel saved and 19 million metric tons of CO2 avoided.

Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year

12

C5. Emissions methodology

C5.1

(C5.1) Is this your first year of reporting emissions data to CDP?

No

C5.1a

(C5.1a) Has your organization undergone any structural changes in the reporting year, or are any previous structural changes being accounted for in this disclosure of emissions data?

Row 1

Has there been a structural change?

No

C5.1b

(C5.1b) Has your emissions accounting methodology, boundary, and/or reporting year definition changed in the reporting year?

	Change(s) in methodology, boundary, and/or reporting year definition?
Row 1	No

C5.2

(C5.2) Provide your base year and base year emissions.

Scope 1

Base year start

January 1, 2016

Base year end

December 31, 2016

Base year emissions (metric tons CO2e)

38,912,664

Comment

Scope 2 (location-based)

Base year start

January 1, 2016

Base year end

December 31, 2016

Base year emissions (metric tons CO2e)

341,000

Comment

Scope 2 (market-based)

Base year start

January 1, 2016

Base year end

December 31, 2016

Base year emissions (metric tons CO2e)

341,000

Comment

Scope 3 category 1: Purchased goods and services

Base year start

January 1, 2019

Base year end

December 31, 2019

Base year emissions (metric tons CO2e)

2,640,302

Comment

Scope 3 category 2: Capital goods

Base year start

January 1, 2019

Base year end

December 31, 2019

Base year emissions (metric tons CO2e)

271,014

Comment

Scope 3 category 3: Fuel-and-energy-related activities (not included in Scope 1 or 2)

Base year start
January 1, 2019

Base year end
December 31, 2019

Base year emissions (metric tons CO2e)
8,427,569

Comment
In 2021, American recategorized emissions related to contracted regional flying from category 3 to category 4

Scope 3 category 4: Upstream transportation and distribution

Base year start
January 1, 2019

Base year end
December 31, 2019

Base year emissions (metric tons CO2e)
4,362,681

Comment
In 2021, American recategorized emissions related to contracted regional flying from category 3 to category 4

Scope 3 category 5: Waste generated in operations

Base year start
January 1, 2019

Base year end
December 31, 2019

Base year emissions (metric tons CO2e)
1,850

Comment

Scope 3 category 6: Business travel

Base year start
January 1, 2019

Base year end

December 31, 2019

Base year emissions (metric tons CO2e)

121,714

Comment

Scope 3 category 7: Employee commuting

Base year start

January 1, 2019

Base year end

December 31, 2019

Base year emissions (metric tons CO2e)

227,290

Comment

Scope 3 category 8: Upstream leased assets

Base year start

January 1, 2019

Base year end

December 31, 2019

Base year emissions (metric tons CO2e)

3,176

Comment

Scope 3 category 9: Downstream transportation and distribution

Base year start

January 1, 2019

Base year end

December 31, 2019

Base year emissions (metric tons CO2e)

22,717

Comment

Scope 3 category 10: Processing of sold products

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 11: Use of sold products

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 12: End of life treatment of sold products

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 13: Downstream leased assets

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 14: Franchises

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 15: Investments

Base year start

January 1, 2019

Base year end

December 31, 2019

Base year emissions (metric tons CO2e)

332,361

Comment

Scope 3: Other (upstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3: Other (downstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

C5.3

(C5.3) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

C6. Emissions data

C6.1

(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)

28,810,236

Comment

Scope 1 amounts exclude biogenic CO2 emissions from SAF

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

C6.3

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

Reporting year

Scope 2, location-based

250,699

Scope 2, market-based (if applicable)

249,112

Comment

C6.4

(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?

No

C6.5

(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

Emissions in reporting year (metric tons CO2e)

2,031,218

Emissions calculation methodology

Average spend-based method

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

0

Please explain

Capital goods

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

295,609

Emissions calculation methodology

Average spend-based method

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

Emissions in reporting year (metric tons CO2e)

6,074,205

Emissions calculation methodology

Fuel-based method

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

0

Please explain

Upstream transportation and distribution

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

3,770,586

Emissions calculation methodology

Fuel-based method

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

0

Please explain

Waste generated in operations

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

1,769

Emissions calculation methodology

Spend-based method

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

0

Please explain

Business travel

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

75,453

Emissions calculation methodology

Spend-based method

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

0

Please explain

Employee commuting

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

209,780

Emissions calculation methodology

Average data method

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

0

Please explain

Upstream leased assets

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

42,585

Emissions calculation methodology

Site-specific method

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

0

Please explain

Downstream transportation and distribution

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

13,839

Emissions calculation methodology

Distance-based method

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

0

Please explain

Processing of sold products

Evaluation status

Not relevant, explanation provided

Please explain

American is a service provider and does not process products

Use of sold products

Evaluation status

Not relevant, explanation provided

Please explain

American is a service provider and does not sell products

End of life treatment of sold products

Evaluation status

Not relevant, explanation provided

Please explain

American is a service provider and does not sell products

Downstream leased assets

Evaluation status

Not relevant, explanation provided

Please explain

American does not lease downstream assets

Franchises

Evaluation status

Not relevant, explanation provided

Please explain

American does not have any franchises

Investments

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

392,167

Emissions calculation methodology

Investment-specific method

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

100

Please explain

Other (upstream)

Evaluation status

Not evaluated

Please explain

We believe our inventory captures all upstream emissions

Other (downstream)

Evaluation status

Not evaluated

Please explain

We believe our inventory captures all downstream emissions

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	13,359	CO2 emissions associated with our use of Sustainable Aviation Fuel

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

0.000972

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

29,059,668

Metric denominator

unit total revenue

Metric denominator: Unit total

29,882,000,000

Scope 2 figure used

Location-based

% change from previous year

16

Direction of change

Decreased

Reason for change

American's 2021 emissions intensity per dollar of revenue improved 16% from 2020 which was due primarily to an improvement in revenue. Load factor increased 11.2 points and yield increased 2%, resulting in a 19.8% improvement in revenue per available seat mile. In addition, emission reduction initiatives such as upgrading interior seats, removing magazines and in seat screens during 2021 reduced expected emissions by 104,400 metric tons

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 just Scope 1

Intensity figure

0.0017

Metric numerator: emissions in metric tons CO2e

28,816,355

Metric denominator: unit

t.mile

Metric denominator: unit total

17,110,392,067

% change from previous year

16

Please explain any exclusions in your coverage of transport emissions in selected category, and reasons for change in emissions intensity.

American's 2021 emissions intensity per ton mile improved 16% from 2020 which was primarily due to an 11.2 point increase in load factor which contributed to a 73% increase in ton miles and far outpaced the 45% increase in jet fuel use, which is the primary driver of Scope 1 emissions.

ALL

Scopes used for calculation of intensities

Report Scope 1 + 2

Intensity figure

0.0017

Metric numerator: emissions in metric tons CO2e

29,059,668

Metric denominator: unit

t.mile

Metric denominator: unit total

17,110,392,067

% change from previous year

16

Please explain any exclusions in your coverage of transport emissions in selected category, and reasons for change in emissions intensity.

American's 2021 emissions intensity per ton mile improved 16% from 2020 which was primarily due to an 11.2 point increase in load factor which contributed to a 73% increase in ton miles and far outpaced the 45% increase in jet fuel use, which is the primary driver of Scope 1 emissions. Scope 2 emissions also decreased almost 6%, but make up a minor portion of total emissions.

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	28,398,767	IPCC Fifth Assessment Report (AR5 – 100 year)
CH4	111,085	IPCC Fifth Assessment Report (AR5 – 100 year)
N2O	63,683	IPCC Fifth Assessment Report (AR5 – 100 year)
HFCs	236,701	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)
Caribbean	341,821
Europe	1,480,069
Asia Pacific (or JAPA)	542,078
Latin America (LATAM)	1,578,666
North America	51,398
United States of America	24,816,205

C7.3

(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

By business division

C7.3a

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

Business division	Scope 1 emissions (metric ton CO2e)
American Airlines mainline operations based in Ft Worth, TX	24,735,768
Envoy Airlines, American's regional affiliate based in Irving, TX	2,041,895
PSA Airlines, American's regional affiliate based in Vandalia, OH	1,590,410
Piedmont Airlines, American's regional affiliate based in Salisbury, MD	442,163

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	Comment
Transport services activities	28,810,236	

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)
United States of America	244,805	243,218
Latin America (LATAM)	4,018	4,018
Asia Pacific (or JAPA)	406	406
Europe	659	659
Caribbean	800	800
Canada	11	11

C7.6

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

By business division

C7.6a

(C7.6a) Break down your total gross global Scope 2 emissions by business division.

Business division	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
American Airlines mainline operations based in Ft Worth, TX	232,263	229,496
Envoy Airlines, American's regional affiliate based in Irving, TX	10,223	10,750
PSA Airlines, American's regional affiliate based in Vandalia, OH	7,381	8,018
Piedmont Airlines, American's regional affiliate based in Salisbury, MD	832	848

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
Transport services activities	250,699	249,112	

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	9,766	Decreased	0.05	American reduced emissions due to its increased use of SAF, which increased by more than 1 million gallons in 2021. (9766/20091949) 0.05%
Other emissions reduction activities	104,400	Decreased	0.5	American reduced its energy consumption through fuel savings initiatives, such as using lighter paint and reducing items on the aircraft. As a result, emissions were reduced by 104400 tons, or (104400/20091949) 0.5%
Divestment				
Acquisitions				
Mergers				
Change in output	9,083,152	Increased	45.2	American's available seat miles (ASMs), which we use to measure output, increased 49.8% while total Scope 1 and 2 emissions only increased 45%. We attribute all of our increase in emissions to our increased ASMs. As a result, emissions increased (9083152/20091949) 45.2%
Change in methodology				
Change in boundary				

Change in physical operating conditions				
Unidentified				
Other				

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?

Location-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	No
Consumption of purchased or acquired steam	No
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	No

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)	50,894	108,255,280	108,306,174
Consumption of purchased or acquired electricity		35,993	550,484	586,477
Total energy consumption		86,889	108,805,764	108,892,651

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	Yes
Consumption of fuel for the generation of steam	No
Consumption of fuel for the generation of cooling	No
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.

Sustainable biomass

Heating value

HHV

Total fuel MWh consumed by the organization

0

Comment

Other biomass

Heating value

HHV

Total fuel MWh consumed by the organization

0

Comment

Other renewable fuels (e.g. renewable hydrogen)

Heating value

HHV

Total fuel MWh consumed by the organization

50,894

Comment

Represents sustainable aviation fuel used by American

Coal

Heating value

HHV

Total fuel MWh consumed by the organization

0

Comment

Oil

Heating value

HHV

Total fuel MWh consumed by the organization

0

Comment

Gas

Heating value

HHV

Total fuel MWh consumed by the organization
374,644

Comment
Represents mostly natural gas and some LP gas

Other non-renewable fuels (e.g. non-renewable hydrogen)

Heating value
HHV

Total fuel MWh consumed by the organization
107,880,636

Comment
Represents mostly jet fuel and some diesel and gasoline

Total fuel

Heating value

Total fuel MWh consumed by the organization
108,306,174

Comment

C8.2e

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

Sourcing method
Green electricity products from an energy supplier (e.g. green tariffs)

Energy carrier
Electricity

Low-carbon technology type
Wind

Country/area of low-carbon energy consumption
United States of America

Tracking instrument used
I-REC

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

35,993

Country/area of origin (generation) of the low-carbon energy or energy attribute

United States of America

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2,020

Comment

C8.2g

(C8.2g) Provide a breakdown of your non-fuel energy consumption by country.

Country/area

Other, please specify

Asia

Consumption of electricity (MWh)

695

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

695

Country/area

Canada

Consumption of electricity (MWh)

109

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

109

Country/area

Other, please specify

Caribbean

Consumption of electricity (MWh)

1,118

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

1,118

Country/area

Other, please specify

Europe

Consumption of electricity (MWh)

1,944

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

1,944

Country/area

Other, please specify

Latin America

Consumption of electricity (MWh)

8,781

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

8,781

Country/area

United States of America

Consumption of electricity (MWh)

573,830,600

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

573,830,600

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

0.77

Metric numerator

Liters of fuel

Metric denominator

Revenue-ton.mile

Metric numerator: Unit total

14,331,956,298

Metric denominator: Unit total

18,643,401,170

% change from last year

-16.3

Please explain

In 2021 American transitioned to using revenue ton miles as calculated by the US DOT to revenue ton miles as calculated IATA so as to be more consistent with industry reporting. The prior year was also restated using the new methodology.
In 2021, American's efficiency improved 16,3% due in large part to a 11.2 point improvement in load factor.

C9. Additional metrics

C9.1

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

C-TO9.3/C-TS9.3

(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
Latest generation and airframe and engine technology

Metric figure
16.7

Metric unit
Other, please specify
Percent of available seat miles flown by the latest generation of aircraft, which includes Airbus 321neo, Boeing 737MAX, 787-8 and 787-9 aircraft types.

Explanation
Emissions associated with jet fuel are American's major source of GHG emissions. This metric tracks the performance of American's fleet renewal program in which it is acquiring new aircraft with the latest generation of technology and improved fuel efficiency, while retiring its oldest and least efficient aircraft. This effort will have the greatest near-term impact on emissions since these new aircraft are up to 20% more fuel efficient than the previous generation of aircraft.

Activity
Aviation

Metric
Fleet adoption

Technology

Other, please specify

Electric powered ground support equipment (GSE)

Metric figure

26

Metric unit

Other, please specify

Percent of ground support equipment (GSE) that is electric powered

Explanation

American's second largest source of direct GHG emissions comes from the numerous pieces of ground support equipment (GSE) needed to support our operations, such as baggage carts, cargo loaders, pushout tractors, etc. In the past, most of our GSE was either diesel or gasoline powered, but now there are electric versions available for many categories of GSE. Electric GSE produce significantly less GHGs that either the diesel or gasoline powered versions. This metric measures the percent of our GSE fleet that has transitioned to lower-carbon electric power.

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

(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	

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

(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

Basic academic/theoretical research

Average % of total R&D investment over the last 3 years

81-100%

R&D investment figure in the reporting year (optional)

100,000,000

Comment

In 2021, American became an anchor partner of Breakthrough Energy Catalyst, a ground-breaking program within the larger Breakthrough Energy network that is working to accelerate the development and commercialization of critical technologies for decarbonization, including SAF.

C10. Verification

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

AAG_EY2021_VerificationStatement_V2-0_s.pdf

Page/ section reference

pages 1 and 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

AAG_EY2021_VerificationStatement_V2-0_s.pdf

Page/ section reference
Pages 1 and 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

AAG_EY2021_VerificationStatement_V2-0_s.pdf

Page/ section reference
pages 1 and 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: Fuel and energy-related activities (not included in Scopes 1 or 2)

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

AAG_EY2021_VerificationStatement_V2-0_s.pdf

Page/section reference
Pages 1 and 2

Relevant standard
ISO14064-3

Proportion of reported emissions verified (%)
43

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
C7. Emissions breakdown	Other, please specify Biogenic Emissions	ISO14064-33	On page 2 the verification report shows that Biogenic emissions are also verified. 1

1AAG_EY2021_VerificationStatement_V2-0_s.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.

EU ETS

C11.1b

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

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, 2021

Period end date

December 31, 2021

Allowances allocated

0

Allowances purchased

0

Verified Scope 1 emissions in metric tons CO2e

57

Verified Scope 2 emissions in metric tons CO2e

0

Details of ownership

Other, please specify

Flights we operated that departed from an EEA airport and landed at an EEA airport

Comment

American is not permitted by law to operate scheduled flights within the European Economic Area (EEA). As a result, our scheduled flights do not fall under the EU ETS regime. However, when a flights is diverted due to an in-flight medical emergency, mechanical issues or weather-related issues, and that flight must land at an EEA airport, that flight will fall under EU ETS and American must comply with ETS' offsetting rules. During the reporting period, American submitted 57 allowances to comply with ETS. However, American did not purchase any allowances in 2021 and instead used our existing bank of allowances to remit the correct amount to the ETS.

C11.1d

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

The Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) was put in place to regulate emissions from international aviation from 2021 through 2035, though the COVID pandemic reduced international flight emissions and therefore has delayed airlines' compliance obligations. We anticipate we will have compliance obligations under CORSIA's First Phase (2024-2026), though that remains uncertain, as the commercial aviation recovers and our emissions from international flights exceed the current baseline of 2019. Our strategy for CORSIA is to comply fully with its requirements, either by purchasing carbon offsets in the voluntary market or by purchasing sustainable aviation fuel, both of which would need to meet CORSIA's sustainability and other requirements. American's CORSIA compliance is coordinated by our Finance and ESG teams. The Finance team is responsible for estimating our future obligations (working closely with the ESG team) and reviewing that estimation at least annually with senior management. The ESG team prepares our annual CORSIA emissions report, submits that report to an independent third-party agency for verification, and submits the verified report to the U.S. Federal Aviation Administration. In 2020, to prepare for the initial compliance period, we established a working group among the Finance, ESG and Communications departments that tracks the voluntary carbon offset market and is identifying potential projects for investment by American to comply with CORSIA's First Phase. In 2021, the Finance team, working with the ESG team, led a detailed analysis of our CORSIA compliance obligations to help guide our offset purchasing strategy. We presented that

analysis, along with a recommendation that we begin to purchase CORSIA-compliant offsets beginning in 2024, to senior management, who agreed with the team's recommendation.

C11.2

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

No

C11.3

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

Yes

C11.3a

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

Objective for implementing an internal carbon price

Navigate GHG regulations
Drive low-carbon investment

GHG Scope

Scope 1

Application

As part of our ongoing analysis of transition climate risks and opportunities, we incorporate a price on carbon when estimating American’s potential obligations under the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), European Union Emissions Trading System and other possible regulatory programs that may impact our operations. The carbon prices used for these estimates are based on cost projections from respected external sources. We have also begun incorporating a shadow price on carbon in evaluating investments in our fleet and fuel efficiency initiatives, as well as sustainable aviation fuel (SAF) purchases.

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

4.4

Variance of price(s) used

In 2021, American used a range of carbon prices based on the needs of the specific business process. To evaluate American's potential CORSIA obligations from 2022 to 2035, we used estimates of the prices of voluntary carbon offsets from the International Air Transport Association (IATA), starting at $4.00 in 2021 and escalating to $14.30 in 2022. We used these prices as a starting point to analyze whether American should begin purchasing carbon offsets today or wait until after each compliance phase. To

evaluate fleet investment decisions, we used a spot price of $8 in 2021; we used that same price to evaluate near term fuel savings initiatives and SAF opportunities. We review developments in the prices of voluntary carbon offsets twice a year, consulting expert sources.

Type of internal carbon price

Shadow price

Impact & implication

American's use of a shadow price on carbon has informed and continues to inform our assessment of our obligations under CORSIA, particularly as ICAO considers alternative baselines for the remaining years of CORSIA's term. It has also aided our decisionmaking process with regard to fleet investment decisions. When we examine opportunities for fuel savings initiatives, many of which require an upfront cost to purchase equipment or change our processes, the shadow price on carbon helps us to identify the most promising new technologies. For example, in 2020 and based on analysis that included the shadow price, we began deploying specialized software that uses real-time weather conditions to provide our flight crews with better data about optimal flight altitudes and speeds. This can save fuel and reduce emissions, particularly on long-haul flights.

C12. Engagement

C12.1

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

Yes, our suppliers

Yes, our customers/clients

C12.1a

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

Type of engagement

Engagement & incentivization (changing supplier behavior)

Details of engagement

Run an engagement campaign to educate suppliers about climate change

% of suppliers by number

1

% total procurement spend (direct and indirect)

44

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

47

Rationale for the coverage of your engagement

In 2021, we submitted a science-based target for approval by the Science Based Target initiative (SBTi). To help achieve this target and to better engage with our suppliers, in 2022, we began participating in the CDP Supply Chain program to directly request more accurate scope 3 data from our suppliers. We are currently requesting data from our largest 53 suppliers, who represent approximately 44% of our procurement spend and 47% of our scope 3 emissions. While the number of suppliers included in our engagement is small, their share of procurement and scope 3 emissions is much higher. Our rationale for this coverage of engagement is that this is our first year of participation in the CDP Supply Chain program. For our initial engagement, we decided to limit coverage to our largest, most important suppliers. Because many of our suppliers were not familiar with the CDP process, this first year in the program required us to spend time with our suppliers, often in 1:1 meetings, to explain our expectations and goals. An added benefit of spending extra time with our suppliers is that it gives us the opportunity to explore new ways to reduce our emissions collaboratively. We think that spending more time now, with this smaller set of suppliers, will set a good foundation for future work to reduce our scope 3 emissions and to collect more accurate scope 3 emissions data.

Impact of engagement, including measures of success

The desired impact of engagement is to improve our relationship with our suppliers, find ways to partner with them to reduce carbon emissions, and collect more accurate scope 3 emissions data. In the short term, we will measure success based on the number of suppliers that respond to our request for emissions data; our target for 2021 is for at least half of the 53 suppliers to respond. Over the longer term, we will measure success in two ways: (1) by the increase in the number of new initiatives we form in partnership with our suppliers to reduce the upstream emissions related to the products and services we purchase and (2) by the increase in the response rate of our suppliers, as represented by total procurement spend, to 80% by 2030.

Comment

C12.1b

(C12.1b) Give details of your climate-related engagement strategy with your customers.

Type of engagement & Details of engagement

Education/information sharing

Run an engagement campaign to education customers about your climate change performance and strategy

% of customers by number

10

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

10

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

We selected corporate customers for these customers because we have a strong connection with them, because sustainability and climate change mitigation is important to many of them, and because we when we engage with them on climate change issues, we both strengthen the commercial relationship and learn from our customers more about their expectations for us and how we can perform at a higher level.

Impact of engagement, including measures of success

In late 2020 and continuing to today, we launched an educational and engagement campaign to (1) provide to our corporate customers significant additional information about our climate strategy and goals and (2) seek their participation in helping us build a market for the sale/purchase of emissions reductions from sustainable aviation fuel (SAF). We added this information to our materials for Quarterly Business Reviews (QBRs) with all (100%) of our corporate customers whose employees represent roughly 10% of our total customer base. We also provided training to all of American's corporate sales account managers to prepare them to discuss American's climate strategy and SAF with their corporate accounts. As a result of this effort, American's account managers routinely raise with their corporate accounts the idea of purchasing from us the emissions reduction value of the sustainable aviation fuel that is a core component of our near, mid and long-term climate strategy.

As a result of the deeper conversations our Sales account managers had with their corporate accounts, we finalized three agreements in 2021 to sell the emissions reductions value of more than three million gallons of SAF to seven corporate customers. Two of the three corporate customers represented more than 66,000 flight segments flown on American in 2021 (one of the customers was a cargo forwarder for whom flown segment is not applicable). The measure of success for the impact of this climate-related customer engagement strategy is whether we are able to sell 100% of the emission reduction value of the nine millions of gallons of SAF we have committed to purchase from Neste from 2020-2023 to our corporate customers by 2023.

Type of engagement & Details of engagement

Education/information sharing

Run an engagement campaign to education customers about your climate change performance and strategy

% of customers by number

40

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

40

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

We selected our loyalty customers (in our AAdvantage program) because these are the customers with whom we have the strongest connection, who both expect and permit communication from us, and who are most receptive to information we provide about our approach to mitigating our emissions. We also selected this audience because they will give us feedback that will help inform our approach, before we expand our information and engagement campaigns to a broader audience of customers.

Impact of engagement, including measures of success

In 2021, we ran an engagement campaign -- which involved sending an email to millions of AAdvantage customers -- to inform them about our strategy to address the impact of our operations on the climate, our goals and what these customers can do to limit the climate impact of their flights. The campaign in April 2021 was designed to achieve that goal by offering our customers the opportunity to donate their loyalty program miles to the National Parks Foundation, the official charitable arm of the U.S. National Park Service. We also timed the launch of this campaign with the launch of a new sustainability page on aa.com, giving our customers an opportunity to learn more about our approach to climate change and other sustainability issues.

We measured the success of the email campaign to customers by the open rate of the email and the quantity of donations made globally to the National Parks Foundation by our customers. The open rate on the email was close to 60%, which was significantly higher than the average open rate for our customer emails that month (April 2021). And within two days after we sent the email, our customers had donated more than 10 million miles to the Foundation, demonstrating a high level of engagement. This engagement and the feedback from the campaign was helpful in informing our future work to engage our customer base. A threshold indicator for this measure of success is if we can have an open rate on the email that meets or exceeds the average open rate for the month, and if our customers donate more than 500,000 miles donated to our non-profit partner in each individual campaign.

C12.2

(C12.2) Do your suppliers have to meet climate-related requirements as part of your organization's purchasing process?

No, but we plan to introduce climate-related requirements within the next two years

C12.3

(C12.3) Does your organization engage in activities that could either directly or indirectly influence policy, law, or regulation that may impact the climate?

Row 1

Direct or indirect engagement that could influence policy, law, or regulation that may impact the climate

Yes, we engage directly with policy makers
Yes, we engage indirectly through trade associations
Yes, we engage indirectly by funding other organizations whose activities may influence policy, law, or regulation that may significantly impact the climate

Does your organization have a public commitment or position statement to conduct your engagement activities in line with the goals of the Paris Agreement?

Yes

Attach commitment or position statement(s)

Page 2, first full paragraph

aag-political-activities-statement-2022.pdf

Describe the process(es) your organization has in place to ensure that your engagement activities are consistent with your overall climate change strategy

American Airlines maintains a robust compliance program for advocacy activity, with oversight by senior and experienced leadership. We are committed to complying with this policy and with the letter and the spirit of all relevant state, federal and international laws and regulations.

The Corporate Governance, Public Responsibility and Safety Committee of our Board of Directors oversees this policy and the Company's public policy engagement, political contributions and principal trade association memberships. The Committee, which is comprised entirely of independent directors, receives and reviews updates on these efforts at least annually. The Committee also reviews and approves changes to this policy.

Our Senior Vice President for Corporate Affairs and Chief Government Affairs Officer (SVP/CGA), who reports to the Chief Executive Officer, oversees our public policy engagement, including any use of funds to further our regulatory and public policy interests. The SVP/CGA leads American Airlines' Global Government Affairs department, which is responsible for the day-to-day implementation of our public policy engagement and political contributions and compliance with this policy and with applicable laws. The Global Government Affairs department works closely with American Airlines' Chief Legal Officer and with outside counsel dedicated to government affairs and political law compliance matters to ensure adherence with all related rules and regulations and with best practices

As part of our public policy engagement, we are members of several trade and industry associations, as well as groups that advocate for policies to mitigate climate change. On at least an annual basis, management reviews and approves these memberships to ensure consistency with our Company's public policy objectives. We also regularly

engage with trade associations when we believe their positions may not support our climate goals.

In 2022, we intend to assess the extent to which the climate lobbying activities of the principal trade groups of which we are a member are consistent with the goals of the Paris Agreement. To the extent we find mis-alignment, we will use our influence to work to make their policy positions consistent with the goals of the Paris Agreement. We intend to make this assessment available on our website and update it annually.

C12.3a

(C12.3a) On what policy, law, or regulation that may impact the climate has your organization been engaging directly with policy makers in the reporting year?

Focus of policy, law, or regulation that may impact the climate

Adaptation and/or resilience to climate change
Renewable energy generation
Subsidies for renewable energy projects

Specify the policy, law, or regulation on which your organization is engaging with policy makers

In 2021 and 2022, we engaged directly with lawmakers in the U.S. Congress to advocate for enactment of a performance-based tax credit that would drive increased production of sustainable aviation fuel (SAF) in the U.S. This new tax credit was first introduced in 2021 in the U.S. House of Representatives as H.R. 3440, The Sustainable Skies Act. Over the same time period, American has also lobbied the Administration (primarily the White House, Department of Transportation and the Federal Aviation Administration) and the Congress for policies to promote the development of the SAF market (e.g., grants, research and development) as well as policies to modernize the air traffic control system in the U.S., which has significant potential to reduce aviation's emissions by improving the efficiency of flight paths, descents, ground movement, and other aviation operations.

Policy, law, or regulation geographic coverage

National

Country/region the policy, law, or regulation applies to

United States of America

Your organization’s position on the policy, law, or regulation

Support with no exceptions

Description of engagement with policy makers

In 2020 and 2021, representatives from American's Government Affairs department met on several occasions with Members of Congress who were considering whether to support the Sustainable Skies Act and other government measures to promote SAF. In

addition, in early 2022, our CEO met with the Secretary of Energy and with White House staff to advocate for the Federal government's support for research and development and other activities and policies to support the development of SAF production in the U.S. We also participated in the SAF Blenders Tax Credit Coalition, a coalition of airlines, SAF producers and other companies and nonprofits for whom the development of the SAF market is critical to their decarbonization or commercial goals. Last, in 2021, American added its name to a letter developed by the Center for Climate and Energy Solutions and sent to Members of Congress to encourage them to support the SAF tax credit and other clean energy legislative measures.

Details of exceptions (if applicable) and your organization's proposed alternative approach to the policy, law or regulation

Have you evaluated whether your organization's engagement is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

C12.3b

(C12.3b) Provide details of the trade associations your organization engages with which are likely to take a position on any policy, law or regulation that may impact the climate.

Trade association

International Air Transport Association

Is your organization's position on climate change consistent with theirs?

Consistent

Has your organization influenced, or is your organization attempting to influence their position?

We publicly promote their current position

State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)

At the behest of members including American, in 2021, IATA sought and received approval from its member airlines to adopt a goal of reaching net zero emissions by 2050. IATA also regularly advocates for government policies to expand the market for sustainable aviation fuel. American Airlines has also set a target of net zero emissions by 2050.

Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)

Describe the aim of your organization's funding

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Trade association

US Chamber of Commerce

Is your organization's position on climate change consistent with theirs?

Consistent

Has your organization influenced, or is your organization attempting to influence their position?

We have already influenced them to change their position

State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)

In 2020, the US Chamber of Commerce adopted a new stance on climate change, one that recognizes that the climate is changing and humans are contributing to these changes. It also recognizes that combating climate change will require citizens, government, and business to work together. Consistent with its overal mission to support the U.S. business community, the Chamber supports a market-based approach to accelerating GHG emissions reductions across the U.S. economy, one that leverages the power of business and embraces technology and innovation. American continues to engage with the Chamber on its climate position.

Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)

37,500

Describe the aim of your organization's funding

We are a member of the US Chamber because our engagement allows us to gain insight into core issues for the airline industry and the business community and to advocate jointly for public policies that support an efficient, healthy, competitive industry and business environment.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Trade association

Business Roundtable

Is your organization's position on climate change consistent with theirs?

Consistent

Has your organization influenced, or is your organization attempting to influence their position?

We publicly promote their current position

State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)

Business Roundtable (BRT) has stated publicly that, to avoid the worst impacts of climate change, the world must work together to limit global temperature rise this century to levels consistent with the Paris Agreement.

Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)

130,000

Describe the aim of your organization's funding

The Business Roundtable is an organization of chief executive officers (CEOs) of leading companies. Our CEO is a BRT member because his -- and American's -- engagement allows us to gain insight into core issues for the airline industry and the business community and to advocate jointly for public policies that support an efficient, healthy, competitive industry and business environment.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Trade association

Other, please specify

Airlines for America

Is your organization's position on climate change consistent with theirs?

Consistent

Has your organization influenced, or is your organization attempting to influence their position?

We have already influenced them to change their position

State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)

With support from its airline members, Airlines for America (A4A) has adopted a goal for the U.S. airline industry to reach net zero by 2050, as well as an intermediate goal to

work with government leaders and other stakeholders to make 3 billion gallons of cost-competitive sustainable aviation fuel (SAF) available to U.S. aircraft operators in 2030. A4A also embraces the U.S. government's SAF Grand Challenge, the goal of which is to produce enough SAF by 2050 to fuel the entire U.S. airline industry. A4A has also been active in lobbying for enactment of a SAF-specific tax credit to help drive the production of SAF in the U.S., as well as other measures to increase SAF production, such as grants and research and development. A4A is active in lobbying, alongside American, for improvement to air traffic control procedures and technologies that have the greatest potential to reduce aviation's GHG emissions.

Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)

1,104,600

Describe the aim of your organization's funding

Airlines for America (A4A) advocates on behalf of its members to shape crucial policies and measures that promote safety, security and a healthy U.S. airline industry. Our membership in A4A allows us to gain insight into core issues for the airline industry and the business community and to advocate jointly for public policies that support an efficient, healthy, competitive industry and business environment. Our work with A4A also allows us to benefit from the opportunity to share technical expertise and operational knowledge that strengthens safety, customer service and efficiency in our operations.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

C12.3c

(C12.3c) Provide details of the funding you provided to other organizations in the reporting year whose activities could influence policy, law, or regulation that may impact the climate.

Type of organization

Non-Governmental Organization (NGO) or charitable organization

State the organization to which you provided funding

Center for Climate and Energy Solutions (C2ES); American is a member of C2ES' Business Environment Leadership Council. Note that American's dues paid to C2ES support BELC-related initiatives, some of which is policy engagement, and C2ES research. it is not correct to attribute all of the dues to direct engagement with policymakers.

Funding figure your organization provided to this organization in the reporting year (currency as selected in C0.4)

35,000

Describe the aim of this funding and how it could influence policy, law or regulation that may impact the climate

C2ES' mission is to advance strong policy and ambitious action to: reduce greenhouse gas emissions; promote and accelerate the clean energy transition; strengthen adaptation and resilience to climate impacts; and facilitate the necessary financial investments to do so. American is a member of C2ES' Business Environment Leadership Council, which brings together companies with ambitious climate change programs to address the challenges of climate change and support effective climate policy.

Have you evaluated whether this funding is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

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, incorporating the TCFD recommendations

Status

Complete

Attach the document

aag-esg-report-2021 rev.pdf

Page/Section reference

Page 5, climate-related governance; page 7, climate goals; pages 9-28, climate strategy and TCFD disclosures; pages 55-57, emissions and energy data

Content elements

Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

Comment

In June 2022, American Airlines published its TCFD-aligned annual report for 2021, disclosing our climate change and GHG emissions performance for public stakeholders to review in a user-friendly format. The report includes our approach to climate-related governance, strategy, risks and opportunities, and metrics and targets. Emission figures and other relevant environmental, social and governance metrics are included in that report.

C15. Biodiversity

C15.1

(C15.1) Is there board-level oversight and/or executive management-level responsibility for biodiversity-related issues within your organization?

	Board-level oversight and/or executive management-level responsibility for biodiversity-related issues
Row 1	No, but we plan to have both within the next two years

C15.2

(C15.2) Has your organization made a public commitment and/or endorsed any initiatives related to biodiversity?

	Indicate whether your organization made a public commitment or endorsed any initiatives related to biodiversity	Biodiversity-related public commitments	Initiatives endorsed
Row 1	Yes, we have made public commitments and publicly endorsed initiatives related to biodiversity	Other, please specify Conserve biodiversity	Other, please specify

C15.3

(C15.3) Does your organization assess the impact of its value chain on biodiversity?

	Does your organization assess the impact of its value chain on biodiversity?
Row 1	No, but we plan to assess biodiversity-related impacts within the next two years

C15.4

(C15.4) What actions has your organization taken in the reporting year to progress your biodiversity-related commitments?

	Have you taken any actions in the reporting period to progress your biodiversity-related commitments?
Row 1	No, we are not taking any actions to progress our biodiversity-related commitments, but we plan to within the next two years

C15.5

(C15.5) Does your organization use biodiversity indicators to monitor performance across its activities?

	Does your organization use indicators to monitor biodiversity performance?	Indicators used to monitor biodiversity performance
Row 1	No, we do not use indicators, but plan to within the next two years	

C15.6

(C15.6) Have you published information about your organization's response to biodiversity-related issues for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Report type	Content elements	Attach the document and indicate where in the document the relevant biodiversity information is located
Other, please specify Environmental Policy Statement	Content of biodiversity-related policies or commitments	Second paragraph 1

1AAG_Environmental Policy Statement.pdf

C16. Signoff

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.

C16.1

(C16.1) 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)