



SUSTAINABILITY REPORT
2022

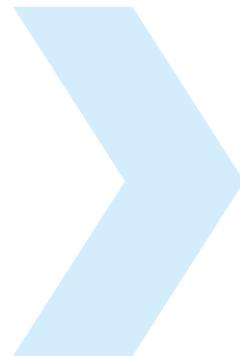
About American Airlines and This Report

American Airlines Group Inc. is a holding company whose primary business activity is the operation of a major network carrier headquartered in Fort Worth, Texas, providing scheduled air transportation for passengers and cargo through our mainline operating subsidiary, American Airlines, Inc. and our wholly-owned regional airline subsidiaries, Envoy Aviation Group Inc., PSA Airlines, Inc. and Piedmont Airlines, Inc., as well as contracted third-party regional carriers. American Airlines Group Inc. and our wholly-owned subsidiaries are hereafter referred to collectively as "American." The term "regional carriers" refers only to those owned by American.

American is committed to providing regular and transparent information about our strategies and performance on the sustainability issues that we believe are most important to our company and stakeholders. This sustainability report includes a discussion of American's approach to managing those sustainability issues, along with highlights of our progress and performance in sustainability in 2022. It covers the activities of American Airlines Group Inc. that are consolidated for financial reporting, except where specifically indicated otherwise. Unless noted otherwise, the performance data presented in this report is for the 12 months ending Dec. 31, 2022.

Adhering to best practices for disclosure, this report also substantially aligns with the recommendations of the [Task Force on Climate-related Financial Disclosures \(TCFD\)](#) and the standard for the airline industry developed by the [Sustainability Accounting Standards Board \(SASB\)](#). We view both of these reporting frameworks as important indicators of the sustainability issues that investors and others consider most significant. Regarding forward-looking statements, please see the [last page](#) of this report.





A Message From Our CEO

Human connection — in our personal lives, at work and within our communities — is an imperative. The soaring demand for travel as we emerge from the pandemic is a testament to that quest for connection, and I'm honored and humbled to be part of a company that exists to help people fulfill it.

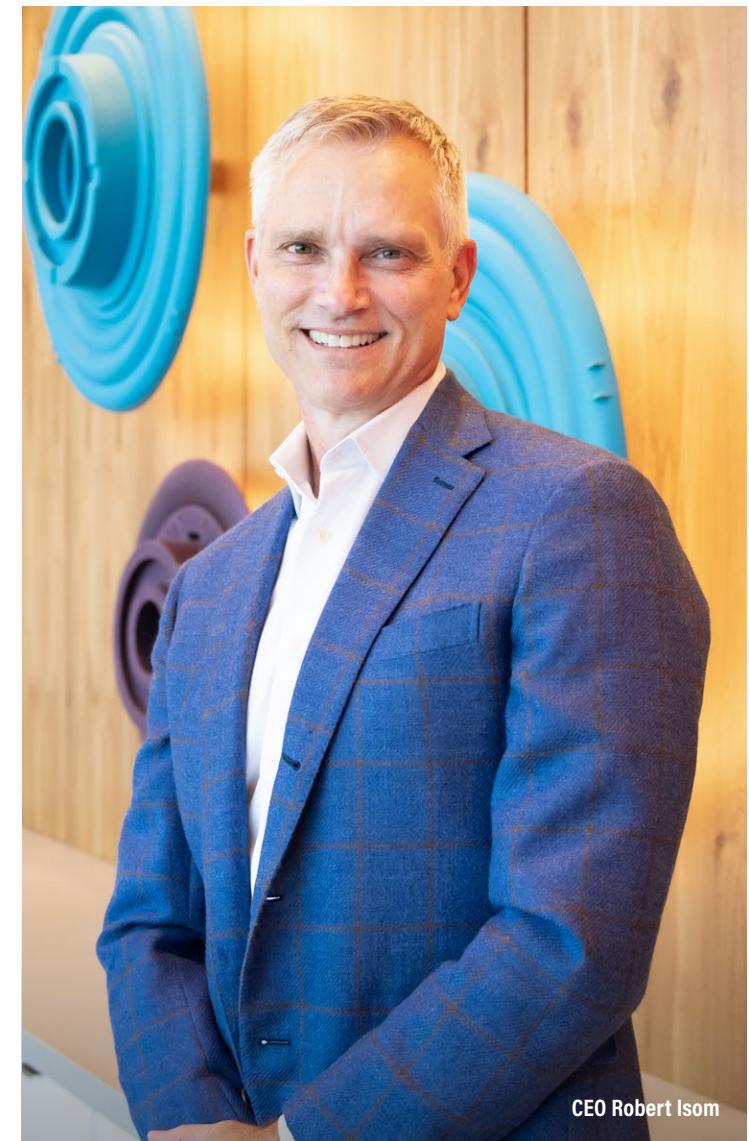
Over the past year, American has worked tirelessly at putting our assets to work to fly more and bring people together again. I'm deeply proud of our team for building back our airline faster than anyone, flying more people to more places and getting the world moving again — all while remaining steadfastly committed to our "why": caring for people on life's journey.

Succeeding in this aim depends on American continuing to run a reliable operation and thrive as a profitable enterprise. But it also demands that we hold ourselves accountable as exceptional stewards of the resources we are fortunate enough to have and on which our success depends. Our more than 130,000 team members are committed to meeting the demand for air travel and finding ways to do so more sustainably.

Attracting, retaining and developing the talent we need is both important to American's mission and a vital way we create economic opportunity in our communities. We are enormously proud of those efforts. Indeed, we hired more than 30,000 new team members in 2022. And more than 100,000 positions at American are front-line jobs represented by unions, jobs that don't require a four-year degree, yet provide team members with what we believe are excellent compensation and benefits and the chance to build stable, rewarding careers. The shortage of pilots in our industry has received a lot of attention, but we are equally in need of talent to fill well-paying jobs across our company — from maintenance technicians to flight attendants, reservation agents and technology professionals.

To help accomplish those objectives, we are working to create opportunities and train people from all backgrounds, including diverse groups historically underrepresented in the airline industry. That effort includes developing a diverse pilot applicant pool, including through our Cadet Academy, pursuing partnerships with groups such as the Aviation Institute of Maintenance and the Organization for Black Aerospace Professionals, and recruiting at Historically Black Colleges and Universities. As we have undertaken record hiring, we're also seizing the moment to increase awareness, access and opportunity for everyone interested in exploring a career in aviation. And we have held ourselves accountable for our progress by incorporating diversity goals into our annual executive incentive plan.

The outstanding team we've built at American is the engine behind the high level of service we provide to our customers. Even as we rapidly ramped up our operation in 2022, we maintained our focus on offering the reliability, dependability



CEO Robert Isom

and world-class experience our customers expect. Thanks to the hard work of our team, we recorded our best-ever customer satisfaction scores — which we measure by Likelihood to Recommend — for the year. And we aren't content to stop there, as we continually work to find new and better ways to meet our customers' needs.

Addressing climate change risks also remains a critical priority for American. Whether it's rising temperatures in our Sun Belt hubs or the increasing prevalence of extreme weather events across our system, this isn't a distant threat. It's affecting our operations today. So, the question isn't whether we — as a company, industry, country or society — need to make real changes, it's about how quickly and decisively we will do so.

For our part at American, we have set bold and ambitious climate goals, and are taking real steps to meet them. Over the past several years, we have undertaken the most extensive fleet renewal effort in the history of our industry — giving us the youngest mainline fleet among U.S. network carriers. We became the first airline in the world to receive validation from the Science Based Targets initiative that our 2035 emissions reduction target complies with its rigorous criteria.

We also continue to be a leader in the industry in our use of sustainable aviation fuel (SAF), almost doubling our SAF consumption in 2022 compared to the year before. Alongside our investments in electric vertical takeoff and landing aircraft, in 2022, we announced new investments to catalyze the development of zero-carbon, hydrogen-fuel-cell-powered aviation. And we are developing and deploying new technologies within our own operations — such as smart gating — to reduce fuel use and emissions.

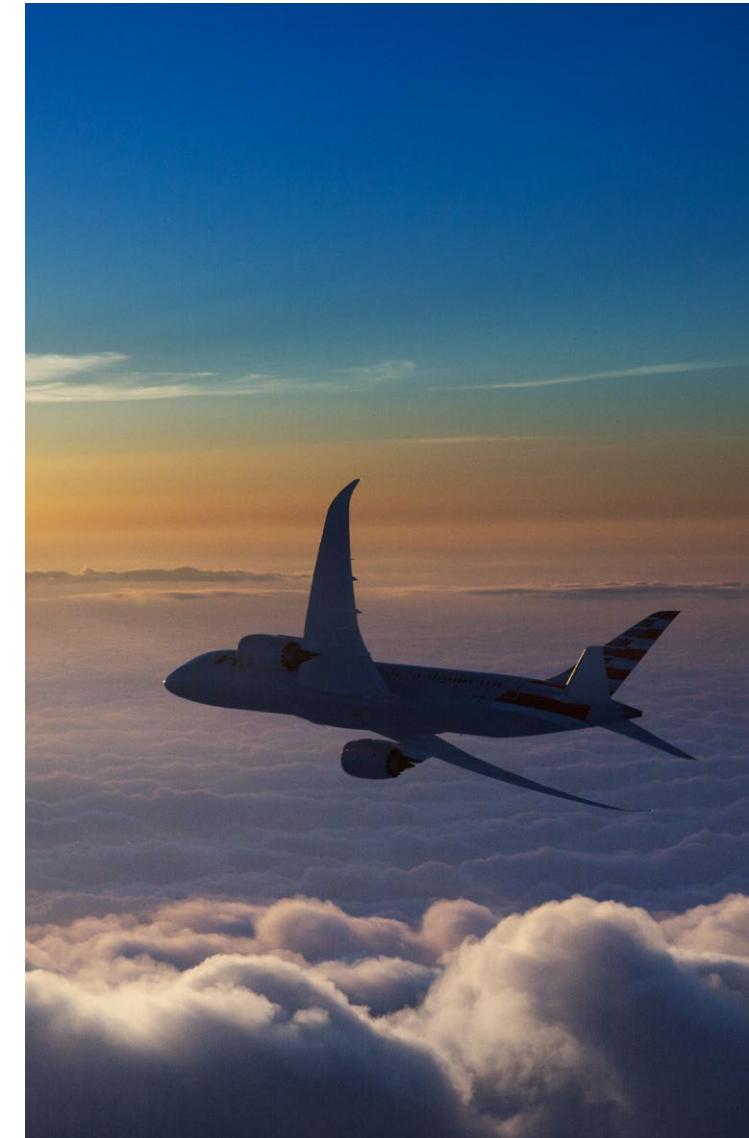
I'm proud of the role American is playing in helping to advance low-carbon aviation. And I'm excited about some of the broader developments we've seen, including the SAF blenders tax credit that the U.S. Congress included in the Inflation Reduction Act last year to help grow SAF production. But at the same time, I'm clear-eyed about the fact that reaching net zero will require more collaboration across the public and private sectors.

The fact is, American cannot achieve our climate goals on our own. We can and are working to do our part and hold ourselves accountable for our progress, but we need advances in engine, aircraft and fuel technologies to get there. We also need a policy and funding environment that will enable these advances to be scaled, with the support of a modernized and efficient airspace program.

Climate change, like all aspects of sustainability, is a reminder that the challenges we face are interconnected. Solving them requires bringing people together and forging connections across sectors, geographies, communities and ideologies. That's why we fly.



Robert Isom
Chief Executive Officer
June 2023





Sustainability Strategy

As American rapidly ramped up operations in 2022, our focus on sustainability remained front and center. We believe prioritizing the safety of our team members and customers, supporting and attracting diverse talent, providing our customers with a world-class travel experience and positioning American to compete in a low-carbon economy are all integral to running a reliable operation and a profitable company that thrives forever.

We have long recognized the importance of environmental, social and governance issues and have developed an integrated and transparent approach to related oversight, management, measurement and reporting. We believe we have much to show for our efforts, but we continue to look to best practices within and outside our industry as we refine and strengthen our policies, practices and disclosures.

Our Priority Sustainability Issues

We periodically conduct sustainability-focused materiality assessment processes that serve as the foundation of our analysis of areas of sustainability risk and opportunity. We conducted our most recent process in early 2023, which incorporated a “double-materiality” approach, and affirmed our priority issues. Through ongoing engagement across our company and with a broad range of external stakeholders, we annually validate and, as needed, refine our assessment based on the input we receive and changes in our operating environment. We also continually monitor trends, standards and practices relevant to our industry to inform our areas of focus. Additionally, we look to widely adopted external

reporting frameworks, including the Task Force on Climate-related Financial Disclosures and the Sustainability Accounting Standards Board. We view both of these reporting frameworks as important indicators of the sustainability issues that investors and others consider most material.

These activities have affirmed our focus on the following priority sustainability issues:

- Safety
- Team member engagement, compensation and benefits
- Diversity, equity and inclusion (DEI)
- Customer satisfaction and operational performance
- Climate change and fuel efficiency

Driving progress across all these issues is a key objective for American. We also recognize that the business landscape is evolving rapidly and that we must be ready to address new areas of concern if and when they emerge. Over time, we have worked to develop a more integrated approach to our management of key risks and opportunities. We will continue to seek stakeholder input, while also closely monitoring emerging practices and trends.

Member of
**Dow Jones
Sustainability Indices**

Powered by the S&P Global CSA

In 2022, American Airlines was the only passenger airline named to the **Dow Jones Sustainability North America Index** for the second straight year. We increased our year-over-year score by more than 20%, which we believe is a recognition of the progress we have made toward our sustainability goals.

Management and Governance

Since sustainability issues touch nearly every aspect of our business, their day-to-day management is an integral part of our operations and functions. American's Vice President, Sustainability, is responsible for guiding and coordinating our activities at the executive level, and she is supported by a team of sustainability professionals. She also receives guidance and feedback from a cross-functional and cross-operational group of senior leaders with responsibility for regularly assessing the effectiveness of our sustainability strategy, its implementation and further integration of sustainability into our company strategy and operations. (See *In Conversation: On the Front Lines of Sustainability at American Airlines* on [page 7](#).)

At the Board level, the Corporate Governance and Public Responsibility (CGPR) Committee has primary responsibility for overseeing most of our sustainability efforts, like climate change. Our Compensation Committee has oversight responsibility for our human capital issues, including team member compensation and benefits and engagement, talent development and DEI. Our Safety Committee has primary responsibility for oversight of American's safety culture, program and performance. Among its many responsibilities, our Audit Committee has oversight of our approach to business conduct and ethics. Our Board received updates on each of these topics at each quarterly Board meeting in 2022, and our full Board reviews union relations, customer satisfaction and operational performance regularly in its meetings.

Climate-related governance

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.

At the Board level, the CGPR Committee has oversight responsibility for American's climate change strategy. In 2022, this committee dedicated significant time to reviewing our climate change risks and opportunities. We also review our climate change strategy with the CGPR Committee several times throughout the year.

At the management level, we formally assigned responsibility for oversight of our climate change strategy to our Chief Executive Officer in 2022. American's Vice President, Sustainability, is responsible for developing and coordinating the company's overall climate strategy and driving its implementation.

Responsibility for climate-related issues is also embedded in senior roles across our company. For example, the Operations team conducts resiliency planning for more frequent and severe weather events; our Fuel Procurement team works to secure cost-effective supplies of sustainable aviation fuel (SAF); and our Flight Operations and Fleet Engineering teams are focused on improving fuel efficiency in the air and on the ground. Our 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, Communications, Legal, Government Affairs and Investor Relations — provides guidance across these efforts.

For more information on American's corporate governance policies and procedures, as well as our Standards of Business Conduct, please see our [website](#).

Public Policy and Political Contributions

Political, legislative and regulatory decisions can have a significant impact on American's success, and we have adopted policies that guide our participation in these processes. Reflecting best practices, our [Statement on Public Policy Engagement and Political Participation](#) describes how management and the Board of Directors oversee American's public policy engagement and the policy considerations that influence such engagement. Our Board reviews this statement regularly and last approved a revision in January 2022.

We do not use corporate funds to contribute to candidates, political party committees or political action committees. On the rare occasion when we use corporate funds to contribute to a state or local ballot initiative or a 501(c)(4) organization, we have committed to disclosing that contribution. American did not make any such political or 501(c)(4) contributions in 2022.

The CGPR Committee oversees the company's major advocacy priorities and activities, political contributions and principal trade association memberships. We have committed to aligning our lobbying efforts with the priorities and goals of the Paris Agreement, the international treaty on climate change.

To help advance our net zero commitment, American joined the [Low Carbon Fuels Coalition \(LCFC\)](#) in 2022. LCFC is a technology-neutral trade association with a proven track record, which advocates on behalf of clean fuel standards. (See [page 17](#) for more information.)

In Conversation: On the Front Lines of Sustainability at American Airlines

Jill Blickstein, American's Vice President, Sustainability, looks back on 2022 and discusses American's evolving sustainability strategy.

As you look back on the past year, what progress toward your 2050 net zero goal are you most excited about? And what has to happen next?

We're seeing real progress in growing the market for sustainable aviation fuel (SAF). In 2022, we signed an agreement to buy 500 million gallons of SAF from Gevo, a new producer. And Congress enacted the first-ever tax credit aimed at increasing investment in SAF. To ramp up SAF production, SAF producers will need both the demand signal and the requisite public policy support.

I'm also excited about the progress we're seeing in hydrogen. In 2022, American invested in two start-ups working to advance zero-emissions aviation powered by green hydrogen, both of which have met major milestones recently. The United States is investing in green hydrogen, and while it's far in the future, we want aviation to be able to take advantage of that growth.

That takes me to the second part of your question. We're making progress, but we can't reach net zero on our own. We need government and private industry working together to support alternative fuels. I'm not necessarily talking about direct collaboration, but I do mean everybody working toward the same goal. In the case of SAF, that means producing 35 billion gallons in 2050 to fuel the entire U.S. airline industry. Fortunately, there has been a lot of good news on that front, and we expect to see more.

How does American's capital spending align with your climate strategy?

Investors have started asking that question as well. I'll start by saying that no airline can spend its way to net zero. Getting there is going to require advances in airframe, engine and fuel technologies, along with a policy environment that enables them to scale. That said, roughly 70% of our total capital expenditure budget for 2022 went toward projects that yield decarbonization benefits, even if the efforts themselves also serve other purposes. That includes about \$1.7 billion for new, more fuel-efficient aircraft and initiatives such as electric ground support equipment and retrofitting existing aircraft with lighter seats. We have also committed to investing \$100 million as an anchor partner in Breakthrough Energy Catalyst.

Are there other aspects of your sustainability strategy where you are seeing progress?

There are too many to mention here, but that's why we produce an entire report. I am proud, though, of the work we are doing to diversify the flight deck. Our team members are American's biggest strength, and I'm glad to be part of a leadership team that seeks to recruit top talent from all backgrounds. We have initiatives focused on training the next generation of pilots as



Jill Blickstein, Vice President, Sustainability

well as aircraft maintenance technicians. Both are generally well-paying careers with opportunities for advancement. We need new minds to help solve today's challenges, and for a goal as big as decarbonizing our operation, it's all hands on deck.

After several years of publishing an ESG report, what was behind American's decision to call this a sustainability report instead?

As we've deepened and matured our work across a range of nonfinancial issues, we've come to believe that "sustainability" better captures our purpose. That's because it takes into account both risk management – which is at the core of ESG and a critical priority for American – and our impact on the environment in which we operate. We recognize that American's long-term success is linked inextricably to the health of the planet and the people we serve. That's how we define sustainability.

CEO MESSAGE

SUSTAINABILITY STRATEGY

CLIMATE CHANGE

SAFETY

TEAM MEMBERS

CUSTOMERS

INDEXES & DATA



Addressing Climate Change

The low-carbon transition is both urgent and underway, and American is working to transition to operating a resilient, competitive and low-carbon airline so that we continue to thrive. As we do with any strategic imperative, we have set aggressive goals and laid out a plan for how we intend to meet them.

Our aim is to achieve net zero greenhouse gas (GHG) emissions by 2050. To drive progress toward that goal, we have set an intermediate target to reduce GHG emissions intensity by 45% by 2035, relative to a 2019 baseline. This includes both direct emissions (Scope 1) — which are primarily from the jet fuel used in flight — and the emissions from the production of the jet fuel the airline uses and the consumption of jet fuel by contracted regional carriers.

In 2022, we became the first airline globally to receive validation from the [Science Based Targets initiative \(SBTi\)](#) that our intermediate 2035 GHG reduction targets comply with the SBTi criteria. American submitted its intermediate targets under the SBTi's first aviation pathway, published in August 2021, which was designed to limit warming to well-below 2°C above preindustrial levels, the temperature goal outlined in the Paris Agreement.

Our strategy for reaching net zero GHG emissions by 2050 is focused on running an ever more fuel-efficient operation, primarily by operating more fuel-efficient aircraft that are increasingly powered by low-carbon fuel. In 2022, we took meaningful steps forward in these areas — from adding new-generation aircraft to our fleet and finalizing our most significant sustainable aviation fuel (SAF) offtake agreement to date, to announcing two investments in companies focused on the development of low-carbon, hydrogen-powered aviation.

OUR CLIMATE GOALS

GOAL	TARGET YEAR	PROGRESS
Achieve absolute reduction of 50 million gallons of jet fuel from fuel-efficiency initiatives, avoiding almost 480,000 metric tons of CO ₂ e	2025	Mainline aircraft that were in our fleet as of 2019 and continued to be flown through 2022 used 13.7 million fewer gallons of jet fuel.
Source 2.5 million gigajoules (GJs) of cost-competitive renewable energy	2025	Through 2022, we sourced 1.7 million GJs of renewable energy.
Fly 30% of available seat miles (ASMs) with latest-generation aircraft	2025	In 2022, we achieved 21.6% of ASMs flown by latest-generation aircraft.
Replace 10% of our jet fuel with SAF in 2030, avoiding approximately 3.5 million metric tons of CO ₂ e*	2030	Signed commitments covering 620 million gallons of SAF from 2025–2030 — 116 million gallons of which will be delivered in 2030, representing 2.4% of our estimated fuel consumption in 2030.
Reduce GHG emissions intensity by 45%**	2035	Reduced intensity by 2.7% through 2022.
Reduce Scope 2 emissions by 40%**	2035	<i>In progress; goal set in 2022.</i>
Target net zero emissions	2050	Improved fuel efficiency by 10.4% compared with 2013, avoiding 22.5 million metric tons of CO ₂ e.

* Assumes 75% lower life cycle GHG emissions from purchased SAF, compared to petroleum jet fuel.

** Validated science-based target against 2019 baseline. The Scope 1 target applies to GHG emissions per unit of passenger and cargo payload that American transports.

American received a CDP Climate Change score of "A–" for the third consecutive year in 2022 – the highest score among U.S. passenger airlines. CDP also recognized American as a Supplier Engagement Leader in 2022 for our efforts to help drive climate action across our value chain.



Our Climate Strategy

Our strategy to reach net zero emissions is focused on driving progress across several key levers — some of which we have the ability to influence directly, and some of which will require action and collaboration within our industry, across sectors and by policymakers.

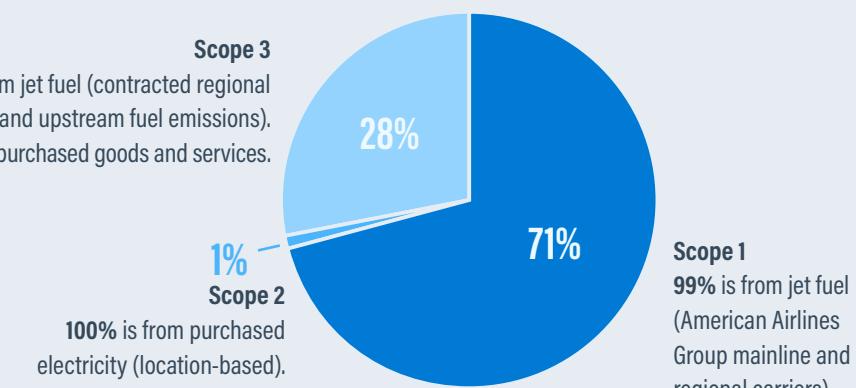
Underpinning our strategy is the in-depth analysis we initially conducted in 2020 to understand the climate-related risks and opportunities facing our company. In early 2023, we further expanded and deepened this analysis by incorporating 1.5°C aligned scenarios, consistent with the ambition of the Paris Agreement, in our assessment of both physical and transition risks. This includes the International Energy Agency's (IEA) Net Zero by 2050 (NZE) scenario, which we selected because it includes aviation-specific narrative and milestones. For a detailed discussion of our process and findings, see [page 19](#).

OUR CARBON FOOTPRINT IN 2022*

Total emissions (Scopes 1, 2 and 3):

49 million metric tons of carbon dioxide equivalent (CO₂e)

Scope 3
79% is from jet fuel (contracted regional carriers and upstream fuel emissions).
13% is from purchased goods and services.



93% of our total carbon footprint is from jet fuel.

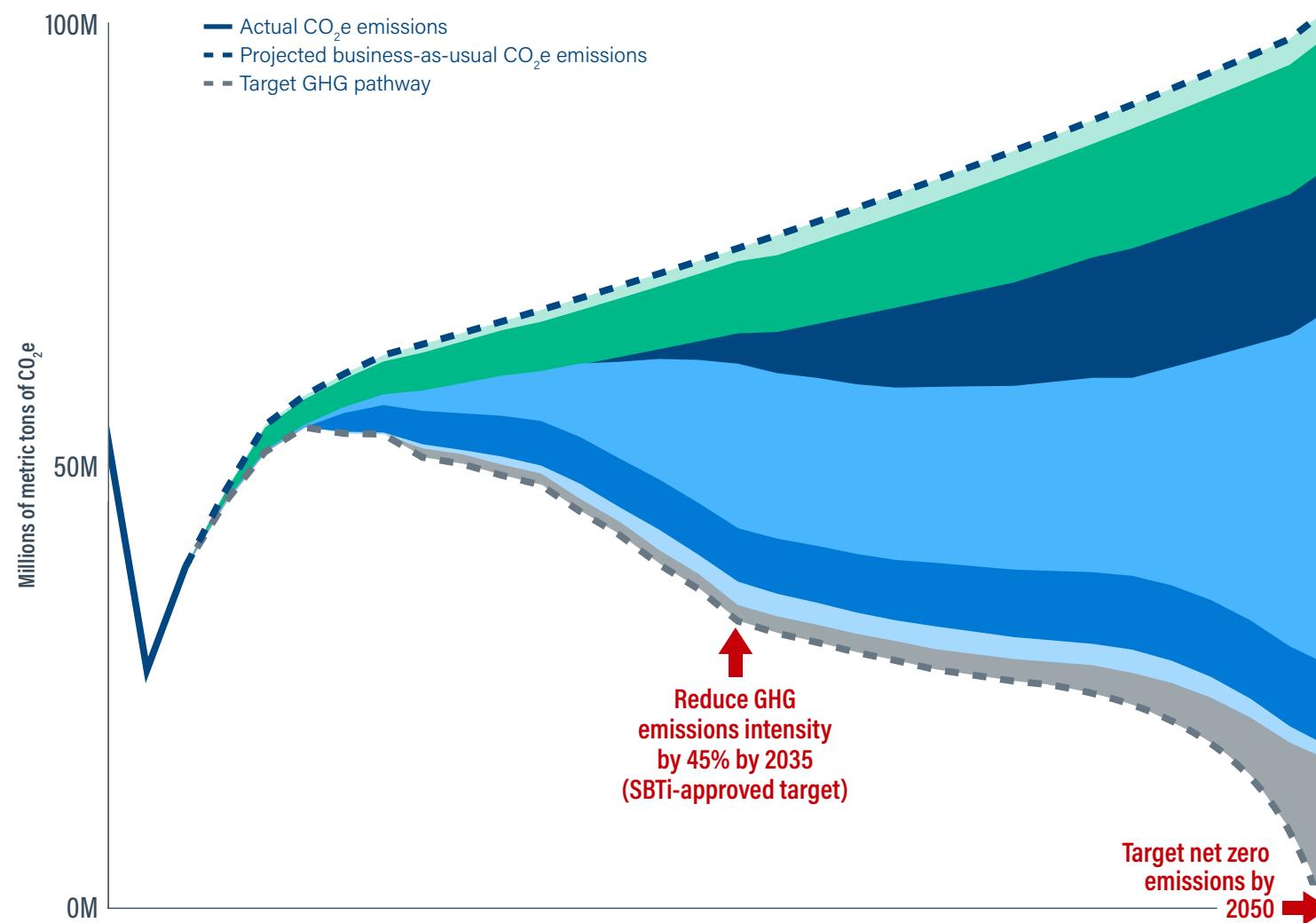
* See [page 57](#) for detailed Scopes 1 and 2 and applicable Scope 3 emissions disclosures.

REDUCING FUEL USE AND GHG EMISSIONS IN OUR FLEET



AMERICAN'S DIRECTIONAL PATHWAY TO NET ZERO IN 2050*

Updated June 2023



* Includes Scopes 1 and 2 as well as Scope 3, Categories 3 and 4. This directional pathway does not reflect levers that are inherently more difficult to measure in terms of avoided CO₂e, such as the direction or pace of policy and regulatory changes. Percentages are estimates based on best-available information.

** Fleet renewal is a lever that American controls only to the extent that manufacturers deliver new aircraft as scheduled.

Levers that we control:		Interim goals for net zero pathway:
3%	Flight operations and efficiency	Achieve absolute reduction of 50 million gallons of jet fuel from fuel-efficiency initiatives by 2025
15%	Fleet renewal**	Fly 30% of our available seat miles with latest-generation, fuel-efficient aircraft in 2025
Levers requiring cross-sector collaboration:		
16%	Next-generation aircraft	Induct zero-emissions, hydrogen-powered aircraft into our fleet in 2032 or earlier
40%	Sustainable aviation fuel (SAF)	Replace 10% of our jet fuel with SAF in 2030
9%	Airspace modernization	Work with policymakers to accelerate modernization of and support for global aviation infrastructure, technology and services to improve efficiency
2%	Jet fuel production (upstream)	Target a 40% reduction in average emissions intensity from the production of the jet fuel we purchase by 2035
15%	Carbon offsets	Utilize only when other decarbonization options are exhausted, and prioritize nature-based removal offsets

Aligning Our Capital and Investments With Our Net Zero Pathway

From the billions of dollars we have invested in fleet renewal to our comprehensive fuel-saving initiatives, American is putting our capital behind a plan to achieve our 2035 GHG reduction target and our longer-term net zero goal. At the same time, we operate in a sector that is recognized as hard to abate, due in large part to the need for not-yet-available or economically viable airframe, engine and fuel technologies.

The capital expenditures American makes are designed to advance a host of strategic and operational business priorities, and in some cases they have the corollary benefit of advancing our climate efforts. In 2022, approximately 70% of our total capital expenditures were allocated to efforts that provided decarbonization benefits. This figure excludes the 13 leased Boeing 787-8 aircraft, the latest-generation widebody model in our fleet.* (We leased an additional four through the first half of 2023.)

We are also putting dollars to work to support our low-carbon transition outside of our capital expenditures. For example, we are making investments to support the development of low-carbon, next-generation aircraft technologies. We have also announced significant new SAF commitments — where we will pay a premium for SAF — that will in turn help our SAF partners attract new capital.

* The number of leased aircraft is cumulative as of Dec. 31, 2022. Of these 13 aircraft, nine were leased in 2022 and the remaining four in prior years.

SPEND TYPE	STRATEGY LEVER	DECARBONIZATION EFFORT	WHAT WE DID IN 2022
Capital Expenditures Approximately 70% of total CapEx budget invested in efforts with decarbonization benefits	 Fleet renewal	Purchasing and putting into service new, more fuel-efficient aircraft and engines	Invested in 24 new Airbus A321neo and three Embraer E175 aircraft; leased nine new Boeing 787-8 aircraft
	 Flight operations & efficiency	Retrofitting existing aircraft with measures to improve efficiency	<ul style="list-style-type: none"> › Retrofitted 30 aircraft to complete a multiyear retrofitting project for 468 aircraft, increasing seating while also reducing total weight › Launched a similar retrofit as part of reactivating Boeing 737 aircraft from long-term storage, completing 28 of 37 in 2022 › Initiated a project to replace steel brakes with lighter carbon brakes on our Boeing 737 fleet › Began long-term planning for Boeing 777 and Airbus A321 subfleet retrofits, including initial design work
	 Electrification of ground service equipment (GSE)	Electrification of ground service equipment (GSE)	Added 62 electrical units to American's GSE fleet in 2022 — including 47 bag tractors and 15 belt loaders — bringing the fleet to 23% electric
	 Airspace modernization	Airspace system improvements that increase efficiency	Continued installing Automatic Dependent Surveillance-Broadcast In (ADS-B In) capabilities on Airbus A321 aircraft as part of a multiyear project and worked with the FAA on trial programs to implement ADS-B In
Investment Capital	 SAF	SAF technology advancements	Continued as an anchor partner of Breakthrough Energy Catalyst — having committed to invest \$100 million in efforts to advance SAF and other low-carbon technologies
	 Next-generation aircraft	Low- and no-carbon aircraft advancements	Made direct investments in ZeroAvia and Universal Hydrogen, companies both working to advance hydrogen fuel cell-powered aviation
Catalytic Commitments	 SAF	Agreements to purchase SAF	Finalized 500 million gallon SAF offtake agreement with Gevo — bringing total SAF commitments to 620 million gallons

Fleet renewal

Replacing older, less fuel-efficient aircraft with new, more efficient ones is among the most significant ways we can reduce our carbon footprint. Since 2013, American has invested more than \$25 billion in modernizing our fleet by taking delivery of over 645 new, more fuel-efficient aircraft. Over the same period, we retired 670 older, less fuel-efficient planes.

During 2022, American accepted delivery of 33 mainline aircraft, including 24 Airbus A321neo and nine Boeing 787-8 aircraft. These aircraft families both deliver approximately 20% fuel savings — and generate approximately 20% fewer emissions — than the previous generation models they replace.¹

As of Dec. 31, 2022, American's mainline fleet was an average age of 12.2 years old — the youngest mainline fleet among U.S. network carriers. New, more efficient aircraft, including the Airbus A321neo and Boeing 787 Dreamliner, as well as the Boeing 737 MAX, flew 22% of American's total available seat miles (ASMs) in 2022. Approximately \$8 billion, or 16% of our revenue during the year, stemmed from passengers flying on these latest-generation, fuel-efficient aircraft.

At year-end, we had definitive purchase agreements for the acquisition of 182 total aircraft by 2027, all of which are either Airbus A321neo, Airbus A321XLR, Boeing 737-8 MAX or Boeing 787-8/9 aircraft. Our goal is to fly 30% of our ASMs with these aircraft models in 2025.

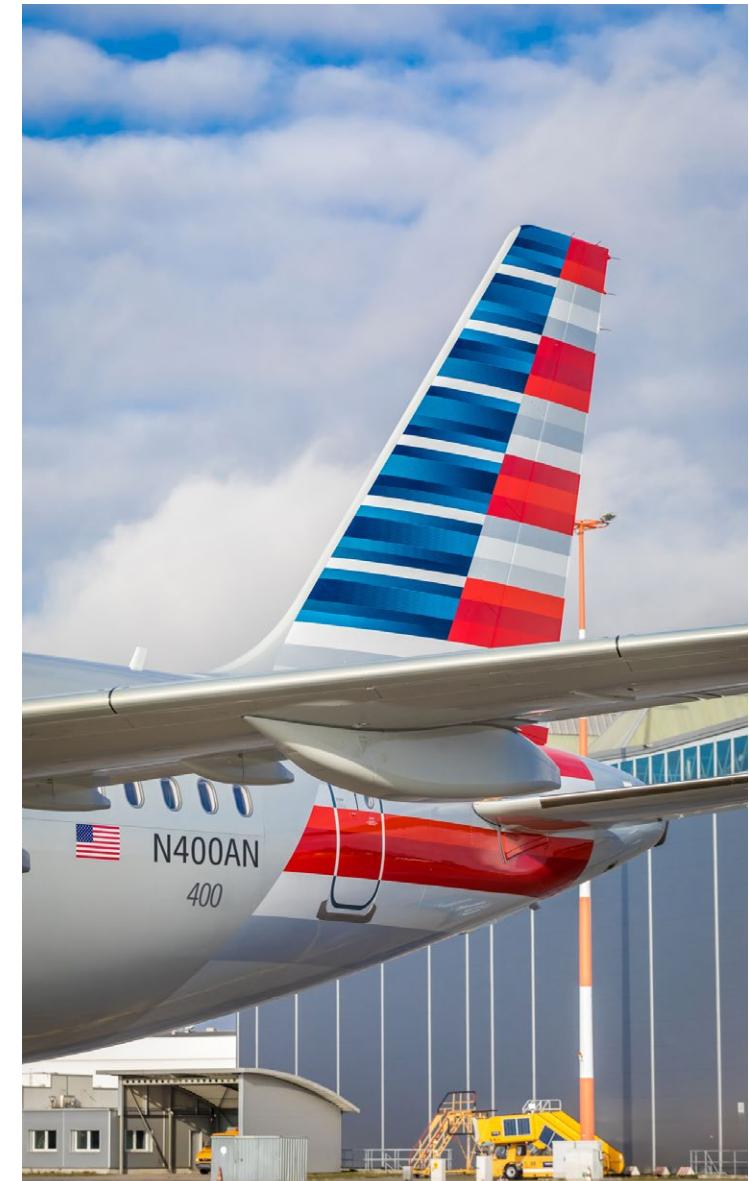
Largely as a result of flying more-efficient aircraft, American has improved fuel efficiency by 10.4% compared with 2013, based on fuel burn per ASM. That adds up to 2.4 billion gallons of fuel saved and 22.7 million metric tons of CO₂ avoided from 2013 through the end of 2022.

In recent years, we have also made significant investments in updating our regional aircraft fleet. This includes retiring a number of small regional jets and replacing them with larger regional jets — such as the Embraer E175 and the Bombardier CRJ900 — which are on average more fuel efficient per seat. Nonetheless, smaller, regional aircraft and shorter flights — which devote a larger percentage of overall flight time to takeoff and landing — come at a fuel-efficiency cost. However, our regional carriers enable American to serve many smaller communities that don't have the passenger traffic to support larger jets. Our regional service plays a vital role in connecting members of those communities to other people, places and economic opportunities. American is committed to providing industry-leading regional service, while continuously working to make that service more fuel efficient.

We also continue to evaluate and make investments to support the development of emerging low-carbon, next-generation aircraft technologies. For example, in 2022 we announced two direct investments focused on the development of hydrogen-powered flight propulsion and infrastructure. (See *Working to Make Zero-Carbon, Hydrogen Fuel Cell-Powered Flight a Reality* on page 14.)

At the end of 2022, American's mainline fleet averaged 12.2 years old — the youngest mainline fleet among U.S. network carriers.

¹ <https://aircraft.airbus.com/en/aircraft/a320/a320neo>
<https://www.boeing.com/commercial/787/by-design/#/787-8-characteristics>

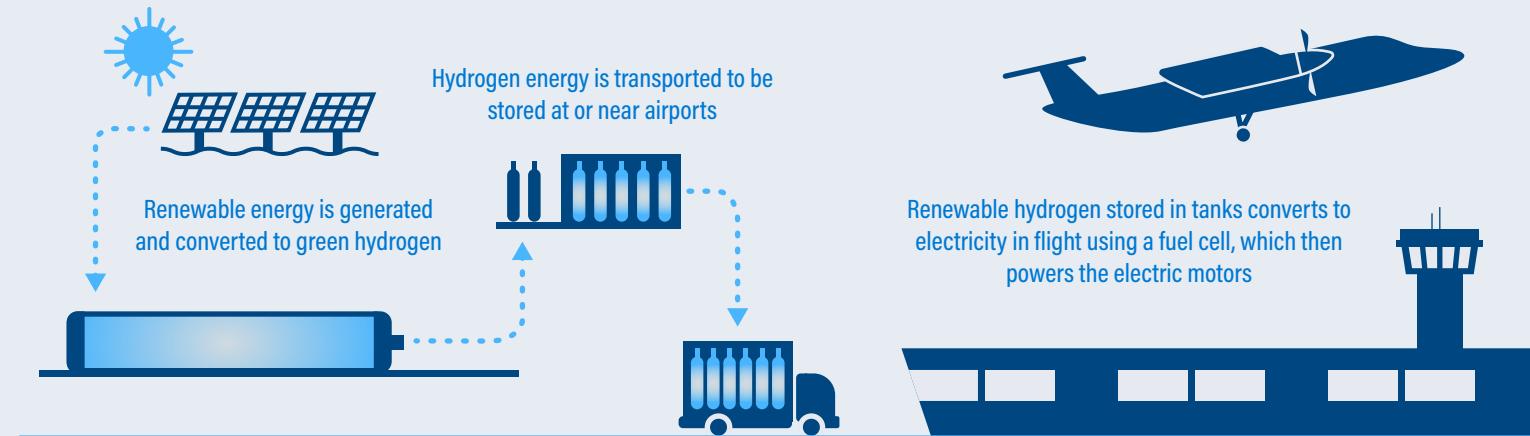


Working to Make Zero-Carbon, Hydrogen Fuel Cell-Powered Flight a Reality

Decarbonizing aviation will require low- or zero-carbon fuel sources that can generate the significant power aircraft engines need — and that can be practically distributed to, and carried on, the commercial aircraft that will be coming into service in the next decade. Major challenges remain in making hydrogen available for commercial aviation, but hydrogen offers the potential to become a game-changing fuel source.

While hydrogen contains nearly three times more energy per unit of weight than jet fuel, it has less energy per unit of volume. This low volumetric energy density means that on board an aircraft, hydrogen would require too much space and, therefore, would need to be stored as a liquid to provide sufficient energy for longer-range flights. And the aviation community — airports, airlines and hydrogen producers — would need to develop a new supply chain to produce and deliver hydrogen to aircraft. However, hydrogen has a safe and successful track record as a transportation fuel in hydrogen-powered cars and buses. And it produces only water vapor as a byproduct when used in a fuel cell, since the fuel has no carbon content to start with.

American is helping to catalyze the development of hydrogen-electric propulsion technology — through which hydrogen is used in fuel cells — as well as the future of hydrogen distribution logistics. In 2022, we announced strategic investments in ZeroAvia, a pioneer in hydrogen-electric, zero-emission aviation powerplants, and Universal Hydrogen, a company building a green hydrogen distribution and logistics network for mobility applications, starting with commercial aviation.



ZeroAvia: Hydrogen-electric propulsion for aviation

ZeroAvia's novel zero-emissions, hydrogen-electric powertrain replaces traditional engines on existing fixed-wing aircraft. The powertrains use green hydrogen, which is stored in tanks and converted to electricity in flight using a fuel cell, which then powers the electric motors. The green hydrogen is produced through electrolysis — powered by locally generated renewable energy — and stored at or near airports.

ZeroAvia is working to retrofit and linefit its powertrains to existing FAA-certified fixed-wing aircraft, which simplifies regulatory issues and reduces time to market. In early 2023, ZeroAvia flew the maiden flight of its 19-seat Dornier 228 testbed aircraft, retrofitted with a full-size prototype hydrogen-electric powertrain on the left wing of the aircraft. By the early 2030s, the company has its sights set on flying aircraft with 100–200 seats and a range in excess of 2,000 nautical miles.



Universal Hydrogen: Green hydrogen distribution

Universal Hydrogen is working to build a flexible and scalable approach to hydrogen logistics by transporting it in modular capsules over the existing freight network from green production sites to airports around the world. At the airport, the modules are loaded directly into the aircraft using existing cargo-handling equipment.

Universal Hydrogen anticipates entering into revenue service in 2025, with plans to expand its services to larger, single-aisle aircraft — first for auxiliary power and then as a primary fuel by the mid-2030s. The company is also developing conversion kits to retrofit regional airplanes with a hydrogen fuel cell powertrain to serve as a solid proof point for a new clean-sheet single-aisle aircraft.

In early 2023, Universal Hydrogen successfully completed a test flight of a 40-passenger, hydrogen-powered regional airliner, the largest hydrogen fuel cell-powered airplane to take to the skies and the largest airplane to cruise principally on hydrogen.



Flight operations and efficiency

Working to operate our fleet — whether in the air or on the ground — and associated operations as efficiently as possible is key to achieving our climate goals. We have a target to achieve a 50 million-gallon absolute reduction in jet fuel use by 2025, using 2019 aircraft as a baseline, which will avoid almost 480,000 metric tons of CO₂e. That means aircraft in our fleet as of January 2019 that continue to fly through 2025 will use 50 million gallons less fuel as a result of fuel-efficiency initiatives.

Reducing excess weight is one of the best ways to reduce GHG emissions because the weight of an aircraft is a critical driver of how much fuel it uses. We have taken a number of steps — from installing lighter seats and removing seat-back entertainment systems to using lighter paint — that collectively save millions of gallons of fuel and associated emissions each year.

In 2022, we kicked off a significant effort in partnership with Safran Landing Systems to upgrade our Boeing 737-800 fleet — which includes more than 300 aircraft currently in operation — from steel to lighter-weight carbon brakes. Carbon brakes provide up to 700 pounds of weight savings per aircraft, reducing fuel use and avoiding 77 metric tons of GHG emissions per aircraft per year. We estimate that over a 10-year period, this investment will avoid more than 260,000 metric tons of CO₂e.

We look for opportunities to implement operational changes that reduce on-the-ground fuel use as well, such as using just one aircraft engine to taxi to the gate after landing,

which we estimate reduces emissions by up to 40%. We are also finding opportunities to transition our ground support equipment (GSE) to run on electric power. By the end of 2022, 23% of our GSE was electric. And, recently, we started using renewable diesel to fuel our GSE at some locations.

Optimizing how we assign gates to reduce taxi time is another way to reduce fuel use, and in 2022, we began implementing “smart gating” technology developed by American. The new technology uses real-time data from a wide variety of sources to reduce gate conflicts, taxi time and airport congestion. In the process, it reduces fuel use and associated GHG emissions. We used this technology at Dallas Fort Worth International Airport (DFW), Charlotte Douglas International Airport (CLT) and Miami International Airport (MIA) in 2022. Smart gating is projected to save over 1.4 million gallons of fuel per year at these three locations alone, while reducing CO₂ emissions by more than 13,400 metric tons annually. In the first half of 2023, we expanded smart gating to Ronald Reagan Washington National Airport and Chicago O’Hare International Airport.

Focusing on flying as efficiently as possible, including considering everything from the speed and paths our aircraft take on departure and descent to how flight crews adjust en route to account for changing weather conditions, is another way we save fuel and reduce GHG emissions. We are also working to understand how we can efficiently adjust flight paths to avoid contrails, which may contribute to aviation’s impact on climate change. (See *Advancing Scalable Solutions to Avoid Contrails* at right.)

Advancing Scalable Solutions to Avoid Contrails

There’s an emerging scientific consensus that the net impact of contrails — the condensation trails of ice clouds that can form when a plane’s hot, humid exhaust mixes with cool, humid air high in the atmosphere — from aviation may have a warming impact as great or greater than the warming caused by the CO₂ emitted by aviation’s use of petroleum jet fuel. Persistent contrails formed during the late afternoon and evening may have a particularly large warming effect.

American is helping lead the way toward developing scalable, cost-effective solutions to contrails avoidance. In 2022, we joined the Contrails Impact Task Force, a cross-sectoral initiative that brings together aviation industry, academic, technology and nonprofit partners to tackle the climate challenge of contrails. Convened by RMI, a nonprofit environmental organization, and Breakthrough Energy, the goal of the task force is to share and expand on the latest science on the climate impact of contrails, develop actionable strategies to avoid warming contrails, analyze the operational and financial challenges of implementing potential solutions, and establish a roadmap for implementation and validation of contrail mitigation tools.

We were recognized for our sustainability efforts as the 2023 *Eco-Airline of the Year* by Air Transport World (ATW), a leading media brand serving the information needs of the global airline and commercial air transport communities.

In the United States, changes to certain flight plans and procedures must be made in collaboration with the U.S. Federal Aviation Administration (FAA), which oversees our nation's airspace system. One example of how we help to drive these improvements is our partnership with the FAA and NASA on NASA's Airspace Technology Demonstration 2 (ATD-2). American worked closely with NASA on the trial program in Charlotte, North Carolina, which was designed to test and validate the benefits of Terminal Flight Data Manager infrastructure, including how it can save fuel, reduce carbon emissions and increase information-sharing between the FAA and industry. During the four-year demonstration project at CLT, ATD-2 saved more than 1.1 million gallons of fuel and 11,600 tons of CO₂.²

The project was awarded the 2022 Sustainability Maverick Award presented by World ATM Congress. The FAA is in the process of implementing the program in around 90 airports, and it projects that the annual CO₂ savings will equal 75,000 tons when the project is fully implemented.

² <https://www.worldatmcongress.org/maverick-awards>



Modernizing Our Airspace System

Modernizing the country's network of aviation infrastructure, technology and services will increase operational efficiency and reduce jet fuel use. In turn, that will avoid millions of metric tons of CO₂ emissions annually and help reduce aviation's carbon footprint. American is working collaboratively with the FAA — and advocating through the policymaking process — for resources to accelerate the deployment of measures that are both cost-effective and will yield immediate and long-term environmental benefits.

One of these is unlocking Automatic Dependent Surveillance-Broadcast In (ADS-B In) capability on aircraft that are equipped to take advantage of this technology. ADS-B In leverages satellite-enabled navigation instead of outdated radar systems to deliver weather and traffic position information directly to the flight deck. That allows pilots to optimize flight paths, particularly in low-visibility conditions, which reduces emissions and

enhances safety. Currently, the FAA requires use of ADS-B Out — which works by broadcasting information about an aircraft's GPS location, altitude, ground speed and other data to ground stations and other aircraft — but not ADS-B In.

Other recent airspace initiatives include setting new criteria for commercial space launches and releasing new high-altitude routes along the Eastern Seaboard, which aim to reduce airspace congestion. When airspace is congested, flights often have to take longer routes, are put into holding patterns or even have to divert to alternate airports — which can increase fuel use and emissions significantly. Therefore, reducing airspace congestion can help reduce and avoid emissions.

Through our membership in the International Air Transportation Association (IATA), the trade association for the world's airlines, we also support reforms to the global airspace system that will enable more efficient flight operations and reduced GHG emissions.

Sustainable aviation fuel

Aiming to significantly increase our use of SAF — which reduces life cycle GHG emissions by as much as 80% compared to conventional, petroleum-based jet fuel — is a core part of American's strategy to achieve net zero GHG emissions. It is also key to achieving the in-sector reductions required to meet our science-based target for 2035.

We have set a goal to replace 10% of our jet fuel use with SAF by 2030, avoiding approximately 3.5 million metric tons of CO₂. We are taking steps to achieve this by putting into place firm SAF offtake commitments that enable SAF producers to raise the capital necessary to build new production capacity, while helping provide American with the SAF supply we require to meet our goals. In 2022, we finalized an agreement to purchase 500 million gallons of SAF from biofuel company Gevo, with deliveries scheduled to commence in 2026. (See *Reducing the Carbon Intensity of SAF* on page 18). By the end of the year, we had commitments covering more than 620 million gallons

of SAF from 2025–2030, which will fulfill nearly 25% of our 2030 SAF goal. To meet these commitments, our development-stage partners will need to be able to develop and operate commercial-scale facilities.

In 2022, we used more than 2.5 million gallons of SAF on our flights, almost doubling our SAF consumption compared to 2021. We continue to be a leader in SAF consumption as one of the few airlines to report using more than 1 million gallons a year.

As critical as SAF is for achieving our own and our industry's climate goals, it is not yet available at the scale or price needed to reduce aviation's emissions significantly. Scaling SAF production to the point where it can materially reduce our industry's emissions and be cost competitive will take the combined efforts of the private and public sectors.

American continues to advocate for governments to deploy policy tools, including incentives, credits and investments in research, to create the market conditions needed to make

SAF an economically viable alternative to conventional jet fuel. In 2022, we joined the Low Carbon Fuels Coalition (LCFC) — a technology-neutral trade association that advocates for scientifically based, marketplace-driven, low-carbon fuel policies — to help American and the aviation industry as a whole move closer to reaching net zero. We also voiced support for specific policies designed to boost SAF production and make it more cost competitive, including the SAF blenders tax credit that the U.S. Congress included in the Inflation Reduction Act of 2022.

Another way we are helping build the SAF market is as an anchor partner in Breakthrough Energy Catalyst (Catalyst), which is working to accelerate decarbonization efforts by investing in innovative new technologies, including SAF and green hydrogen. American has committed to investing \$100 million in these efforts. In 2022, Catalyst invested \$50 million to help LanzaJet — a SAF producer using novel alcohol-to-jet technology — build a demonstration plant that will be critical to scaling production.

Expanding Reporting to Include Biogenic Emissions

A key part of our net zero strategy is sourcing fuels from biomass, such as plants, grasses, plant oils and animal fats. Since the biomass was grown by absorbing CO₂ from the atmosphere, the fuels do not add CO₂ to the atmosphere when combusted. Emissions from these biomass-based fuels are considered biogenic emissions and are reported differently from fossil emissions. The CO₂ portion of biogenic emissions is reported as its own category that is separate from Scope 1 since, unlike the combustion of petroleum-based fuels, these emissions are not adding to net atmospheric CO₂ levels. The remaining GHG emissions, which are CH₄ and N₂O, are reported in Scope 1 in CO₂ equivalents.

There are also upstream emissions associated with converting biomass into SAF. Growing, harvesting and transporting biomass and processing it into SAF all emit GHGs that need to be accounted for in the life cycle emissions of biogenic fuels. We account for these upstream emissions in Scope 3 under Category 3 for fuel and energy-related activities.

BIOGENIC EMISSIONS 2022 (IN METRIC TONS)

EMISSIONS CATEGORY	SAF	RENEWABLE DIESEL			TOTAL
			ETHANOL		
Biogenic Emissions (CO ₂)	23,453	609	3,122		27,184
Scope 1 emissions from CH ₄ and N ₂ O	156	2	3		161
Scope 3, Category 3	7,367	307	2,369		10,043
Total Scope Emissions from Biogenic Sources	7,523	309	2,372		10,204
<i>Comparable Life Cycle Fossil Emissions</i>	<i>29,143</i>	<i>844</i>	<i>4,386</i>		<i>34,373</i>
Avoided Emissions from Bio-based Fuels	(21,620)	(535)	(2,014)		(24,169)

Reducing the Carbon Intensity of SAF

SAF has the potential to dramatically reduce life cycle GHG emissions compared to conventional, petroleum-based jet fuel. But exactly how much SAF reduces emissions depends on the feedstock, and the technologies and techniques used to produce it. Realizing the positive benefits of SAF depends on whether it is sustainably produced — in ways that significantly reduce carbon intensity, and also by using feedstocks and methods that don't compete with food production or contribute to deforestation, biodiversity loss or other adverse impacts.

American is prioritizing working with SAF suppliers that integrate sustainability considerations throughout their processes — from the feedstocks they use to the energy sources that power their operations. As a result, we have developed partnerships with a range of innovative SAF producers and sustainability leaders that are pioneering the development of new SAF pathways that could hold the promise of a net zero — or even net-negative — carbon footprint.

For example, we have an agreement to purchase up to 10 million gallons of carbon-neutral SAF produced by Prometheus Fuels, which uses a novel process to make net zero carbon transportation fuels. And we have an agreement to take delivery of 16 million gallons of SAF annually over a seven-year period beginning in 2024 from Aemetis. It will be produced at the Aemetis Carbon Zero plant using renewable hydrogen, renewable hydroelectric electricity and renewable feedstocks.

Gevo: A circular economy approach to producing fuel – and food

Gevo is a company that is developing production facilities to produce liquid hydrocarbons — including SAF — from renewable carbon and energy sources. In 2022, American committed to purchasing 500 million gallons of SAF over five years from Gevo, with deliveries expected to start in 2026. Gevo is a key player in the development and commercialization of renewable hydrocarbons and chemicals, offering a circular economy approach to decreasing the use of fossil fuels that aligns with American's goals of reducing carbon intensity. One notable aspect of Gevo's approach is its focus on sustainability throughout the entire production chain.

Gevo designed its process to use residual starch from industrial field corn, which is then converted to SAF using an ethanol-to-jet pathway. Gevo prioritizes sustainability at every step of its process, first by working with farmers who use regenerative agriculture and sustainable farming techniques.

Gevo's SAF production process will separate the elements of the corn, using the protein to create high-value nutrition products and corn oil, and using the starch for SAF and other fuels and chemicals. The production process is designed to reduce waste and GHG emissions further by using renewable energy, including electricity from wind turbines and renewable natural gas, to power its facility.

As part of its circular economy model, Gevo actively searches for opportunities to decarbonize its processes, collaborating with farmers to explore techniques that improve yield, reduce emissions, sequester carbon in the soil and increase the efficiency of every acre. By seeking partnerships to advance the use of renewable energy, including SAF and other

renewable fuels, renewable natural gas, green hydrogen, wind power, solar energy and more, Gevo expects to continue to enhance the sustainability of all its products and processes. It will also pass the benefit of decreased fossil fuel use on to its customers, such as American and the approximately 200 million passengers we carry each year.



Identifying and Assessing Climate-Related Risks and Opportunities

Through our 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. To inform our understanding of the climate risk landscape, we conducted an initial forward-looking climate scenario analysis in 2020 that focused on identifying and assessing the physical and transition climate-related risks and opportunities facing the company over the short, medium and long term. In 2022 and early 2023, we continued to build on this by undertaking a more detailed analysis of these risks and opportunities. This included adding 1.5°C scenarios into our assessment, as well as expanding the number of sites included in the physical risk evaluation, exploring geographic regions around the world in which we operate that are projected to experience greater impacts, and examining more closely the effects of potential changes in policy, technologies and markets.

The insights from this process, conducted in alignment with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), continue to inform our climate strategy and are enabling us to more deeply integrate climate risk analysis into our ongoing risk management and business, strategy and financial planning processes.

Physical Risk Assessment

We conducted a climate risk screening in 2022 of approximately 400 American Airlines facilities and suppliers, including airports, cargo facilities, data centers, maintenance facilities, jet fuel supplier plants, offices and training centers around the world. For each of these sites, we assessed the risk associated with temperature, coastal flooding, fluvial

SITE-LEVEL ANALYSIS OF PHYSICAL RISKS (LISTED IN ORDER OF TOTAL POTENTIAL MODELED AVERAGE ANNUAL LOSS)*

Location	PRIMARY HAZARDS		
	2020s	2030s	2050s
MIA Miami Int. Airport			
JFK & LGA JFK Int. Airport and LaGuardia Airport			
CLT Charlotte Douglas Int. Airport			
DFW Dallas Fort Worth Int. Airport and area			
TUL Tulsa Maintenance Base			
PHL Philadelphia Int. Airport			
ORD Chicago O'Hare Int. Airport			
DCA Ronald Reagan Washington National Airport			
PHX Phoenix Sky Harbor Int. Airport			
LAX Los Angeles Int. Airport			
LHR London Heathrow Int. Airport			
Key Fuel Suppliers Texas			

* Icons are based on exposure and do not reflect each site's resilience capacity. Two hazard icons shown in a decade are reflective of the two assets evaluated in that location.



Coastal
Flooding



River
Flooding



Temperature
Extremes

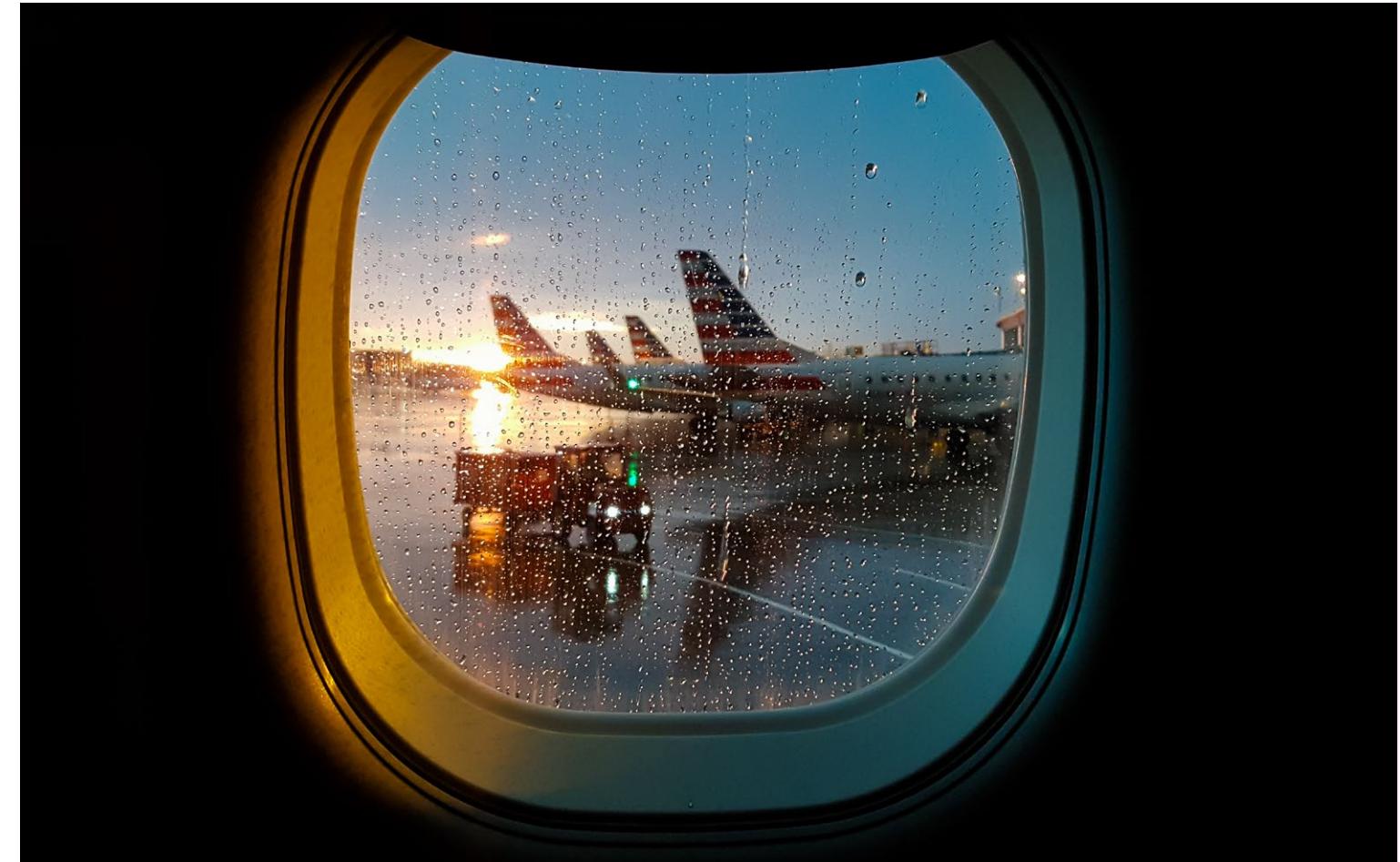


Water Stress

(river) flooding, tropical cyclones (Eastern Atlantic basin only), water stress, drought and wildfire.³ Our analysis was supported by The Climate Service, a leading provider of climate science and analytics for business. In early 2023, we supplemented that analysis by adding an assessment of physical risks under a 1.5°C scenario. (See box on [page 21](#) for information on the scenarios.)

The results of our analysis refined our focus on 12 strategically important sites for our company, which include hub airports that form the foundation of our network; our largest maintenance facility; our corporate headquarters, which is also home to our integrated operations center and primary training facility; and a key fuel supplier. For each site, we modeled various scenarios to assess the exposure and implications of the projected key physical hazards in the 2020s, 2030s and 2050s. In the table on [page 19](#), these sites are listed in order of the total modeled potential annual loss over the time frame assessed under the higher emissions scenario used in our analysis.

We have also gathered information on adaptive capacity — meaning the potential for resilience measures to manage climate-related impacts — for each of the locations, and we are engaging key stakeholders across the company to discuss the identified risks and how we can better prepare our assets.



³ American is reviewing the methodology for wildfire projections, which currently do not account for land use or land cover. References to wildfire risk are, therefore, omitted from this report.

Transition Risks and Opportunities Assessment

We continue to deepen and improve our analysis of American's 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 the transition to a low-carbon or carbon-constrained economy.

In early 2023, we updated our transition risk and opportunity assessment using the latest available scenarios developed by the International Energy Agency (IEA): Stated Policies Scenario (STEPS) and Net Zero by 2050 scenario (NZE). Consistent with the ambition of the Paris Agreement, NZE sets out a narrow but achievable pathway for the global energy sector to reach net zero emissions by 2050. We chose to use NZE for our analysis because it is a 1.5°C pathway, and also because it includes aviation-specific narrative and milestones. (See box at right for more information on the climate scenarios we use for both our transition and physical risk assessments.)

The transition scenarios compare different possible versions of the future and the levers and actions that produce them, with the aim of stimulating insights about the future of global energy. We used these scenarios to explore elements of the organizational resilience of American's own business operations as well as the resilience of our value chain, such as upstream supplier reliability during extreme weather events and SAF production capacity. As part of the scenario analysis, we also looked at downstream customer behavior changes and how American's climate ambitions might capture these changes and manifest them as opportunities.

The table that starts on the following page summarizes the key transition risks and opportunities identified, our assessment of the potential impact level under the NZE and STEPS scenarios, along with American's mitigation strategies. It also summarizes key physical risks and mitigation strategies we have identified.

Climate Scenarios*

Scenario analysis is not a prediction or forecast of future events, but rather a tool to explore and highlight central elements of possible futures. American uses multiple scenarios for our analysis. In 2023, we updated our analysis to include 1.5°C scenarios for assessment of both physical and transition risks.

Due to the distinct nature of physical and transition risks, standard practice is to use different scenarios for analyzing

the two different types of risks. For analysis of physical risk, we use Representative Concentration Pathway (RCP) scenarios, as recommended by TCFD, which were developed for use in Intergovernmental Panel on Climate Change assessments. For analysis of transition risk, we use the IEA's World Energy Outlook (WEO) STEPS and NZE scenarios. For our most recent analysis, we used 2030 and 2050 time frames, consistent with our initial 2020 analysis.

	PHYSICAL RISKS	TRANSITION RISKS
1.5°C scenarios	RCP 2.6	IEA 2022 WEO Net Zero by 2050 (NZE)
Warming projections	1.5°C by 2100	1.5°C by 2100
Medium emissions scenario	RCP 4.5	N/A
Warming projections	1.7°–3.2°C by 2100	N/A
High emissions scenarios	RCP 8.5	IEA 2022 WEO Stated Policies Scenario (STEPS)
Warming projections	3.2°–5.4°C by 2100	Approximately 2.6°C by 2100

* Climate scenario analysis is an emerging discipline and relies on various inputs and data from third-party sources and complex assumptions. We anticipate expanding and updating our analysis as our company and operating conditions change and as the science of climate change and our understanding of its potential impacts evolve. Modeling that includes estimates of future data and predictions of complex outcomes can be imprecise and subject to change. As such, the results presented are representative of our current understanding and are subject to change.

Analysis of Climate-Related Risks and Opportunities

		Transition Risk and Opportunities Physical Risk	Transition Risk and Opportunities			Short Term: 0-2 yrs	Medium Term: 3-15 yrs	Long Term: 16-30 yrs	Potential Financial Impact Level		
NZE	STEPS		Short Term	Medium Term	Long Term	LOW	MED	HIGH			
Risk Type	Climate-Related Risk Definition	Potential Financial Impact*	Short Term	Medium Term	Long Term	Mitigation Strategy					
Transition Risks	Policy and legal	<p>The risk from existing and emerging regulation aimed at addressing climate change. This might include:</p> <ul style="list-style-type: none"> ▪ Increased pricing of GHG emissions ▪ Enhanced reporting obligations ▪ Exposure to litigation ▪ Limits on a license to operate <p>New carbon taxes or SAF mandates could increase the price of jet fuel, which would raise our operating costs and potentially reduce demand for travel.</p> <p>We are subject to CORSIA carbon offsetting requirements related to the emissions from certain international flights, and we expect to incur compliance obligations over the period 2024–2035. We could face escalated compliance risk or costs if other regional or country-specific aviation emissions reduction policies or schemes emerge.</p> <p>Policymakers in the United States could enact laws setting domestic emission reduction targets for airlines, which could limit our ability to grow. They could also mandate new technologies that would impose significant capital and operating costs on us.</p> <p>Expectations from our stakeholders regarding sustainability continue to evolve, and our sustainability commitments and risk assessments are long-term in nature. Despite our efforts to communicate in a clear and transparent manner, litigation related to "greenwashing" or similar claims could arise, given the forward-looking and long-term nature of our climate strategy.</p> <p>The emergence of climate-related disclosure requirements, including the proposed U.S. Securities and Exchange Commission (SEC) climate disclosure rule and new or potential requirements in other jurisdictions, could increase compliance risk and reporting costs.</p>	 	 	 	We are developing a robust and multifaceted long-term climate change strategy aimed at driving progress toward ambitious goals and positioning our company to be a leader on sustainability.	We monitor emerging regulations around the world to understand the risks and opportunities for our business. We also work with policymakers to identify policy solutions that can help the aviation industry reduce its emissions through new technologies. We continue to advocate for CORSIA as the single global approach to addressing emissions from international aviation.	We continue to seek efficiency gains in our operations, pursue opportunities to employ SAF and seek to employ lower-emission or zero-emission technologies as they become available on a commercially reasonable basis. We use a shadow price on carbon to evaluate the return on investment for various fuel conservation and emissions reduction initiatives.	American recognizes the importance of communicating our sustainability strategy, commitments and progress with transparency and accuracy to our stakeholders. Our sustainability communications are reviewed in order to provide appropriate context and information regarding our sustainability strategy and initiatives, and we maintain comprehensive information on these matters on the sustainability section of our website. Members of our Climate Change Steering Committee provide oversight of American's climate disclosures.	We seek to adhere to best practices for climate-related disclosure and have aligned our reporting with the recommendations of the TCFD — which is the basis for the proposed SEC rule — since 2019. In 2023, we engaged our independent accountant, KPMG LLP, to provide assurance on certain 2022 emissions data as noted in the Greenhouse Gas Emissions Statement, which starts on page 67.	

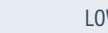
* The potential financial impacts to American described herein could result in decreased revenues or increased cost depending on the specific risk type. We are not able to reasonably predict the extent of such financial impact.

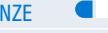
Potential Financial Impact Level

	LOW	MED	HIGH
NZE			
STEPS			

Risk Type	Climate-Related Risk Definition	Potential Financial Impact*	Short Term	Medium Term	Long Term	Mitigation Strategy
Technology	<p>The risk from emerging technologies aimed at supporting the global low-carbon transition. This might include:</p> <ul style="list-style-type: none"> ▪ Substitution of existing products and services with lower-emission options ▪ Upfront costs to transition to lower-emission technology 	<p>Our fleet renewal program has given us the youngest mainline fleet among U.S. network carriers, but there is a risk we lose this advantage over the long term as other carriers update their fleets with the latest generation of aircraft.</p> <p>We face costs associated with implementing measures to further increase the fuel efficiency of our fleet.</p> <p>The emerging focus on hydrogen propulsion system modifications for aircraft may reduce investment in the next generation of conventionally powered aircraft, which could curtail the 15%-20% efficiency improvements typically seen with each new generation.</p> <p>There is a risk that insufficient investment in technologies from private and public sectors, or lack of supportive policies, could hinder technology advancement and, therefore, our ability to meet our ambitious climate goals. For example, the U.S. aviation industry and the U.S. government have announced ambitious goals to expand SAF production and use; however, insufficient investment and policy support could limit the growth in SAF production and potentially increase the risk of mandates. In addition, American has SAF offtake agreements related to production from facilities that are planned but not yet operational, and which may utilize technology that has not been proven at commercial scale. There is no assurance that these facilities will be built or that they will meet contracted production timelines and volumes. In the event that the SAF is not delivered on schedule or in sufficient volumes, we may not be able to source a supply of SAF sufficient to meet our stated goals and on favorable economic terms.</p>				<p>Since 2013, we have undertaken an extensive fleet replacement initiative, taking delivery of more than 645 new, more fuel-efficient aircraft — including the Boeing 737 MAX, the Airbus A321neo and the Boeing 787 Dreamliner — which are among the most fuel-efficient aircraft on the market. Over the same period, we retired a similar number of older, less fuel-efficient aircraft. As of Dec. 31, 2022, American's mainline fleet was an average age of 12.2 years old — the youngest mainline fleet among U.S. network carriers.</p> <p>Our Fuel Council provides a structured process for identifying and implementing fuel-efficiency measures that appropriately balance up-front costs with longer-term fuel, emissions and cost savings.</p> <p>To accelerate private sector action, we are an anchor partner to Breakthrough Energy Catalyst. American committed to invest \$100 million in an innovative collaborative effort to advance a set of clean energy technologies that are critical to a zero-carbon economy but are currently more expensive than their existing fossil-fuel counterparts. Catalyst and its partners are working together to finance and produce new solutions in four technologies: SAF, green hydrogen, long-duration energy storage and direct air capture.</p>

Potential Financial Impact Level





Risk Type	Climate-Related Risk Definition	Potential Financial Impact*	Short Term	Medium Term	Long Term	Mitigation Strategy
Transition Risks	Market	<p>The risk from shifting supply and demand as economies react to climate change. This might include:</p> <ul style="list-style-type: none"> ▪ Changing customer behavior ▪ Uncertainty in market signals ▪ Increased cost of raw materials 	<p>Business customers may continue to choose to use alternatives to travel, such as virtual meetings and workspaces, as their companies work to reduce their Scope 3 emissions.</p> <p>Incorporation of carbon emissions data into third-party booking tools poses a potential risk if American's flights do not display competitively on that metric for a specific market.</p> <p>The collateral we use to secure loans — in the form of aircraft, spare parts and airport slots — could lose value as customer demand shifts and economies move to low-carbon alternatives.</p> <p>Greater development of high-speed rail in markets now served by short-haul flights could provide passengers with lower-carbon alternatives to flying.</p> <p>An economic downturn could negatively impact demand for our product and, therefore, earnings and adversely affect our ability to invest in low-carbon technologies.</p>	  		<p>We have introduced new tools to help our business customers manage their emissions from air travel, including GHG footprint reports, carbon offsetting opportunities and SAF emissions reductions. We intend to further integrate other sustainability practices into the products, services and experiences we offer.</p> <p>Since 2013, American has invested more than \$25 billion in modernizing our fleet, giving us the youngest mainline fleet among U.S. network carriers, with an average age of 12.2 years old. We also continue to implement a range of measures to operate our fleet — whether in the air or on the ground — as efficiently as possible to minimize fuel use and associated emissions.</p> <p>We are testing new ways to expand our network and reduce emissions. In 2022, we introduced premium motorcoach service to connect our customers in three Pennsylvania markets to Philadelphia International Airport — increasing convenience for our passengers while helping take individual cars off the road.</p> <p>We have designed our fleet and our network so that we can respond quickly to demand changes.</p>
	Reputation	<p>The risks of damage to the brand and loss of customer base from shifting public sentiment about climate change. This may include:</p> <ul style="list-style-type: none"> ▪ Shifts in customer preferences ▪ Stigmatization of the sector ▪ Increased stakeholder concern 	<p>Growing recognition among consumers that climate change is a serious danger may mean some customers choose to fly less frequently or fly on an airline they perceive as more sustainable.</p> <p>Investors, customers and other stakeholders may demand more aggressive sustainability goals and practices from our industry.</p>	  		<p>We are positioning our company to be a leader on sustainability by implementing a robust and multifaceted climate change strategy aimed at driving progress toward our ambitious climate goals, including our 2035 SBTi target and long-term net zero 2050 goal.</p> <p>We intend to continue our efforts to reduce carbon emissions using the various levers available to us at this time — including consideration of how to include modern aircraft, efficient technology, sound operational practices and sustainable fuels — in our climate mitigation strategy. We are looking to embrace new low-carbon levers as they become available.</p> <p>We continue to have transparent sustainability disclosures that educate customers, team members, suppliers, investors and the general public on the steps the company has taken and continues to take to reduce our impact on the climate and minimize our overall environmental footprint. We also regularly solicit feedback from these stakeholders to inform our processes and operations.</p>

Potential Financial Impact Level

LOW MED HIGH

RCP 8.5

Risk Type	Climate-Related Risk Definition	Potential Financial Impact*	Short Term	Medium Term	Long Term	Mitigation Strategy
Physical Risks	Acute	Extremely high temperatures may exceed the maximum allowable temperature at which our aircraft are certified by the FAA to operate. Increases in hot days can interrupt our operations by causing heat buckling on runways and taxiways and other infrastructure damage. Such damage in turn can increase operational and repair costs for airports — costs that would be passed through to us. In extreme cases, it may become difficult to cool aircraft to an acceptable temperature for customers and crew.				We continue to monitor temperatures at airports exposed to acute temperature risk and work with aircraft manufacturers to ensure that our aircraft are able to operate safely under a range of operational conditions. Over the next five years, we intend to incorporate the projected impacts of climate change into design standards for physical assets, capital improvement plans, disaster management, emergency response and scheduling. To mitigate projected impacts from higher temperatures, we are investing in additional ground cooling and upgrades to gate-based cooling systems.
		Increased frequency and intensity of hurricanes at Miami International Airport and coastal flooding at JFK International Airport place operations and infrastructure at risk in these locations. This could result in substantial costs related to canceled flights and airport closures.				We are investigating options to mitigate the impacts of hurricanes and coastal flooding, which may include enhancing airport infrastructure to withstand stronger winds from storms and potential flooding.
		Flooding from intense precipitation at major hubs in Charlotte, North Carolina, Los Angeles and London can interrupt critical expansion strategies. Increases in precipitation can result in excess loading of stormwater infrastructure designed for lesser flows, increasing the risk of flooding. Increases in the severity of storms can cause flooding, which can lead to infrastructure wear.				To mitigate the impact of flooding on infrastructure, we plan to incorporate the projected impact of increased precipitation into design standards for physical assets, capital improvement plans, disaster management and emergency response, master plan development and early warning systems.
		Cyclonic events in the Gulf of Mexico region — where almost 50% of U.S. crude oil refining capacity is located — can disrupt fuel supplies. A significant portion of our fuel is sourced from Gulf of Mexico refineries and is stored in, or must be transported from, the region, which poses a risk to our operations if those facilities are disabled for any period of time. Pipelines and storage terminals may also be at risk from extreme weather. Terminals may be supplied via ocean-going vessels if refineries are shut down, but there are no viable alternatives to move the amount of fuel stranded if pipelines are shut down due to flooding or other hurricane impacts. Cyclonic events can also adversely impact the ability of employees to get to work, as well as pose risks to the electrical grid, both of which would hinder our ability to operate.				Our strategies to mitigate this risk include sourcing our fuel from multiple regions and maintaining a reserve of fuel at our hub airports. The number of days of operations held in these reserves varies by airport, depending on the risk of extreme weather, the number of pipelines that serve the airport and other factors. We monitor closely the changing likelihood of severe weather and adjust these reserves accordingly. We also take a range of proactive steps, such as procuring backup generators to maintain electricity during disruptions, to mitigate weather-related risk. Another strategy to mitigate this risk is our work to expand the commercial availability of SAF, which has the potential to further diversify fuel sources and supply.

Potential Financial Impact Level

LOW MED HIGH

RCP 8.5

Risk Type	Climate-Related Risk Definition	Potential Financial Impact*	Short Term	Medium Term	Long Term	Mitigation Strategy
Physical Risks	Chronic	<p>The risk of longer-term changes in weather patterns</p> <p>Sea-level rise in Miami, Los Angeles, Philadelphia and New York may require hardening of the airports in these locations, or even relocation.</p> <p>Because high air temperatures reduce air density, chronically high temperatures at some of our hub airports may require restricting the availability of seats for sale in certain markets, the use of aircraft with higher engine thrust and potentially reduced schedules.</p> <p>Extreme heat poses a risk to our employees who work outdoors at airports and maintenance facilities. In addition to the potential health and safety risks for our team members, persistent higher temperatures could reduce employee productivity and increase costs.</p>				<p>Given the vulnerability of these key airports to flooding from sea-level rise, and the resulting impact to business continuity, we intend to investigate options to mitigate the impacts of sea-level rise, which may include fortifying the shoreline around those facilities and, as a last resort, considering options for relocation to areas further inland. The cost/benefit of available options may lead to adjustments to our network. We also plan to engage with policymakers and airport authorities to explore paths to greater resiliency.</p> <p>Over the next five years, we plan to incorporate the projected impacts of climate change into aircraft purchasing plans, routing and scheduling. We will also work with airframe and engine manufacturers to develop aircraft that meet the technical specifications required for operation at airports with sustained high temperatures.</p> <p>We have a number of context and site-specific mitigation plans in place to mitigate the risks of extreme heat on our operations and employees. For instance, we have a comprehensive heat prevention policy designed to protect workers in instances of extreme temperatures and regularly train staff on warning signs of heat stroke and similar conditions. In affected locations, such as Phoenix and Dallas-Fort Worth, we have hydration programs that deliver water and juice to employees at outdoor work locations throughout the day. We also provide shade and cooling stations.</p> <p>We have plans to adjust aircraft operations in events of extremely high temperatures that could affect takeoff and landing, especially in airports such as Phoenix.</p> <p>Moreover, we continue to update our processes at our corporate headquarters in Texas to respond to extreme weather, including unusually cold winters or storms that could impact employee safety and our operations.</p>

Potential Financial Opportunity Level

NZE			
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STEPS			
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Opportunity Type	Potential Financial Impact	Short Term	Medium Term	Long Term	Realization Strategy
Resource efficiency	Reduce fuel costs by continuously modernizing our fleet with more efficient aircraft and operational improvements.				We already have the youngest mainline fleet among U.S. network carriers and plan to continue our fleet modernization program in the coming years. We are pursuing measures to improve operational efficiency, including further strengthening our fuel conservation management and oversight. We will also continue to advocate with policymakers for reform of the nation's airspace system, which has the potential to reduce GHG emissions from aviation.
Energy resources	Shift to increasing supply of SAF, reducing exposure to the cost of growing carbon regulation and diversifying fuel supply.				In 2022, we used more than 2.5 million gallons of SAF on our flights, almost doubling our SAF consumption compared to 2021. By the end of the year, we had commitments covering more than 620 million gallons of SAF from 2025–2030, which will fulfill nearly 25% of our 2030 SAF goal.
Products and services	Attract travelers with a preference for low-carbon travel.				<p>Through our fleet renewal program, we have taken delivery of the most fuel-efficient aircraft in their respective classes: the Boeing 737 MAX and Airbus A321neo for narrowbodies and the Boeing 787 Dreamliner for widebodies. Our goal is to fly 30% of our ASMs with these aircraft models in 2025. Combining a modern fleet with greater volumes of SAF over time will give our customers more sustainable options.</p> <p>We will engage with and source from third-party suppliers who share our commitment to sustainability to continue to reduce our Scope 3 emissions and attract travelers with a preference for low-carbon travel.</p>
Markets	Create new market opportunities that will yield emissions savings and energy-efficiency improvements.				Continue to explore market-based solutions — such as the SAF certificate program we piloted to enable our corporate customers to reduce their Scope 3 business travel emissions — that provide financial and emissions reduction opportunities.
Resilience	Continue to expand our network of hubs and gateways across multiple sites with climate adaptation plans, which we expect will in turn provide more connectivity for our customers.				<p>Our planned resilience program includes:</p> <ul style="list-style-type: none"> ▪ Engaging with airport partners to understand their resilience strategies. ▪ Conducting criticality and resilience assessments for operational procedures and existing infrastructure. ▪ Integrating the projected impacts of climate change into business continuity plans and emergency planning. ▪ Developing effective communication channels with airport staff and aviation stakeholders, including air navigation service providers, off-airport service providers, academia, communities and municipal authorities responsible for weather monitoring, climate analysis and disaster management.

Sustainable Operations

We recognize that the most significant way to mitigate American's environmental impact is by reducing our carbon footprint. At the same time, American is taking steps across our operations to continually improve environmental sustainability. We believe our efforts are wide-ranging, from the way we construct and power our corporate facilities to the products we offer to our customers on board and in our lounges, to name just a few examples.

Our [Environmental Policy Statement](#) articulates American's commitment to developing and implementing sustainable business practices designed to address climate change, efficiently use natural resources, reduce waste, prevent pollution, reduce noise, conserve biodiversity and help stop deforestation.

Operating sustainably in our facilities

American retired renewable electricity certificates associated with more than 644,000 gigajoules of electricity used by our headquarters facilities and operations at DFW in 2022. Our North Texas facilities were 100% powered by renewable energy over the past year. We are 68% of the way toward the goal we established in 2019 to source 2.5 million gigajoules of renewable energy by 2025. As of April 2023, American was the highest-ranked U.S. airline — and 67th overall — on the [U.S. Environmental Protection Agency's Green Power Partnership Fortune 500® Partners List](#).

We also have multiple LEED Gold- and Silver-certified facilities across the United States, including two LEED Gold-certified buildings at our Skyview corporate headquarters campus. The Skyview 6 hospitality complex that opened in January 2023 is designed to meet LEED Gold standards.

Through American's partnership with Cool Effect, our customers can calculate the emissions of their flights and purchase carbon offsets. Cool Effect uses more than 90% of each offset dollar to fund a portfolio of carbon-reduction projects that protect and conserve our planet's resources.

Learn more: cooleffect.org/american-airlines



Skyview 6 was built with a focus on local, sustainable materials. The facility incorporates a number of features designed to reduce heat island effect, light pollution and energy use, such as an energy-efficient central utility plant and LED lighting. Additionally, guest rooms are automatically set at a standard temperature when they haven't been assigned. Upon check-in, a room's thermostat transitions to allow for guest control and reverts to the centrally controlled temperature at checkout. Skyview 6 also includes a pollution control unit that removes grease and smoke from cooking exhaust grills before either can enter the air.

Our campus, which opened in 2019, incorporates a number of other environmentally friendly features. As part of its

construction, we replaced 21 acres of concrete surfaces with water-efficient landscaping and planted 3,000 new trees. In August 2022, we instituted a process for using cooling water more efficiently, reducing campus water use by 1.26 million gallons over a four-month period. The campus also features 42 dual-cord EV charging stations.

Reducing environmental impacts on board and on the ground

Finding ways to reduce or eliminate single-use plastics is a key part of our efforts to reduce waste on board our aircraft, and we are in the process of exploring recycled plastic alternatives. We plan to expand this initiative in 2023.

During the past year, we increased our use of sustainable cutlery kits made of bamboo and expect to launch these on all of our flights in 2023. Our regional operations offer a fully compostable meal box with prepackaged snacks. Additionally, we are piloting sustainably sourced seafood on certain routes and exploring meatless protein options and meals made with little to no food waste.

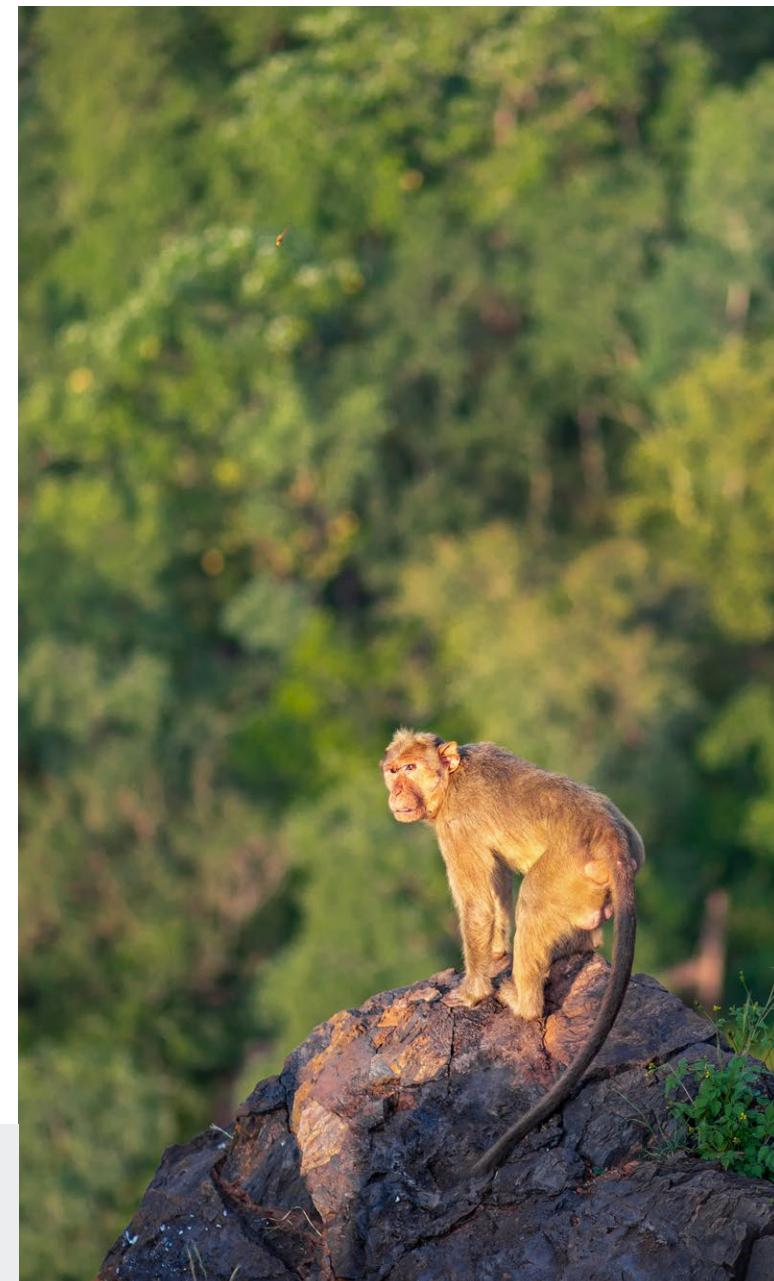
We have also begun looking into ways of reducing food loss and waste as part of an ongoing commitment to address this issue. We regularly check the provisioning of food on board to minimize waste from in-flight meals, and we also engage with our suppliers to track metrics and implement reduction strategies, such as recovering products.

Alongside these onboard efforts, we have instituted a number of sustainability improvements in our Admirals Club lounges and Cargo operations. In our lounges, we switched from plastic to compostable flatware and straws, installed water bottle filler stations and tested reusable to-go bags. In 2022, we began composting food waste from the lounges at DFW and diverted more than 100,000 pounds from landfills through the end of the year.

Our Cargo operations have begun replacing plastic wrapping products with BioNatur Plastics™ across most of our major hubs. This product line fully biodegrades in 5–10 years under landfill conditions — compared with the more than 500 years it can take for normal plastics — and it is fully recyclable in normal waste collection streams. In 2022, these products helped American reduce long-term plastic waste in landfills by more than 130,000 pounds, equivalent to approximately 6.4 million plastic water bottles.



For detailed performance data related to energy use, GHG and other air emissions, waste, water, noise and other environmental topics, see [page 57](#).



Confronting the Illegal Trafficking of Wildlife

In December 2022, American became the first U.S. airline to join the [United for Wildlife International Taskforce](#). Founded by the Prince of Wales and The Royal Foundation, this organization is working to protect elephants, rhinos, monkeys and other endangered species from the illegal wildlife trade that is pushing them toward extinction.

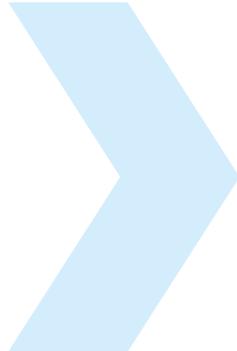
This global criminal enterprise is worth an estimated \$20 billion annually, with poachers and traffickers trading in a wide variety of endangered wildlife and wildlife body parts, generally for sale as trophies or for purported medicinal uses. That can include rhino horn, ivory, pangolin scales and tiger parts. Their activities are a major threat to wildlife conservation, global biodiversity and human health, and they are linked to money laundering, corruption and extreme violence, as well as the trafficking of drugs and weapons. As a signatory of the United for Wildlife Transport Taskforce Buckingham Palace Declaration, American will devote resources to disrupting the illegal wildlife trade.

Among the Buckingham Palace Declaration's 11 commitments, we have pledged to increase awareness among team members about the nature, scale and consequences of these activities. American will also improve the training of team members to help them identify and report suspected illegal wildlife trade, and we will encourage our airline partners and cargo customers to do the same. To help enforcement agencies identify potential shipments of suspected illegal wildlife and their products, we will also work to enhance our data systems.



Operating Safely

American Airlines proudly transported more than 199 million passengers in 2022, a 20% increase over the previous year. As air travel continued to rebound and approached historic norms, safety remained a core value — for our customers and workforce.



Operating each flight safely and protecting our people is everyone's responsibility at American, and we aim to foster a culture where all team members feel empowered to make a difference. If a safety concern arises, any team member has the ability to raise the issue and immediate action will be taken — up to and including removing an aircraft from service. All team members and contractors are also encouraged to ask questions and report safety hazards, concerns and incidents without fear of retaliation.

Safety Governance and Management

An uncompromising commitment to safety, security and continuous improvement is a shared responsibility — from our Board of Directors to frontline team members. Our Chief Executive Officer retains ultimate responsibility and authority for safety culture and performance, while the Board's Safety Committee has formal oversight responsibilities for safety. The Board receives monthly updates on key safety performance metrics and multiple detailed reviews throughout the year.

Our Safety Management System

Our approach to safety is guided by our Safety Management System (SMS), an organization-wide approach to identifying and managing risk. American was the first U.S. carrier to pioneer an SMS, in 2009. It has since been incorporated into Federal Aviation Administration (FAA) regulations for all carriers.

Our SMS emphasizes safety management as a fundamental business process across the enterprise. It involves a full commitment from the most senior leaders through to each team member to integrate safety into how we do our jobs. Our SMS promotes a culture in which our team members proactively identify, analyze and manage risks. The SMS ensures robust and repeatable processes with local ownership, driven by data to reduce risks and continuously improve and enhance safety. We collaborate closely with the FAA to maintain operational safety at the highest level possible and actively share best practices with our industry peers, governments and aerospace manufacturers. The four components of our SMS are noted in the accompanying box.

OUR SAFETY MANAGEMENT SYSTEM

1 SAFETY POLICY

Establishes senior management's commitment to continually improve safety; defines the methods, processes and organizational structure needed to meet safety goals

2 SAFETY ASSURANCE

Evaluates the continued effectiveness of implemented risk control strategies; supports the identification of new hazards

3 SAFETY RISK MANAGEMENT

Determines the need for, and adequacy of, new or revised risk controls, based on the assessment of acceptable risk

4 SAFETY PROMOTION

Includes training, communication and other outreach to grow our safety culture within all levels of the workforce

Safety Policy

Our corporate Safety Policy applies to all team members, business partners, contractors and consultants. It sets American's safety objectives and standards and assigns responsibilities for safety across our organization. The policy also conveys management's commitment to safety performance and to improving the level of safety through measurable goals and key performance indicators. Part of our SMS foundation, this policy helps to create a culture that encourages effective management of risk along with continuous improvement. The Safety Policy complies with all applicable regulatory requirements and laws in the countries where we operate and establishes standards for acceptable operational behavior. In addition, our [Safety Policy](#) is actively

communicated to all team members and regularly updated to promote occupational health and safety.

Our Emergency Response Manual (ERM), which establishes effective and efficient response practices for various types of emergencies — including natural disasters — is an integral part of our SMS. The ERM serves as the governing document for the American Airlines Corporate Emergency Response Plan. It includes guidelines to prepare for and respond to emergencies, responsibilities for team members, protocols for communicating with internal and external stakeholders, and mechanisms to report emergencies. The ERM also includes a detailed Pandemic Preparedness and Response Plan that was instrumental in helping us navigate through every phase of the COVID-19 pandemic.



Safety Assurance

The Safety Assurance component of our SMS stipulates how we use data and conduct quality assurance and internal oversight to validate the effectiveness of risk controls and the performance of the SMS. Composed of several individual programs and initiatives, Safety Assurance verifies that risk controls in our operational processes continue to conform to requirements and remain effective in maintaining risks at acceptable levels.

Safety Reporting

Our senior leadership team, which includes our Chief Executive Officer and Chief Operating Officer, receives regular updates on team member safety and risks across our system. We focus on injury reduction, evaluate trends and develop programs to enhance safety. We are centralizing our data collection and injury reporting tools to provide better visibility, simplicity and easy access for company leaders. In addition to monitoring injury rates, we closely track aircraft ground damage, both as a part of our safety culture and because it is correlated with on-the-job injuries.

In 2022, injury rates in our mainline operations rose on a sharp increase in operations post-COVID-19. However, many of those injuries were less severe than in the past, resulting in fewer lost workdays across our system as we expanded safety campaigns to raise awareness of common injuries and encourage preventive action. These programs provide tangible guidance that helps prevent a range of serious injuries, with fewer days lost as a result. In 2022, we also reported fewer aviation accidents. We remain committed to reducing injuries further. We have deepened our efforts to discover the root cause of an accident and share those learnings across all of our stations. We also expanded training,

launched new awareness campaigns and strengthened specific programs such as our Turbulence Task Force.

We were heartbroken to have experienced two team member fatalities recently. The first occurred on Dec. 31, 2022, and involved two of our regional airlines. Tragically, a ramp agent for Piedmont Airlines died in a ground accident involving an aircraft operated by Envoy Air at Montgomery Regional Airport in Alabama. The second occurred on April 20, 2023, at Austin-Bergstrom International Airport in Texas, when a team member struck a jet bridge while driving a ground service vehicle. We want every one of our team members to go home safely at the end of each day and will continue to work to provide the safest environment for our team members and customers by continually improving and enhancing our approach to safety.

The overall goal of team member reporting is to improve safety awareness and identify operational deficiencies by facilitating an open line of communication between employees and management without fear of reprisal. Potential safety concerns and suggestions identified through our many safety reporting programs are critical to early identification of hazards. These reports also allow the company to proactively address potential risks and implement corrective actions to resolve safety and security issues.

When a team member identifies any safety-related concern, he or she is encouraged to report the issue. Once the concern is received, skilled safety investigators collaborate with operational partners to review the information provided, assess the hazard and develop corrective actions to ensure the issue is addressed. These reports are then reviewed as part of the broader SMS to determine if there are system-related risks developing. We follow up with the reporter to

communicate what we learned and what steps we are taking to prevent similar concerns from arising again. This follow-through and prompt action helps encourage additional reporting, thus creating a robust safety reporting life cycle.

Our most prominent safety reporting initiatives include the following: Aviation Safety Action Programs (ASAPs), Ground Safety Action Programs, Flight Operations Quality Assurance, the International Air Transport Association's (IATA's) Operational Safety Audit, Line Operations Safety Audits, and the Learning and Improvement Team.

Safety Action Programs

Everyone at American has a role to play in ensuring that our people, customers and assets remain safe. Through ASAPs, team members can confidentially report potential hazards and mistakes without concern of fault or fear of punitive action, thus reinforcing a learning culture and improving our operations along the way.

American was the first airline to create an ASAP, and now such programs are commonplace among airlines worldwide. Currently, we have ASAPs for our Flight, Flight Service, Dispatch, Technical Operations, Central Load Planning and Ground (Fleet Service and Cargo) teams, which we believe gives us significantly greater coverage than the industry average.

In 2022, we recorded 12,269 ASAP reports, a 13% increase over 2021, corresponding with the significant ramp-up in our operations. Our Ground ASAP, which we launched in 2021, quickly established itself by recording the third-largest number of reports among our six programs in 2022. That represents an 85% year-over-year increase. An increase in ASAP reports is a welcome trend, providing evidence that

our safety program is working as anticipated. Team members are comfortable raising concerns when they see them, which provides us with more opportunities to resolve them.

Flight Operations Quality Assurance

Flight Operations Quality Assurance (FOQA) is a voluntary safety program administered jointly by American and the Allied Pilots Association (APA) that uses routinely recorded flight data to proactively identify and correct deficiencies in flight operations. We routinely monitor all our flights and use algorithms to look for potential safety risks and trends. The results allow us to monitor aircraft systems, performance and operational efficiency and help us to better understand pilot performance in the operating environment.

To enhance FOQA's effectiveness, American partnered with Collins Aerospace in 2021 to retrofit our narrowbody aircraft with its Aircraft Interface Device (AID). As of February 2023, 66% of our fleet was equipped with this wireless data transfer system. We expect that American's entire fleet will be outfitted by the end of 2024. AID improves the speed with which we can retrieve FOQA data, and it represents an important tool to increase accuracy in monthly reporting, improving aircraft reliability and preparing for future products and capabilities.

In 2022, American also became the first carrier in the United States to adopt CEFA Aviation Mobile Services, a cloud-based application that allows pilots to recreate their flights on their company iPad. This tool improves on the concept of crew post-flight debriefing by providing real-time feedback to our pilots, turning each flight into a learning opportunity and ultimately contributing to the safety assurance of our SMS.

IATA's Operational Safety Audit

As part of our commitment to transparency and monitoring, we are a registered participant in the IATA's Operational Safety Audit (IOSA) program, an internationally recognized evaluation system designed to assess an airline's operational management and control systems. An IOSA, which takes place every two years, creates a structured methodology with standardized checklists that are comparable on a worldwide basis, enabling and maximizing the joint use of audit reports.

In April 2023, we successfully completed our IOSA in conformance with all standards and recommended practices. IATA modified its audit methodology this year to be risk-based. As part of our efforts to be an industry leader, American volunteered to be the first U.S. carrier to participate under this new approach.

Line Operations Safety Audits

Since launching our continuous pilot Line Operations Safety Audits (LOSA) program in 2017, we have been sending highly trained pilot observers onto the flight deck to better understand work-as-done versus work-as-imagined. Observing our frontline team members in action and gathering safety-related data on environmental conditions, operational complexities and crew performance in real time provides us with valuable insights for enhancing safety and resilience. In 2022, our pilot LOSA observers conducted 566 flight deck observations, a 6% increase compared with 2021.

American has expanded LOSA to other workgroups as well. We implemented a continuous Dispatch LOSA in late 2021 and were able to conduct 163 observations in 2022. We have also been developing a Cabin LOSA program and expect to begin conducting observations by the middle of 2023. This program will help us better understand the challenges facing

our flight attendants and the measures we can take to keep the cabin safe for everyone. We will continue to evaluate the feasibility of expanding LOSA to other operational groups, with 100% coverage as our ultimate goal.

Learning and Improvement Team

We created the Learning and Improvement Team (LIT) in 2022 to collect and analyze data — falling under what is often referred to as a Safety 2 program — on what makes our pilots successful in their everyday work. LIT is composed of line pilots who are specially trained to conduct flight deck observations and facilitated discussions. While it is similar in some ways to LOSA, LIT is a separate program. One of the key differences between LIT and American's other Flight SMS programs (i.e., ASAP, FOQA, LOSA) is that LIT focuses on what goes well and why, thus providing a new safety lens through which to view the operation. Combining LIT data with other SMS data provides American with a broader picture of the system, rather than looking solely at unwanted outcomes. In 2022, we expanded the number of LIT navigators from six to 20. They conducted 144 flight deck observations and 78 one-on-one pilot interviews, which we call "shop talks."

Safety Risk Management

The Safety Risk Management (SRM) element of our SMS provides a decision-making process for identifying hazards and mitigating risk based on a thorough understanding of our systems and their operating environment. SRM enables us to consider the risks in our operations and reduce them to an acceptable level. We use the SRM process whenever there is a significant change to our operations, such as delivery of a new type of aircraft or the addition of a new

Peer Support for Pilots

Project Wingman, established by American and the APA, provides our pilots and their family members with a discreet, peer-to-peer 24/7 helpline for reaching out to other pilots for emotional and occupational support. This program is managed by a deputy chair of the APA aeromedical committee, and American employs a pilot at the managerial level on a full-time basis to support and promote it.

More than 40 pilots currently volunteer for Project Wingman. In addition to bringing a unique understanding of the challenges pilots can face in their professional and personal lives, these volunteers all undergo specialized, intensive training. As a result, they are well-positioned to know when to listen and provide encouragement or recommend other resources when a situation warrants greater intervention.

airport to our network. We also apply SRM when our Safety Assurance process identifies a new hazard or an ineffective control of an existing hazard.

We use several tools to identify hazards and evaluate the need for new or revised risk controls. The process of risk management is the same regardless of the trigger or event, and our SMS looks at multiple factors for risk. While the FAA requirements are geared toward flight safety, our SMS goes further to evaluate a wider range of global risks, including operational disruptions.

Safety Promotion

Safety culture is the foundation of any SMS, with trust at the core. At American we believe in a Just Culture approach, which encourages each team member to take responsibility and have accountability for achieving the highest safety standards and results. This approach, which we have championed for more than a decade and has since become an accepted aviation industry standard, encourages team members to report errors, risky decisions or omissions without fear of punitive actions. We train our teams to look at potential safety events using three types of behavior: human errors, at-risk behavior and reckless behavior.

Safety Training

Among new safety training initiatives in 2022, we successfully launched two classes certified by the American Red Cross through our Learning Hub. The first offered certification in first aid, cardiopulmonary resuscitation (CPR) and use of an automated external defibrillator (AED). This eight-hour class certified 116 members. A four-hour CPR/AED class certified another 118. We expect team member certifications to increase significantly in 2023. With the addition of a Red Cross-certified "train-the-trainer" option through our in-house qualified instructor, we will train team members to teach first aid and CPR/AED on-site across our key hub locations.

Our ramp agents have the highest rate of injuries among all team member groups, primarily as the result of lifting baggage, often in awkward and tight spaces. Working with Pristine Condition International, which introduced the science of Olympic weightlifting techniques to industry, we conduct training programs on proper lifting techniques. In 2022, Pristine also began training flight attendants and aircraft maintenance team members, who suffer the second- and third-highest injury rates, respectively. Pristine also developed and delivered targeted training to groups with specific areas of opportunity.

StaySafe and Safety Engagement Tool

StaySafe is a safety communications campaign implemented across our airport and technical operations organizations. Its materials focus on lessons learned and ways to prevent team member injuries and equipment damage. Any bulletins or alerts are available across multiple platforms in order to reach the greatest number of team members affected.

Through our Safety Engagement Tool, we are bringing company leadership to the front lines to engage in conversations with team members. Managers can communicate safety expectations, assess risks in the operation and reinforce safe behaviors.



For detailed safety performance data,
[see page 60.](#)



Supporting Our Team Members

At American, we believe the talent and dedication of our workforce are the most important drivers of our success. More than 130,000 team members work to fulfill our company's purpose to care for people on life's journey.

We devote significant resources to attracting and retaining the talent we need by providing what we believe to be competitive pay and benefits, top-tier training programs and a supportive work environment. We believe fostering an inclusive culture where people from all backgrounds feel welcome and valued is critical to our success both today and in the future. Building a culture that welcomes and supports a broad range of perspectives and experiences drives innovation and leads to better decision-making. We have accomplished much and continue to identify opportunities for further enhancing the team member experience.

Diversity, Equity and Inclusion

Embedding diversity, equity and inclusion (DEI) in all we do gives American's culture a competitive advantage, and it underpins our quest to be the best airline for our customers. As part of this strategy, we are striving to cultivate a diverse workforce where all team members can feel included and perform at the highest levels. That is why we have integrated DEI into our talent recruitment and development efforts.

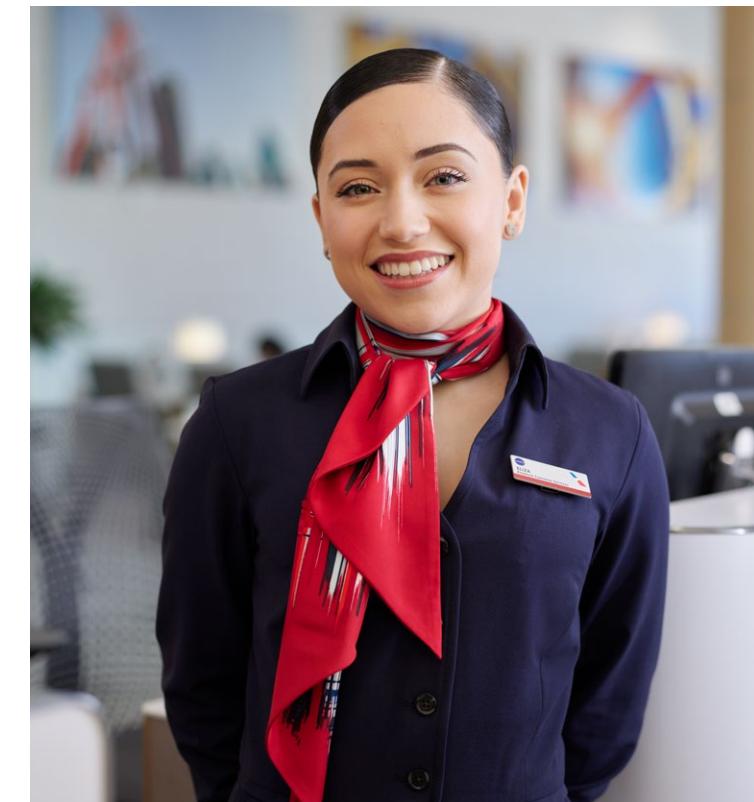
Read more about our approach starting on [page 40](#).

Expanding representation at all levels

We continue to advance American's DEI commitment through increased leadership accountability. In 2022, we began including DEI goals in our annual incentive compensation plan for company leaders, weighted at 10%. We largely met or exceeded our DEI goals in 2022. For 2023, we updated our goals related to DEI. They now focus on achieving a high completion rate for DEI training and goals for managers and above to engage in meaningful DEI activities.

American recognizes that every leader shares a responsibility for hiring and developing the best talent while also championing diversity. To select the top candidates and include all perspectives in the process, we now seek to interview a diverse slate of qualified individuals for all positions of manager and above. We also strive to have diverse interview panels for all leadership positions.

Education is an important part of our DEI journey, from implicit bias training to our web-based inclusion education series, designed to help each team member learn how to speak up on behalf of others. Additionally, many of our other



training programs, such as RIGHTstart, Accelerate and the Women's Leadership Program, help recruit and retain diverse leaders throughout our company. Read more about them starting on page 43.

Connecting team members through our Employee Business Resource Groups and inclusion councils

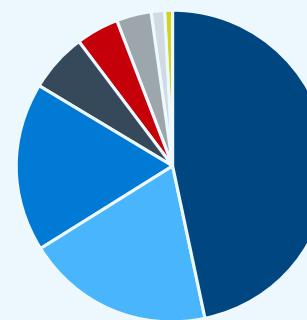
From outside speakers and fireside chats to listening sessions, creating a more inclusive environment by engaging team members is a top priority. One way we do this is through our Employee Business Resource Groups (EBRGs), company-wide team member resource groups that serve as networks and information resources for all our team members.

American's EBRGs serve as networks for team members to connect, foster professional and personal development, learn through cultural engagement activities, serve our communities and help support American's business objectives. American currently has 20 EBRGs with 165 local chapters, and they represent a range of communities with different beliefs, genders, ethnicities and life experiences. In 2022, more than 13,800 team members belonged to at least one EBRG. We expect our senior leaders to model our commitment to DEI by taking an active leadership role in EBRGs or other DEI-related programs.

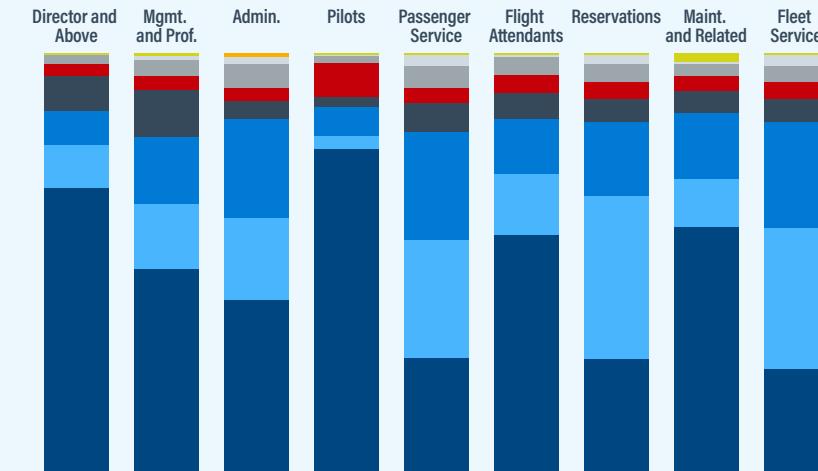
Our EBRGs host and sponsor a variety of programs and events each year that benefit team members as well as the communities where they are based. For example, our PRIDE EBRG advocates for the well-being of LGBTQ+ team members, customers and allies around the world. In 2022, American's Los Angeles International Airport-based team member volunteers hosted LGBTQ youth at the airport, showcasing a variety of careers in aviation. The Dallas-Fort Worth chapter of our Black Professional Network EBRG hosts quarterly lunch-and-learns

2022 TEAM MEMBER DIVERSITY

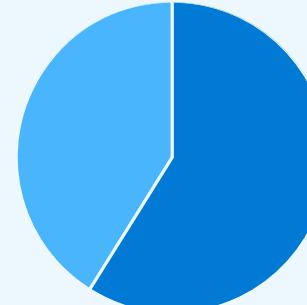
ETHNIC COMPOSITION OF U.S. EMPLOYEES



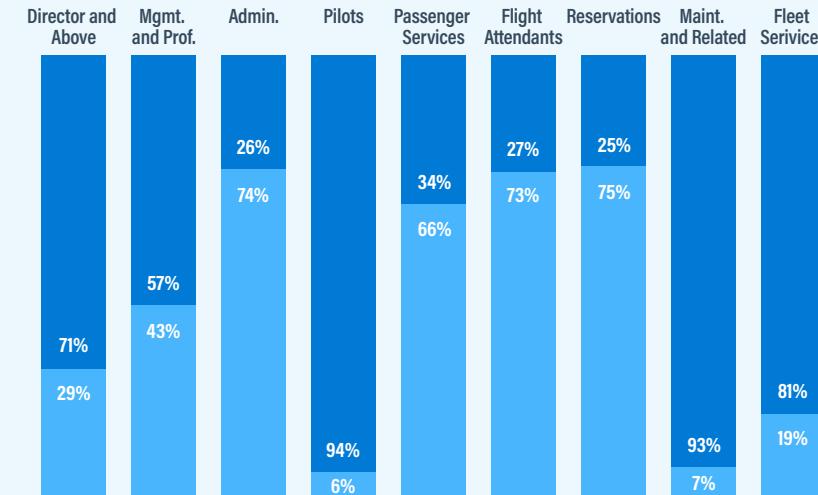
- 46.8% White
- 19.4% Black
- 17.5% Hispanic/Latino
- 6.0% Asian
- 4.4% Not specified
- 3.8% Two or more races
- 1.3% Native Hawaiian/Other Pacific Islander
- 0.7% American Indian/Alaskan Native



GENDER COMPOSITION OF EMPLOYEES GLOBALLY



- 59% Male
- 41% Female



Note: Percentages may not add to 100% due to rounding.

American's 2021 Equal Employment Opportunity Report (EEO-1) is available on our website. The EEO-1 for 2022 was not yet available when we published this sustainability report.

with students through a partnership with My Brother and Sister's Keeper. This nonprofit works to address opportunity gaps for young people, ages 14–24.

Inclusion councils are another way in which we are working to advance our DEI strategy and promote an inclusive culture. Since 2020, we have established inclusion councils across seven different workgroups. They are designed to elicit team member feedback in the workplace, develop workgroup-specific learning and mentorship programs, and drive action in policymaking. In 2022, our inclusion councils hosted nearly 50 listening sessions, developed action plans and helped influence policy changes. For example, they worked with unions and our Flight team to promote gender-neutral flight policies.

Promoting fairness through a commitment to pay equity

American has long championed pay equity, and we are committed to pay parity for the same job regardless of gender, race or ethnicity. The 87% of our workforce that is covered by collective bargaining agreements has built-in pay equity as part of those agreements. Therefore, we have focused on pay equity for the remaining 13% — made up of leadership and support staff — who do not belong to unions.

American has been using Syndio's workplace equity platform since 2020. As a result, we have fine-tuned our methodology for completing regular pay equity reviews, including most recently in early 2023. Our approach begins by placing each team member in one of approximately 50 "similarly situated groups"

(SSGs) across American based on the type of work they do. We then identify factors that can drive compensation variation within each SSG, such as an individual's specific pay scale, seniority or experience. Of course, higher salaries awarded to any new or existing team members can result in unintended pay gaps.

In 2021, American became the first airline to receive [Fair Pay Workplace's](#) inaugural pay equity certification, which is based on a company's identification and remediation of pay equity issues. A part of Syndio, this Seattle-based organization is working to dismantle pay disparities based on gender, race and ethnicity to create sustained fair pay.



Strengthening Our Supplier Diversity Efforts

Alongside our work to build a diverse workforce, American is committed to developing a more inclusive and diverse supplier base. In 2022, we strengthened our supplier diversity program with improvements to our reporting and data infrastructure. Having access to better data makes it easier to track our progress. Our company partnered with Supplier.io, a leading data, analytics and software resource for supplier diversity programs, and we launched an initiative to provide division-level supplier diversity data to American leaders at every level of the organization.

As the airline industry rebounded, American increased the percentage of diverse supplier spend in every category year over year. Our total spend with Tier 1 diverse suppliers increased by 42% over 2021, the second consecutive year

American Airlines has increased our total spend with diverse suppliers. Our Supplier Diversity team is also actively engaged with various organizations working to facilitate sourcing from qualified, diverse-owned businesses. For example, team members serve on the boards of directors, as well as on the certification committees, of the regional councils of the National Minority Supplier Development Council and the Women's Business Enterprise National Council.

Partnering With Diverse Entrepreneurs

American is proud to partner with and support diverse entrepreneurs across the United States. One example is Silver Spoon Desserts, a Chicago-based Black woman-owned company founded by Tamara Turner. The company's cakes have elevated inflight dessert catering for our domestic

premium customers. Furthermore, the partnership with American has enabled Turner to grow her business and create new job opportunities in her community.

In addition, as part of a \$400 million joint investment from American Airlines and British Airways, 113 unique minority-owned and women-owned businesses were awarded contracts to support the renovation of Terminal 8 at New York's John F. Kennedy International Airport. The total amount of the contracts exceeds the Port Authority of New York and New Jersey's goal for diverse supplier awards. American and British Airways were also proud to award contracts to local businesses in New York's borough of Queens. The two airlines welcomed customers to the renovated terminal on Dec. 1, 2022, marking the completion of the first phase.

Achieving Recognition for Our DEI Accomplishments

A number of leading organizations and publications that monitor DEI performance have recognized American for our work in this area. American is the only airline to receive a perfect score on the Human Rights Campaign Foundation's Corporate Equality Index every year since the award's inception in 2002. And in 2023, we were named a Noteworthy Company for Diversity by DiversityInc for the second time. In addition, we were honored to have the *Dallas Business Journal* recognize American's Chief Diversity Officer with a Leader in Diversity award in 2023.

Our DEI efforts have also received the highest scores from the [Disability Equality Index](#) and high scores from the [Seramount Inclusion Index](#).

Our EBRGs were recognized in the following ways in 2022 for their work within American and for their efforts externally to support our communities:

- American finished second as a faith-friendly company in the [Corporate Religious Equity, Diversity & Inclusion \(REDI\) Index](#), based in part on the number and variety of our religion-affiliated EBRGs. The REDI Index was created by the Religious Freedom & Business Foundation.
- Our Latin Diversity Network EBRG was ranked among the Top 15 ERGs by *Latina Style Magazine*, which is dedicated to the concerns of the contemporary Latina professional and the Latina business owner in the United States.
- American's Black Professional Network EBRG won a spot in the [Global ERG Network](#) list of the Top 25 ERGs.

It is backed by an independent alliance of equity experts from academia, business and technology. American was recertified in 2022, and we remain one of only a handful of large U.S. companies in any industry to be certified. The [Rules and Standards for Certification](#) are available to the public.

Among the certification requirements, American will undergo regular check-ins that involve a seven-point review of our remediation plan. We have also pledged not to ask job candidates about their prior compensation or expectations for starting pay, which Fair Pay Workplace has identified as one of the largest sources of pay gaps.

Recruitment

Recruiting the best talent for all roles across American is critical to our ongoing success. Two areas of particular focus are pilots and aviation maintenance professionals. In both, we will need to replace a large number of team members over the next several years due largely to a wave of retirements.

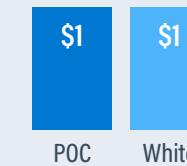
Developing a pipeline to the flight deck

American hired more than 3,300 pilots in 2022 and expects to recruit more than 3,000 in 2023. The need for pilots has

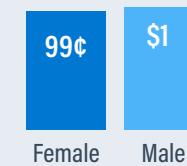
IDENTIFYING PAY GAPS

The chart below shows American's controlled pay gap for gender and race/ethnicity as of March 2023. By running a pay analysis on a regular basis, we can quickly close any gaps.

People of color earned \$1 for every \$1 earned by white team members in similar jobs



Women earned 99¢ for every \$1 earned by men in similar jobs



also presented us with a once-in-a-generation opportunity to expand awareness of and access to careers in aviation. We made progress on this front in 2022: 6% of pilots hired were women, 6% self-identified as Black and 25% identified as people of color. At the 2023 Women in Aviation International Conference in March, American extended 52 pilot job offers, and we were the only mainline carrier to extend offers.

We must develop a strong pipeline of pilot candidates, and doing so requires a long-term outlook and commitment. The American Airlines Cadet Academy is one of the initiatives that will help us achieve this goal. The Cadet Academy strives

to address financial obstacles by providing flight training students with affordable financing opportunities and a predictable path to completion.

Cadet Academy students are expected to take approximately three years to complete the program and become airline-ready professional pilots. They are then guaranteed an interview with one of American's wholly-owned regional carriers: Envoy Air, PSA Airlines or Piedmont Airlines. Over 650 cadets have entered the Cadet Academy since its launch in 2018, and more than 80 now fly for one of these three. Since American has contractual flow-through agreements with

each of our regional carriers, pilots who are hired by one of them have the opportunity to be hired by American's mainline carrier based on its hiring needs. In fact, four Cadet Academy graduates — all of them women — completed this path in 2023 and joined American as first officers.

The number of Cadet Academy pilots hired thus far would likely have been higher, but the pandemic delayed graduation for some students. For example, it took cadets longer to accumulate the required 1,500 hours of flight time due to reduced flight opportunities in 2020 and 2021. We expect the number of Cadet Academy pilots we hire to increase in the future.

With the addition of Tulsa-based Spartan College of Aeronautics and Technology in October 2022, the Cadet Academy now offers five locations where students can complete the program. Other locations include CAE in Phoenix and Coast Flight Training in San Diego, Dallas, and San Marcos, Texas. Regardless of where students are enrolled, each is paired with an American Airlines pilot mentor to guide them through their journey.

Women and people of color constitute 51% of the students who have entered the Cadet Academy since its launch in 2018. Women alone account for 32%, and 12% of students identify as

Building Partnerships to Recruit Diverse Talent

We have expanded our recruitment efforts with the goal of attracting the best diverse talent for all roles. For example, American belongs to the HBCU Partnership Challenge to promote greater engagement and support between private companies and Historically Black Colleges and Universities. Additionally, American regularly participates in recruiting events sponsored by groups such as the [Society of Hispanic Professional Engineers](#), [National Society of Black Engineers](#), [Sisters of the Skies](#), [Women in Aviation International](#), [National Gay Pilot Association](#), [Latino Pilots Association](#), [Professional Asian Pilots Association](#) and the [Organization of Black Aviation Professionals \(OBAP\)](#). (See page 42 for more on our work with OBAP.)



Over 650 cadets have entered the American Airlines Cadet Academy since its launch in 2018.

Black. To further American's efforts to increase access to pilot opportunities, we announced the Elise Eberwein American Airlines Pilot Scholarship in 2022. Through this scholarship, American will annually award two Cadet Academy candidates who have demonstrated financial need with \$50,000 each to put toward the costs of pilot training. Our commitment totals \$1 million over the next decade.

Providing career opportunities in aviation maintenance

American currently employs more than 12,000 aviation maintenance professionals across our hubs and other locations, and they play a critical role in ensuring the safety

Working With OBAP to Expand Access to Careers in Aviation

American donated \$1.5 million in 2022 to the Organization of Black Aerospace Professionals (OBAP). Founded in 1976, this nonprofit is dedicated to the encouragement and advancement of minorities in all aviation and aerospace careers. American's donation includes a \$750,000 grant to OBAP's Luke Weathers Jr. Flight Academy in Olive Branch, Mississippi, while the rest will be used to fund scholarships for the flight school's students. At OBAP's 46th Annual Conference in August 2022, American extended 45 job offers to pilots, making us the only mainline carrier to offer employment to attendees.

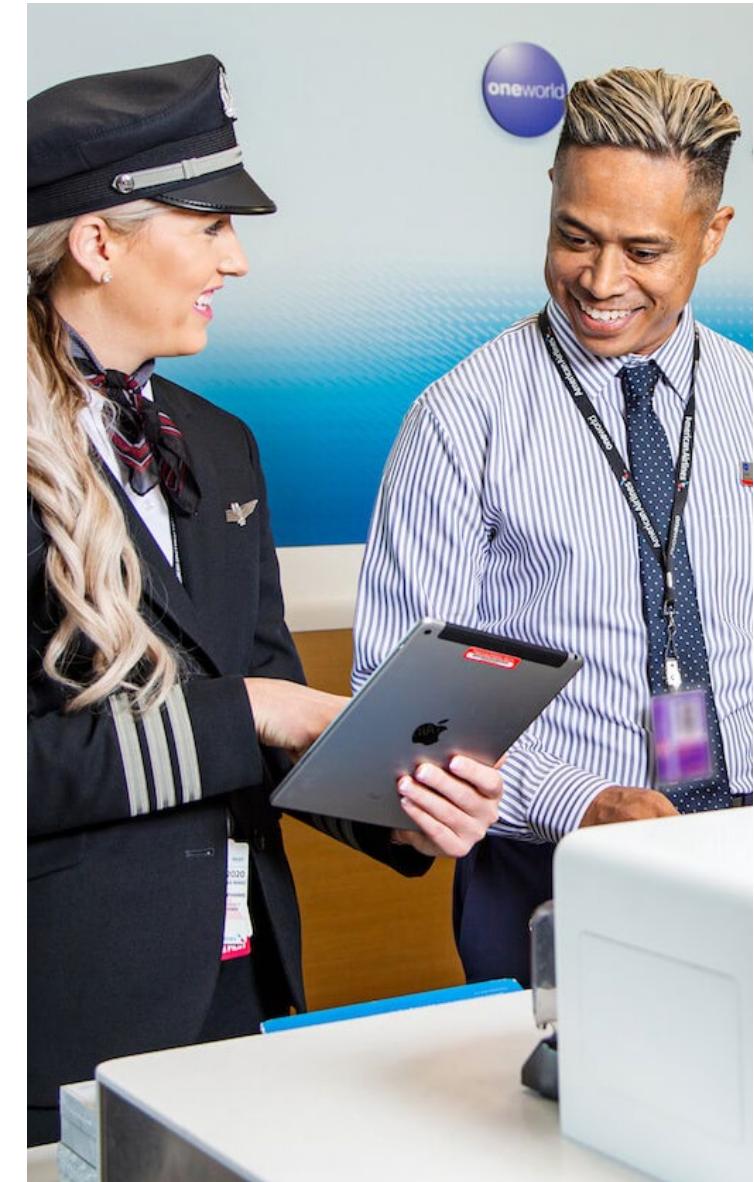
We also hosted more than 150 students at our facilities throughout the summer as a part of OBAP's Aerospace Career Education (ACE) Academy. The ACE Academy provides hands-on experience on the fundamentals of aerodynamics in fun, innovative ways for middle and high school students.

of every customer and team member aboard our aircraft. The partnership we announced in October 2022 with the Aviation Institute of Maintenance (AIM) will help us replenish their ranks and provide students with a direct career path to American. These are well-paying jobs with opportunities for advancement, and they do not require an advanced degree.

AIM is the largest aviation maintenance training organization in the United States, with 14 Federal Aviation Administration-certified aviation maintenance schools around the country. Approximately 4,000 students are currently pursuing certifications to become aircraft mechanics in AIM's 21-month program. As part of our agreement, American will guarantee interviews for top candidates from AIM's Chicago campus. We will also provide students with opportunities to engage with aircraft maintenance teams at our facilities across the country. Eligible students will be offered financial assistance for certification exams as well as a complete set of tools to start their careers off on the right foot. For American team members who are interested in becoming aviation maintenance professionals, AIM will offer reduced tuition rates and waive its application fee at any of its campuses.

Talent Development

Training and development are vital to giving our team members the tools and resources they need to do their best. Our annual performance appraisal process aligns team member goals with the company's objectives relating to operational reliability, profitability and accountability. It also identifies areas of development for the individual and provides connections to the company's broad range of training programs, which provide opportunities for career growth. American spent about \$630 million on functional and professional development training in 2022, roughly \$4,790 per person.



Below are a few of our most important programs for both frontline and corporate employees:

- › **Getting Ready for Takeoff.** We believe that all new team members should receive a welcoming experience that empowers them with the knowledge, skills and resources they need to succeed in their roles. That's why new team members across all divisions of the company complete this orientation within 30 days of hire. It is grounded in American's purpose to care for people on life's journey, introduces our culture and demonstrates our concern for our workforce and customers. Participants complete self-paced modules and attend a live welcome session with senior leaders. **Nearly 19,000 team members completed Getting Ready for Takeoff in 2022 and invested a total of 21,800 hours.**
- › **RIGHTstart.** This comprehensive program is designed for first-level new leaders at American. Participants come from all parts of the company, including customer care, flight service, corporate roles and many others. They progress through a 13-week program as a cohort and are given opportunities to engage and work with leaders from other departments while learning how to lead themselves, their teams and the business. They attend development sessions delivered by expert faculty, complete self-paced learning activities and interact with senior leaders. **In 2022, 202 leaders went through the program and invested a total of 4,848 hours.**
- › **Accelerate.** As its name suggests, this program, which launched in the fourth quarter of 2022, is designed for mid-level leaders who want to accelerate their career growth at American. Over the course of nine months, Accelerate cultivates purpose-driven and resilient leaders who are equipped to navigate today's complex and rapidly changing business environment with confidence and creativity.

2022 TRAINING AND DEVELOPMENT HOURS (IN THOUSANDS)

Mainline Operations		794
	Airports & Cargo	794
	Airports & Cargo receives role-specific technical and safety training.	
	Flight Operations	966
	Flight Operations — which consists of all pilots — undergoes a significant amount of training, including time spent in the simulator, annual and recurrent evaluations, onboarding for new hires and instructor-to-instructor training.	
	Inflight	1,265
	Inflight encompasses our flight attendants, who undergo a significant amount of safety and technical training in addition to data security and specialized courses such as human trafficking awareness.	
	Reservations	999
	Reservations training includes customer service, technical and compliance training.	
	Technical Operations	675
	Technical Operations — or maintenance — professionals undergo a significant amount of safety training in addition to technical courses.	
	Regional Carriers	1,819
	Training for our regional carriers — Envoy Air, PSA Airlines and Piedmont Airlines — is a mixture of web-based and in-person courses related to safety, compliance and many role-specific offerings. Workgroups covered include regional pilots, flight attendants, maintenance staff and, in some cases, dispatchers and customer service representatives. The aggregation includes new-hire and recurrent training.	
	Leadership and Support Staff	374
	Leadership and Support Staff largely fulfill corporate functions, and training varies greatly by position. Hours reflected include mandated and role-specific courses as well as professional development opportunities.	
Team member training totaled more than 6.8 million hours in 2022, averaging approximately 50 hours per person.		

Leaders learn to engage their teams while driving change and accountability through moderated discussions, self-paced learning and engagement with senior leaders. **One hundred leaders from across the company joined this program in the fourth quarter of 2022, completing 2,000 development hours by year-end.**

- › **Women's Leadership Program.** This program fosters a community that connects, develops and supports female leaders and pilots. Learning sessions last for about an hour, and they are followed by networking receptions that enable women leaders and pilots to engage with each other. This program includes valuable mentoring opportunities as well. **We had more than 1,000 participants in 2022 who invested a total of 1,575 hours.**
- › **Learning Hub.** This is our primary learning management system and home base for all mandatory, safety and regulatory compliance training. **In 2022, Learning Hub processed more than 9 million course registrations, with an average of 111,000 unique users accessing the system every month.**
- › We also partner with leading online learning platforms such as Percipio and Harvard ManageMentor to help team members assess and develop their professional, business and personal skills on their own time and at their own pace. Users can connect to an extensive library of courses, certification prep, videos, articles, books and podcasts. **In 2022, team members spent more than 12,000 hours in Percipio, completing 74,250 pieces of content.**

New Hospitality Complex Brings Employees Together for Training and Development

Each year, thousands of team members visit American's Skyview campus in Fort Worth, Texas, for training — ranging from new hires to team members completing their annual recertification to others readying for new roles within the company. In January 2023, the Skyview 6 hospitality complex officially opened its doors, marking the culmination of a multiyear plan to create One Campus for One Team. The new facility provides a modern space to host trainees conveniently on-site and simplifies their visiting experience so they can focus on their development.

Our 300-acre campus welcomes all team members — from frontline to support staff and leadership. This includes team members employed by our wholly-owned regional carriers Envoy Air, PSA Airlines and Piedmont Airlines.

Skyview 6 is located at the heart of our campus, and it is designed to foster collaboration and community among team members from all workgroups based across the globe and in the Dallas-Fort Worth area. The 550,000-square-foot hospitality complex features 600 guest rooms, study lounges on each guest floor, multiple dining options and a 10,000-square-foot ballroom for company events. Its numerous amenities include a fitness center, outdoor exercise pool and courts for basketball, tennis, pickleball and volleyball.

The hospitality complex serves additional company needs, such as providing hotel accommodations to team members coming to campus for business meetings and for business continuity during irregular operations. For example, during a recent winter storm in the Dallas-Fort Worth area, team members from our centralized Integrated Operations Center — who coordinate and implement schedule adjustments necessitated by such conditions — stayed at Skyview 6 overnight so they could avoid driving on dangerous roads.

As with other parts of our corporate campus, Skyview 6 incorporates a number of environmentally friendly features. Learn more about them on [page 28](#).



Comprehensive Benefits

To help attract and retain the best talent, American provides competitive and comprehensive benefits that are highly valued by our team members and their families. In 2022 and early 2023, we continued to broaden our offerings with the goal of meeting their evolving needs.

We expanded help for growing families by doubling the lifetime fertility benefit from \$25,000 to \$50,000 and increased lifetime prescription benefits for fertility medications from \$15,000 to \$25,000. To provide more options for expectant mothers, American began covering doula and midwife support through pregnancy, birth and the immediate postpartum period. We also added coverage for a hands-free breast pump at no cost to team members and spouses.

For dental care, we expanded our nationwide network of providers by over 35% to 495,000. And under voluntary benefits, we added legal support for parents, easier enrollment for accident insurance and convenient payroll deduction for identity theft protection.

Our Benefits team and well-being partners expanded the availability of flu and COVID-19 vaccines on-site, and we created awareness with targeted outreach and education campaigns.

Here are some of the core benefits our team members enjoy:

› **Medical, dental, vision and prescription coverage.** We are committed to providing coverage that is both affordable and flexible to meet the needs of a diverse workforce and their families. More than 85% of our team members are enrolled in medical plan options. Combined with retirees, our plans offer coverage to more than 200,000 people, including spouses, partners and dependents. All our

medical options include prescription drug coverage, and team members can participate in one or more pretax health spending account options.

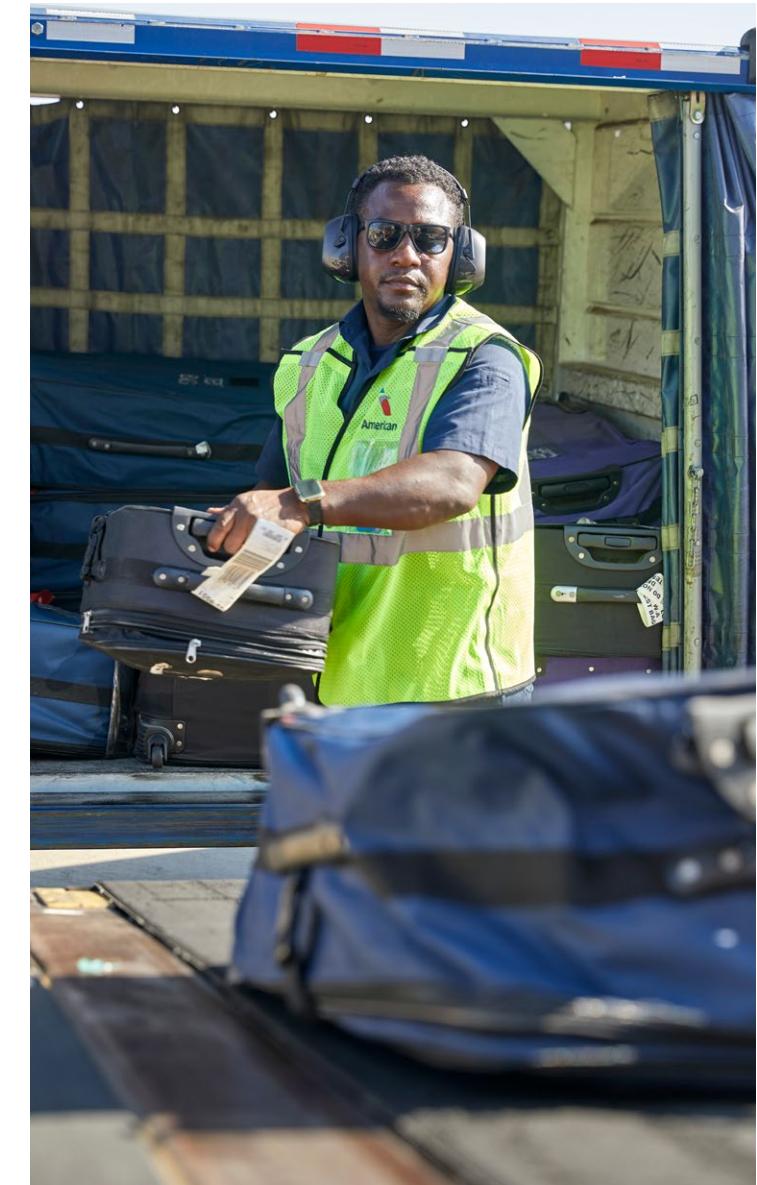
Team members or any covered dependents needing surgery have access to a complimentary concierge service that connects them with top-ranked, board-certified and fellowship-trained surgeons for one-on-one guidance and support throughout the surgical process. This service also works with providers to lower surgery costs, offers team members a consolidated billing statement and provides a lump-sum financial incentive for those who use the service.

Free generic or discounted brand-name medications and supplies are available to treat team members for high blood pressure, diabetes or asthma. Additionally, we have reduced or eliminated the copay for certain high-cost specialty medications.

Our team members who live in Dallas-Fort Worth have access to an additional medical plan, DFW ConnectedCare. This plan with lower monthly premiums and reduced copays is possible through a direct relationship with an accountable care organization.

› **Health care navigation and support.** To help team members manage and understand their health benefits, we partner with an independent health benefits navigator. Personal health assistants help U.S.-based mainline team members navigate the health care system and take full advantage of their medical and prescription insurance coverage. A similar service is available for team members enrolled in DFW ConnectedCare.

› **Telemedicine and on-site clinics.** Thousands of team members have relied on a program that offers physician consultations via telemedicine 24 hours a day, seven days a week. American also partners with a direct health care



provider to staff eight on-site clinics at most of our hub airports. These clinics offer occupational and immediate care, along with basic lab services, vaccines and COVID-19 testing. For our round-the-clock workforce, these options provide convenient care when and where team members need it most.

› **Well-being programs.** Pop-up events around the system make it easier for team members to keep an eye on their health. Through them, nearly 5,000 team members received flu vaccines in 2022. That represents a 25% increase compared with 2021. More than 400 team members had preventive health screenings through on-site events, and over 150 took advantage of mobile mammography events.

› **Employee Assistance Program (EAP).** Our EAP is a 24/7/365 confidential support system for our team members and all members of their households. Whether they need a listening ear, caregiving referrals, legal or financial consultations, veterans' assistance or help preparing for college, our EAP provides practical, real-life assistance for life's changes and challenges. Our team members and their families can receive four free counseling sessions per issue per year, and they may choose video, phone or in-person therapy. With dedicated on-site counselors at nine of our U.S. hubs, most of our team members are never far from help and support. Team members can also order specialized CareKits that contain useful items for pregnancy, a new baby, child safety, active adults or elder care. In a satisfaction survey, 98% of respondents rated their experiences with our EAP as "very good," the highest category available.

› **Life insurance.** Caring for our team members on their life's journey means caring for their families, so American provides basic life insurance coverage for all team members at no cost, effective on day one of employment.

› **Financial well-being resources.** American wants to help our team members be knowledgeable and enthusiastic participants in their financial future, so our 401(k) plan allows them to begin contributing right away. After one year of service, they are eligible for a company match or contribution, depending on their workgroup. Our 401(k) administrator, Fidelity Investments, offers robust, education-centered seminars and personal finance tools as well as one-on-one complimentary consultations.

› **Family support resources.** We provide up to 10 weeks of paid leave through our maternity disability plan and up to \$4,000 in financial support per case for adoption-related expenses (with a maximum reimbursement of \$8,000 over a team member's career with us). American also provides positive-space round-trip tickets to pick up a qualified adoptee and bring the child home, avoiding the need to travel on standby.

The American Airlines Family Fund, a nonprofit organization funded by team members *for* team members, provides up to \$2,500 in tax-free grants to those affected by natural disasters, health crises and other unforeseen circumstances. In 2022, the Family Fund distributed \$915,000 to team members in need. Similarly, the American Airlines Education Foundation provides dependents of American team members with scholarships of up to \$2,500 to attend a two-year, four-year or trade school, with an additional \$1,000 scholarship for first-generation students.

Human Rights

Although we believe that governments are primarily responsible for safeguarding human rights, we endeavor to conduct our business in a socially responsible and ethical manner consistent with human rights principles.

Our approach to human rights is guided by international standards, and we respect and support the following:

- United Nations (U.N.) Guiding Principles on Business and Human Rights
- Organisation for Economic Co-operation and Development's Guidelines for Multinational Enterprises
- Core Conventions of the International Labour Organization (ILO)
- ILO's Declaration on Fundamental Principles and Rights at Work
- U.N. Universal Declaration of Human Rights

The American Airlines Human Rights Statement applies to all team members and contractors, employees of our wholly-owned carriers, and our suppliers and other business relationships. We continually evaluate our operations and value chain to identify, assess and address human rights risks and to engage key stakeholders. This evaluation is carried out as part of American's overall assessment process of critical and significant suppliers for sustainability risks, as outlined in our procurement policy.

Our statement complements our annual team member training on the Standards of Business Conduct. We also provide a dedicated 24/7 hotline for team members, suppliers and partners to report human rights concerns anonymously. American does not tolerate any retribution or retaliation taken against any individual who has, in good faith, sought advice or reported questionable behavior or a possible violation.

Respecting freedom of association

As outlined in our Human Rights Statement, American respects freedom of association and our team members' right to join, or not join, third-party organizations such as

labor unions or other lawful organizations of their own selection, and we do not interfere with these organizations. We also respect the right to bargain or not bargain collectively, in accordance with local laws, without fear of reprisal, intimidation or harassment. As of the end of 2022, 87% of our workforce was covered by collective bargaining agreements.

Human Trafficking Prevention

We believe American has become an industry leader in combating human trafficking and child exploitation. We have mandatory human trafficking awareness training for our frontline, customer-facing team members — including flight attendants, pilots and airport customer service representatives — as well as for team members with international purchasing responsibilities. This training is required for new hires and as part of our recurrent training programs. We know that vigilance is key in fighting the scourge of human trafficking, and we stand ready to help. We also regularly update our reporting and security processes with the latest information and best practices.

American's collaboration with government agencies, industry partners and nongovernmental organizations is a key part of our human trafficking prevention program. We work with a range of partners, including the following:

- The U.S. Department of Homeland Security (DHS) [Blue Campaign](#), a national public awareness effort that aims to educate the public, law enforcement and industry partners to recognize the indicators of human trafficking. In early 2023, American spearheaded airportwide training with DHS at Ronald Reagan Washington National Airport. More than 100 people participated in this session, including American team members, employees of other

airlines, the Transportation Security Administration and the Metropolitan Washington Airports Authority, as well as vendors. We expect to schedule additional training at other hubs.

- [New Friends New Life \(NFNL\)](#), a Dallas-based organization working to restore and empower formerly trafficked teenage girls and sexually exploited women and their children. According to NFNL research, Texas ranks second in the country for trafficking prevalence, with more than 300,000 victims annually statewide. By providing access to education, job training, financial assistance and mental health support, NFNL helps women and their children overcome backgrounds of abuse, addiction, poverty and limited opportunities. In collaboration with three of our EBRGs — Professional Women in Aviation, Black Professional Network and Latin Diversity Network — American has hosted a Human Trafficking Awareness presentation by NFNL for the past four years at our Fort Worth headquarters. In 2023, the event was attended by 114 team members.
- [Texas Businesses Against Trafficking](#), a public-private awareness and prevention initiative led by the Texas Secretary of State.

Our Legal team oversees the company's compliance with applicable domestic and international modern slavery and human trafficking laws. In June 2023, we published the annual update of American's [Modern Slavery and Human Trafficking Statement](#) to comply with the U.K. Modern Slavery Act of 2015 and Australia's Modern Slavery Act of 2018. American is also a signatory to the [PACT Tourism Child-Protection Code of Conduct](#), a voluntary set of business principles to prevent child sex tourism and the trafficking of children.



For detailed team member diversity data, see page 61. For board diversity data, see page 16 of our [2023 Proxy Statement](#).

CEO MESSAGE

SUSTAINABILITY STRATEGY

CLIMATE CHANGE

SAFETY

TEAM MEMBERS

CUSTOMERS

INDEXES & DATA



Serving Our Customers

American Airlines is committed to providing our customers with a world-class travel experience. Flying to more than 300 destinations in the United States and internationally, we continually look for ways to improve and lead our industry by strengthening operational performance and enhancing service offerings.



We rigorously measure and track customer satisfaction through passenger surveys, using the results to implement improvements across our operations.

Of course, dependability and reliability are the foundation for meeting customer needs. Our chief priority remains the same — getting customers to their destinations safely, on schedule and with their baggage in tow, and we closely track our performance on these metrics. Our airline also places a high value on fairness and accuracy in our communications, and we go to great lengths to implement cybersecurity measures and protect our customers' privacy.

Working to improve operations as air travel approaches pre-pandemic levels

In 2022, American transported more than 199 million passengers, a 20% increase over the previous year. Despite this growth, our 2022 completion factor — the percentage of flights that weren't canceled — fell by less than one percentage point to 97.3%.

On-time performance for the year dipped by just over four percentage points to 77.3%. This was due largely to the rapid and significant expansion of our operations over the summer amid challenging weather conditions, especially around

some of our major hub airports in the South and on the East Coast. Thanks to resilient planning and the integration of new technologies, we were able to improve our performance through the end of the year. The fourth quarter saw significant improvements in completion factor and on time arrivals despite significant impacts from Winter Storm Elliott, when weather cancellations rose significantly. American recovered quickly from the storm and outperformed other carriers on completion factor, and we were able to achieve the best December holiday performance in the industry.

We are constantly developing and evaluating new technologies with the potential to improve our operations. Among those rolled out in 2022, the Hub Efficiency Analytics Tool (HEAT) helps reduce cancellations in the face of major weather events and other extraordinary situations. HEAT uses real-time and historical data to help American's hub operations manage through and recover faster from such events. It evaluates load factors, connections, crew legalities and gate availability to adjust departure and arrival times on hundreds of flights in a coordinated way. We deployed HEAT 65 times during the past year, preventing more than 700 cancellations at Dallas Fort Worth International Airport (DFW) and Charlotte Douglas International Airport (CLT) alone.

Our smart gating technology, which we introduced at major hubs in 2022, is also leading to greater efficiencies. By routing aircraft to available gates more quickly, this tool can provide customers with more time to make connecting flights. In 2022, it reduced taxi times by a total of more than 17 hours per day at DFW, CLT and Miami International Airport. Smart gating is yielding important environmental benefits as well, which you can read about on page 15.

Enhancing the customer experience on the ground and in flight

We work hard to provide exceptional service. In 2022, American continued to offer resources that help customers travel with confidence. Through our ongoing VeriFLY partnership, we help passengers understand and verify their requirements for international travel. VeriFLY's mobile health wallet makes it easy for passengers to upload the forms they need to get verified status for travel. Our customers who use VeriFLY can also use our mobile app and aa.com to get mobile boarding passes and take advantage of dedicated and expedited check-in lanes at several airports.

Customers traveling internationally can access our [Ready to Fly](#) hub when viewing their eligible reservations on aa.com or through the American Airlines mobile app. Its checklist outlines everything they need for travel.

In 2022, we made enhancements to the American Airlines app, giving customers the flexibility to pay for products and services while using its chat function. Team members also use mobile devices around the gate to scan boarding passes and gate-check bags or provide other support for customers with children or mobility issues. This helped improve the customer experience by making navigating the airport more convenient for our passengers. In 2022, our customer service efforts were

recognized for the fifth consecutive year by the APEX Official Airline Ratings — Global Airline category. American received a prestigious Five Star rating based on verified customer feedback on the overall travel experience.

Among our inflight improvements in 2022, we completed an ongoing project that expanded overhead bin capacity by 60% on the Airbus 321 and 40% on the Boeing 737. Customers appreciate having more space for carry-on luggage, and the percentage of our fleet with expanded bin capacity will continue to grow as we take deliveries of new aircraft.

American has high-speed Wi-Fi on more mainline aircraft than any other carrier. Our free inflight entertainment gives customers traveling on our domestic narrowbody aircraft access to innovative, exclusive and diverse content directly on their personal devices at no cost. That includes some of the most anticipated live events in football and soccer annually as well as news networks. In 2022, we added offerings that promote wellness on the go. Among them, obé Fitness features a variety of classes that offer soothing in-seat stretches, simple twists, healthy-eating hacks, relaxing breathwork and more.

In March 2023, American became the first U.S. airline to guarantee family seating. We now seat children 14 and under adjacent to an accompanying adult at no additional cost, assuming they meet certain conditions outlined in our [customer service plan](#).

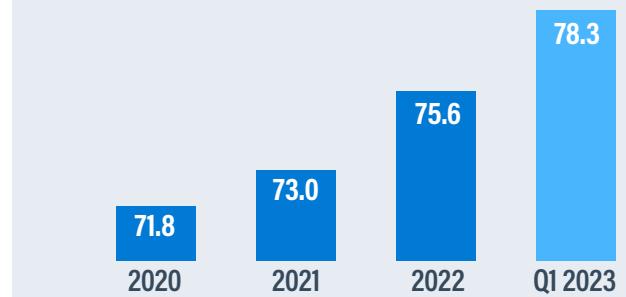
Posting record customer satisfaction scores

Based on a sampling of approximately 3 million customer surveys, American's Likelihood to Recommend (LTR) score rose to a company-best 75.6 for 2022. That represents a gain of 2.6 points over 2021. Our LTR scores by category improved across the board, largely due to improvements in



LIKELIHOOD TO RECOMMEND SCORES

American's Likelihood to Recommend scores have been rising annually, and we achieved a company best in 2022.



our operational performance in the second half of 2022. LTR measures customer satisfaction on a scale of 1 to 100 points based on a recent trip, and our methodology incorporates balanced feedback from both AAdvantage loyalty program members and nonmembers.

We share feedback with our customer service and food service teams as well as our airport teams to identify areas for improvement. For example, in the new Terminal B at LaGuardia Airport (LGA) in New York City, we learned from survey results that frequent travelers were dissatisfied because the TSA PreCheck location was too far from American's check-in and bag drop area. Working together with LGA leadership, we convinced TSA to move the security checkpoint to a new, dedicated area. We took a similar approach for customers without TSA PreCheck and positioned the check-in and bag drop area so that it is directly in front of the main entry for their security checkpoint.

American is currently establishing a partner survey process across the 13 member airlines of the **oneworld®** alliance, including our West Coast international alliance with Alaska Airlines. We expect the survey to launch in 2023.

Emphasizing fairness and accuracy in our communications

We are in business to provide safe, dependable and friendly air transportation to our customers, and we work hard to make their experience a positive one. At the same time, averaging 5,477 scheduled departures per day is challenging and complex. Inevitably, some of our flights are affected by adverse circumstances — some within our control and others not. When that happens, our customer service plan outlines the many policies and processes we have put in place to

ensure that American's customers are treated fairly and receive the assistance they need.

American is also committed to accuracy in our communications and marketing. To help customers make informed decisions, we provide information about the benefits of flying with American and strive to represent fairly the social or environmental benefits of our activities. We endeavor not to mislead vulnerable market segments, such as children, about our services. Moreover, we do not publish or otherwise share information about our competitors or other companies that is knowingly false or could discredit them.

Responding swiftly to customer concerns

The ability to respond swiftly to any customer concerns is a critical part of our approach to customer satisfaction. During

peak times, when our response may not be as rapid as we would like, we have tools in place such as chat through the mobile app, automated callback and immediate, automated correspondence to update customers with the most relevant information for their travels. We also share reports of customer concerns quarterly with senior executives and our Board of Directors. Our Customer Experience leadership team receives information about customer correspondence daily.

American is especially focused on comments that allege discriminatory behavior, and we have empowered a special Customer Relations team to increase awareness of such complaints among customer-facing team members. Each allegation is investigated, and disciplinary action — up to and including termination — can result if we determine that unacceptable behavior occurred.



Meeting the needs of diverse customers

American's approach to customer engagement reflects our commitment to diversity, equity and inclusion. We continue to rely on the guidance of the community council we formed in 2020 to provide objective and candid insights on company initiatives, particularly those focused on improving the customer travel experience and meeting the needs of underrepresented customer groups.

In 2022, we launched our "No Limits" ad campaign to help us authentically and meaningfully connect with Black travelers. Created by Walton Isaacson, our multicultural agency of record, the campaign runs primarily on minority-owned media platforms to ensure that we reach our intended audience. In addition, through our James Beard Foundation sponsorship, American features menu items from diverse chefs in our Flagship Lounges and Flagship First Dining locations.

We implement procedures across our operations with the goal of treating all customers equitably. For example, to help remove potential bias during the boarding process, we updated our standby and upgrade list process to clear all requests automatically if seats are available.

Prioritizing cybersecurity and data privacy

Cybersecurity and data privacy are key priorities at American Airlines. In 2022, we published a new [Cybersecurity Policy Statement](#), and we updated our [Privacy Policy](#) in March 2023.

American's approach to identifying and mitigating cybersecurity risk is aligned with the National Institute of Standards and Technology Cybersecurity Framework. The program, which includes policies, standards and a variety

of technical security solutions to prevent and respond to cybersecurity issues, is evaluated annually by a global cybersecurity firm.

The Chief Information Security Officer is responsible for cybersecurity and reports to the Chief Digital and Information Officer, who is a member of our senior management team. Our Board of Directors oversees our work on cybersecurity, with the Audit Committee regularly reviewing cyber and data privacy risks and receiving briefings from senior leaders on these matters at least quarterly.

Our company also has a formal cybersecurity training and awareness program focused on educating our team members about cybersecurity risk and our internal policies and procedures related to cybersecurity, privacy and compliance. Certain trainings — such as basic data security awareness — are conducted annually, and all team members and contractors are expected to complete it.

A number of team members undergo additional cybersecurity and data privacy training depending on their roles and responsibilities. We also review the cybersecurity profile of suppliers as part of our risk management strategy and engage certain suppliers on their practices.

American's privacy program, which is audited annually, is led by our Chief Privacy and Data Protection Officer and staffed with certified privacy professionals. We also have a Privacy Council composed of more than 20 senior leaders who meet quarterly to discuss privacy issues, challenges and proposed solutions. The council is supported by approximately 75 privacy liaisons across the business.

The privacy program is guided by key privacy principles that inform how American handles and protects the personal information in our care, such as responsibility, transparency, security and choice. Our Privacy Office regularly conducts privacy impact assessments of business processes and supporting information technology (IT) systems that process personal data. The primary role of these assessments is to identify and remediate associated privacy risks.

Information obtained from privacy impact assessments is used to populate our personal data inventory, which details what personal data our company stores, how it is used, where it is stored, with whom it is shared and for how long it is retained. We supplement these efforts by coordinating with our IT department to incorporate privacy design requirements into the architecture and operation of our systems that store and process personal data. We also use these processes to fulfill our legal requirements for handling data rights requests and data disclosures via our internal and external privacy policies and statements.

Our team members take privacy training courses annually, and the Privacy Office conducts individual training sessions with different business units each year that address a variety of privacy issues. We also coordinate closely with our Vendor Management and Corporate Legal functions, which provide input on privacy terms and provisions in agreements with our business partners and vendors to ensure that privacy issues are appropriately addressed. Contractors are required to take a course on global data privacy and protection annually or as they sign on.





Task Force on Climate-related Financial Disclosures (TCFD) Index

	TCFD Recommended Disclosure	Disclosure Location
GOVERNANCE		
Disclose the organization's governance around climate-related risks and opportunities.	<ul style="list-style-type: none"> ▪ Describe the board's oversight of climate-related risks and opportunities. ▪ Describe management's role in assessing and managing climate-related risks and opportunities. 	<ul style="list-style-type: none"> ▪ Sustainability Strategy — Management and Governance (p. 6)
STRATEGY		
Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy and financial planning where such information is material.	<ul style="list-style-type: none"> ▪ Describe the climate-related risks and opportunities the organization has identified over the short, medium and long term. ▪ Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy and financial planning. ▪ Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario. 	<ul style="list-style-type: none"> ▪ Addressing Climate Change (p. 9) ▪ Addressing Climate Change — Analysis of Climate-Related Risks and Opportunities (p. 22)
RISK MANAGEMENT		
Disclose how the organization identifies, assesses and manages climate-related risks.	<ul style="list-style-type: none"> ▪ Describe the organization's processes for identifying and assessing climate-related risks. ▪ Describe the organization's processes for managing climate-related risks. ▪ Describe how processes for identifying, assessing and managing climate-related risks are integrated into the organization's overall risk management. 	<ul style="list-style-type: none"> ▪ Addressing Climate Change — Climate-Related Risk Assessment (p. 19)
METRICS AND TARGETS		
Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.	<ul style="list-style-type: none"> ▪ Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process. ▪ Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 greenhouse gas emissions, and the related risks. ▪ Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets. 	<ul style="list-style-type: none"> ▪ Addressing Climate Change — Our Climate Goals (p. 9) ▪ Addressing Climate Change — American's Directional Pathway to Net Zero in 2050 (p. 11) ▪ Addressing Climate Change — Our Carbon Footprint in 2022 (p. 10) ▪ Data Tables (p. 57)

Sustainability Accounting Standards Board (SASB) Index – Airline Industry Standard

SASB Code	SASB Metric	Disclosure Location or Response
GREENHOUSE GAS EMISSIONS		
TR-AL-110a.1	Gross global Scope 1 emissions	<ul style="list-style-type: none"> ▪ Addressing Climate Change — Our Carbon Footprint in 2022 (p. 10) ▪ Data Tables (p. 57)
TR-AL-110a.2	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	<ul style="list-style-type: none"> ▪ Addressing Climate Change (p. 9) ▪ Addressing Climate Change — Our Climate Goals (p. 9) ▪ Addressing Climate Change — American's Directional Pathway to Net Zero in 2050 (p. 11) ▪ Data Tables (p. 57)
TR-AL-110a.3	(1) Total fuel consumed, (2) percentage alternative, (3) percentage sustainable	<ul style="list-style-type: none"> ▪ Data Tables (p. 58)
LABOR PRACTICES		
TR-AL-310a.1	Percentage of active workforce covered under collective bargaining agreements	<ul style="list-style-type: none"> ▪ Supporting Our Team Members (p. 39)
TR-AL-310a.2	(1) Number of work stoppages and (2) total days idle	American Airlines did not have any union work stoppages or idle days in 2022.
COMPETITIVE BEHAVIOR		
TR-AL-520a.1	Total amount of monetary losses as a result of legal proceedings associated with anticompetitive behavior regulations	In 2022, we had no monetary losses as a result of legal proceedings associated with anticompetitive behavior regulations. We also had no confirmed cases of corruption or bribery during the year.
ACCIDENT AND SAFETY MANAGEMENT		
TR-AL-540a.1	Description of implementation and outcomes of a Safety Management System	<ul style="list-style-type: none"> ▪ Operating Safely (p. 31) ▪ Operating Safely — Our Safety Management System (p. 31) ▪ Data Tables (p. 60)
TR-AL-540a.2	Number of aviation accidents	<ul style="list-style-type: none"> ▪ Data Tables (p. 60)
TR-AL-540a.3	Number of governmental enforcement actions of aviation safety regulations	<ul style="list-style-type: none"> ▪ Data Tables (p. 60)

Financial Performance*	2022	2021	2020
REVENUE			
Passenger	\$44,568	\$26,063	\$14,518
Cargo	1,233	1,314	769
Other	3,170	2,505	2,050
Total operating revenue	48,971	29,882	17,337
Total operating expenses	47,364	30,941	27,758
Operating income (loss)	1,607	(1,059)	(10,421)
Income tax provision (benefit)	59	(555)	(2,568)
Net income (loss)	127	(1,993)	(8,885)
Basic earnings (loss) per share	0.20	(3.09)	(18.36)
Cash dividends declared per common share	—	—	0.10

* In millions of U.S. dollars, except per-share amounts.

Operational Performance	2022	2021	2020
MAINLINE			
Revenue passenger miles (millions)*	191,519	136,512	77,065
Available seat miles (millions)**	229,922	182,189	119,567
Passenger load factor (percent)***	83.3	74.9	64.5
Departures (thousands)	1,052	870	619
REGIONAL			
Revenue passenger miles (millions)*	24,105	25,026	14,760
Available seat miles (millions)**	30,304	32,346	23,600
Passenger load factor (percent)***	79.5	77.4	62.5
Departures (thousands)	903	955	720

Note: American uses miles for our operational data reporting, rather than kilometers, as in the SASB metrics.

* Revenue passenger mile (RPM): A basic measure of sales volume. One RPM represents one passenger flown one mile.

** Available seat mile (ASM): A basic measure of production. One ASM represents one seat flown one mile.

*** Passenger load factor: The percentage of available seats that are filled with revenue passengers.

Operational Performance	2022	2021	2020
On-time performance*	77.3%	81.6%	82.3%
Completion factor**	97.3%	98.1%	93.9%

Mishandled Baggage Rate (MBR)	2022	2021	2020
By year	8.78	7.63	5.96

* Percentage of reported flight operations arriving less than 15 minutes after the scheduled arrival time.

** Percentage of scheduled flight operations completed.

Environmental Performance		2022	2021	2020
DIRECT AND INDIRECT GHG EMISSIONS				
Scope 1 Emissions (thousands of metric tons of CO₂e)				
SASB Metrics	Scope 1 emissions — all sources	34,629	28,825	19,831
	- Jet fuel emissions	34,410	28,427	19,636
	- Emissions associated with Sustainable Aviation Fuel (CH ₄ and N ₂ O)	0.16	0.08	0.02
	- Diesel emissions	39	36	31
	- Gasoline emissions	46	48	50
	- Liquid propane gas emissions	0.6	0.3	0.2
	- Heating oil emissions	0	9	6
	- Natural gas emissions	79	68	75
	- Purchased CO ₂ e	54	237	33
	Biogenic Emissions (thousands of metric tons of CO₂)			
Emissions associated with biogenic fuel emissions (CO ₂)		27.2	13.4	3.6
Scope 2 Emissions (thousands of metric tons of CO₂e)				
Scope 2 location-based emissions		206	243	258
Scope 2 market-based emissions		126	183	236
Scope 3 Emissions (thousands of metric tons of CO₂e)				
Scope 3 emissions — all categories		13,767	12,907	9,674
- Category 1 (purchased goods and services)		1,856	2,031	1,905
- Category 2 (capital goods)		303	296	289
- Category 3 (fuel and energy-related activities)		7,350	6,074	3,552
- Category 4 (upstream transportation and distribution)		3,478	3,771	3,250
- Category 5 (waste generated in operations)		2	2	2

Environmental Performance		2022	2021	2020
DIRECT AND INDIRECT GHG EMISSIONS (CONTINUED)				
Scope 3 Emissions (thousands of metric tons of CO₂e) (continued)				
- Category 6 (business travel)		94	75	58
- Category 7 (employee commuting)		232	210	223
- Category 8 (upstream leased assets)		22	43	52
- Category 9 (downstream transport)		18	14	11
- Category 15 (investments)		412	392	332
OTHER EMISSIONS				
Aircraft Emissions (metric tons from landing/take-off cycle)				
Nitrogen oxides (NOx)		17,773	15,563	12,061
Hydrocarbons (HC)		847	573	514
Carbon monoxide (CO)		9,825	8,271	7,474
Ground Emissions From Reporting Facilities (metric tons)				
Carbon monoxide (CO)		45.7	46.0	63.0
Nitrogen oxides (NOx)		73.0	61.6	85.7
Sulfur oxides (SOx)		2.4	1.7	1.0
Volatile organic compounds (VOC)		99.1	76.8	81.8
Particulate matter (PM)		6.0	5.3	6.8
Other Emissions (metric tons)				
Ozone-depleting substances		0.5	1.1	0.4

■ Examined by independent accountant KPMG LLP, as described in its report starting on page 68. The 2022 Scope 1 emissions and biogenic emissions data are presented in accordance with the GHG Protocol, in the Greenhouse Gas Emissions Statement and as described in Note 2 on page 69.

■ Reviewed by independent accountant KPMG LLP, as described in its report starting on page 68. The 2022 Scope 2 emissions (market and location-based) are presented in accordance with the GHG Protocol, and certain categories of Scope 3 emissions (Categories 3 and 4) are calculated based on the GHG Protocol, in the Greenhouse Gas Emissions Statement and as described in Note 2 on page 69.

Environmental Performance		2022	2021	2020
FUEL USE				
Nonrenewable Fuel Use (millions of gallons)				
Jet fuel*	3,599	2,995	2,070	
Diesel	3.76	3.44	2.96	
Gasoline	5.03	5.34	5.60	
Liquid propane gas	0.09	0.05	0.03	
Heating oil	—	0.11	0.08	
Natural gas (million MMBtu)	1.49	1.27	1.41	
Renewable Fuel Use (millions of gallons)				
Jet fuel sourced from sustainable feedstock	2.55	1.42	0.38	
STANDARDIZED ENERGY CONSUMPTION				
Nonrenewable Energy Consumption (thousand MWhs)				
Jet fuel — nonrenewable	128,729	107,539	74,351	
Other fuels — nonrenewable	783	716	750	
Total fuel — nonrenewable fuels	129,512	108,306	75,101	
Electricity consumption — nonrenewable direct	345	539	530	
Total energy consumption — nonrenewable	129,785	108,845	75,632	
Renewable Energy Consumption (thousand MWhs)				
Jet fuel sourced from sustainable feedstock	91	51	14	
Other fuels renewable	15	—	—	
Direct purchase of renewable electricity	179	36	53	
Direct + indirect purchase of renewable electricity**	—	244	180	
Renewable energy consumption	285	295	194	

Environmental Performance		2022	2021	2020
STANDARDIZED ENERGY CONSUMPTION (CONTINUED)				
Total Energy Consumption (thousand MWhs)				
Jet fuel	128,830	107,590	74,365	
Other fuels	798	716	750	
Total fuels	129,628	108,306	75,115	
Electricity	524	573	584	
Total energy	130,152	108,879	75,699	
Renewable Energy as a Percentage of Total Energy				
Renewable jet fuel as a percentage of total jet fuel	0.07%	0.05%	0.02%	
Renewable direct electricity as a percentage of total electricity	34.2%	6.3%	9.1%	
Renewable direct + indirect electricity as a percentage of total electricity***	34.2%	42.6%	30.9%	
Renewable direct energy as a percentage of total energy	0.2%	0.1%	0.1%	
Renewable direct + indirect energy as a percentage of total energy***	0.2%	0.3%	0.3%	

* Jet fuel consumption represents jet fuel from mainline operations and owned regional airlines Envoy, PSA and Piedmont.

** Indirect purchases represent electricity purchased for facilities under American's operational control through airport authorities.

*** Represents estimated amount that will be updated when actual data is available.

Environmental Performance	2022	2021	2020
INTENSITY PERFORMANCE			
GHG Emissions Intensity			
Passenger CO ₂ e fuel intensity (kg CO ₂ e/passenger kilometer)			
Passenger CO ₂ e fuel intensity (kg CO ₂ e/passenger kilometer)	0.096	0.105	0.126
Cargo CO ₂ fuel intensity (kg CO ₂ e/ton kilometer)	0.958	1.052	1.256
Scope 1 jet fuel emissions per 1,000 revenue ton miles (using U.S. DOT standard)	1.52	1.66	1.98
Scope 1 jet fuel emissions per 1,000 revenue ton miles (using International Air Transport Association standard)	1.39	1.53	1.82
Scope 1 and 2 emissions per 1,000 revenue ton miles (using International Air Transport Association standard)	1.41	1.56	1.86
Sales intensity (g CO ₂ e from jet fuel per dollar of revenue)	703	952	1,133
SBTi Aviation Tool carbon intensity (life cycle g CO ₂ e/RTK)	1,195	1,317	1,595
Fuel consumption for passenger transport (liters/100 passenger kilometers)	3.792	4.164	4.973
Fuel consumption for cargo transport (liters/ton kilometers transported)	0.379	0.416	0.497
NOx Intensity			
Passenger NOx intensity (g of NOx/passenger kilometer)	0.049	0.057	0.073
Cargo NOx intensity (g of NOx/tonne kilometer)	0.723	0.834	1.069
WASTE			
Municipal solid waste*	13,423	—	—
Hazardous waste (tons)	692	692	715

Environmental Performance	2022	2021	2020
WATER			
Water use for American's major facilities, excluding airports (millions of gallons)**	480	465	466
NOISE			
Percent of aircraft certified as, or meeting, Chapter 3 noise limits	100%	100%	100%
Percent of aircraft certified as, or meeting, Chapter 4 noise limits	100%	100%	100%
Percent of aircraft certified as, or meeting, Chapter 5 noise limits	16%	20%	19%
ENVIRONMENTAL COMPLIANCE			
Number of environmental notices of violation	15	15	3
Amount of environmental fines and penalties (thousands of U.S. dollars)	\$2.0	\$5.7	\$1.5
Spills recorded (1 gallon or greater)	330	256	162
* Waste from our two largest waste-service providers. Measured in US tons. ** From municipal water supplies.			
Community Impact	2022	2021	2020
GLOBAL GIVING			
Total global giving — all sources (millions of U.S. dollars)	\$24.5	\$20.2	\$22.5
- Cash donations (millions of U.S. dollars)	\$9.4	\$6.0	\$6.0
- Total product or services donations, projects/partnerships or similar (millions of U.S. dollars)	\$15.1	\$14.2	\$16.5
VOLUNTEER SUPPORT			
Total volunteer hours (thousand hours)	44	20	134

Flight Safety Performance		2022		2021		2020	
		Mainline	Regional	Mainline	Regional	Mainline	Regional
Number of flights*		1.6 million		1.5 million		1.1 million	
SASB Metrics	Number of aviation accidents**	4	2	6	2	2	3
	Number of enforcement actions from government agencies***	0	2	0	3	0	0
	Number of safety risks and hazardous situations identified†	116	281	140	332	104	441
	Percentage of safety risks and hazardous situations identified that were mitigated‡	100%	98%	100%	99%	95%	99%
Aircraft ground damages (rate per 10,000 departures)		2.41	1.01	2.37	0.72	2.16	0.81
Aviation Safety Action Program reports		12,282	7,837	11,295	7,306	7,131	5,667

* Mainline and owned regional carriers.

** Defined according to the International Civil Aviation Organization (Annex 13) and the National Transportation Safety Board (Part 830). Of the four mainline accidents in 2022, two involved turbulence that caused crew member injuries. The third involved an engine aircraft failure in flight, and the fourth was due to damage from being struck by another aircraft while taxiing, neither of which resulted in injuries to passengers or crew members. Of the two regional accidents, one was the fatality of a ramp agent in a ground accident, and the second involved a crew member experiencing illness while on board.

*** Defined to include enforcement actions by the Federal Aviation Administration, the European Aviation Safety Agency or equivalent national authorities related to the regulation of aviation safety.

† The majority of our risk assessments are performed proactively prior to implementing or revising systems/procedures. American's comprehensive SMS covers safety risks and hazardous situations related to six areas: flight safety, flight service, ground operations, technical operations (maintenance), security and environmental. The figures reported here include all such risks identified by our Safety Management System (SMS).

‡ Our SMS requires that we mitigate identified risks, particularly high risks, to as low as reasonably practicable (ALARP). These systemic and residual risks are monitored, measured and tracked.

Team Member Safety Performance		2022		2021		2020	
		Mainline	Regional	Mainline	Regional	Mainline	Regional
Injury rate*		6.89	5.06	6.29	5.13	5.64	3.82
Lost day rate**		4.53	2.37	5.60	2.99	3.66	2.33
Work-related fatalities		0	1	0	0	0	1

* Total recordable cases per 200,000 hours worked.

** The lost day rate, which the U.S. Occupational Safety and Health Administration calls the Days Away from Work Injury and Illness rate, is calculated as the number of cases multiplied by 200,000 work hours divided by total hours worked.

Gender Diversity of American's Employees Globally	2022			2021			2020		
	Total	Female	Male	Total	Female	Male	Total	Female	Male
Permanent employees	134,655	41%	59%	127,018	40%	60%	130,529	40%	60%
EMPLOYMENT TYPE									
Full-time	112,924	39%	61%	108,805	38%	62%	110,795	39%	61%
Part-time	21,731	50%	50%	18,213	49%	51%	19,734	48%	52%
EMPLOYEES BY REGION									
United States	128,270	40%	60%	121,148	39%	61%	125,811	40%	60%
Canada	389	48%	52%	289	47%	53%	179	48%	52%
Mexico, Caribbean, Latin America	4,537	60%	40%	4,347	60%	40%	3,555	59%	41%
Europe and Asia	1,459	53%	47%	1,234	54%	46%	984	51%	49%
EMPLOYEE CATEGORY									
Director and above	521	29%	71%	480	30%	70%	563	32%	68%
Management and professional	14,725	43%	57%	13,632	42%	58%	15,343	43%	57%
Administrative	2,880	74%	26%	2,469	73%	27%	3,008	72%	28%
Passenger service	21,761	66%	34%	19,905	66%	34%	21,338	61%	39%
Reservations	6,174	75%	25%	5,687	75%	25%	5,328	82%	18%
Maintenance and related	18,180	7%	93%	17,565	7%	93%	18,614	7%	93%
Fleet service	26,265	19%	81%	24,503	18%	82%	20,491	15%	85%
Pilots	17,448	6%	94%	17,313	5%	95%	17,915	5%	95%
Flight attendants	26,701	73%	27%	25,464	74%	26%	27,929	75%	25%

The diversity data shown has been aggregated for presentational purposes and includes mainline employees as well as the employees of our wholly-owned regional carriers. Numbers may not add up to 100% due to rounding.

Ethnic Composition of American's U.S. Employees

This information is broken out in detail on pages 62–65.

BLACK OR AFRICAN AMERICAN

	2022			2021		
	Total	Female	Male	Total	Female	Male
Total number of U.S. employees	24,886	47.8%	52.2%	22,059	46.8%	53.2%
Percentage of total U.S. employees	19.4%	9.3%	10.1%	18.2%	8.5%	9.7%
Percentage by category						
Director and above	10.0%	36.5%	63.5%	8.4%	32.5%	67.5%
Management and professional	15.5%	48.6%	51.4%	14.7%	48.7%	51.3%
Administrative	19.4%	78.1%	21.9%	18.0%	76.3%	23.7%
Passenger service	28.1%	69.7%	30.3%	26.4%	69.4%	30.6%
Reservations	38.7%	83.3%	16.7%	38.6%	82.6%	17.4%
Maintenance and related	11.3%	13.6%	86.4%	10.7%	12.6%	87.4%
Fleet service	33.7%	23.6%	76.4%	32.4%	22.4%	77.6%
Pilots	3.1%	3.6%	96.4%	2.7%	3.9%	96.1%
Flight attendants	14.5%	77.0%	23.0%	13.5%	76.9%	23.1%

The diversity data shown has been aggregated for presentational purposes and includes mainline employees as well as the employees of our wholly-owned regional carriers. Numbers may not add up to 100% due to rounding.

ASIAN

	2022			2021		
	Total	Female	Male	Total	Female	Male
Total number of U.S. employees	7,674	41.5%	58.5%	7,303	40.8%	59.2%
Percentage of total U.S. employees	6.0%	2.5%	3.5%	6.0%	2.5%	3.6%
Percentage by category						
Director and above	8.3%	34.9%	65.1%	8.4%	30.0%	70.0%
Management and professional	11.1%	39.2%	60.8%	11.5%	37.4%	62.6%
Administrative	4.3%	75.9%	24.1%	4.7%	76.9%	23.1%
Passenger service	7.0%	65.7%	34.3%	7.4%	65.4%	34.6%
Reservations	5.3%	71.8%	28.2%	5.8%	72.6%	27.4%
Maintenance and related	5.2%	4.9%	95.1%	4.9%	4.8%	95.2%
Fleet service	5.2%	9.0%	91.0%	5.6%	8.9%	91.1%
Pilots	2.5%	9.1%	90.9%	2.2%	8.8%	91.2%
Flight attendants	6.3%	73.3%	26.7%	6.1%	72.6%	27.4%

Ethnic Composition of American's U.S. Employees (continued)

AMERICAN INDIAN OR ALASKAN NATIVE

	2022			2021		
	Total	Female	Male	Total	Female	Male
Total number of U.S. employees	935	32.3%	67.7%	863	32.6%	67.4%
Percentage of total U.S. employees	0.7%	0.2%	0.5%	0.7%	0.2%	0.5%
Percentage by category						
Director and above	0.4%	0.0%	100.0%	0.2%	0.0%	100.0%
Management and professional	0.7%	43.8%	56.3%	0.7%	40.4%	59.6%
Administrative	1.0%	96.3%	3.7%	0.9%	90.0%	10.0%
Passenger service	0.5%	62.5%	37.5%	0.6%	63.1%	36.9%
Reservations	0.5%	85.7%	14.3%	0.7%	92.6%	7.4%
Maintenance and related	2.0%	10.9%	89.1%	1.7%	11.2%	88.8%
Fleet service	0.5%	18.0%	82.0%	0.5%	15.3%	84.7%
Pilots	0.5%	6.7%	93.3%	0.5%	5.6%	94.4%
Flight attendants	0.4%	75.5%	24.5%	0.5%	69.6%	30.4%

The diversity data shown has been aggregated for presentational purposes and includes mainline employees as well as the employees of our wholly-owned regional carriers. Numbers may not add up to 100% due to rounding.

HISPANIC OR LATINO

	2022			2021		
	Total	Female	Male	Total	Female	Male
Total number of U.S. employees	22,504	38.0%	62.0%	21,038	36.9%	63.1%
Percentage of total U.S. employees	17.5%	6.7%	10.9%	17.4%	6.4%	11.0%
Percentage by category						
Director and above	8.3%	44.2%	55.8%	9.0%	44.2%	55.8%
Management and professional	15.9%	45.5%	54.5%	15.6%	43.4%	56.6%
Administrative	23.7%	68.7%	31.3%	22.7%	65.9%	34.1%
Passenger service	25.5%	66.2%	33.8%	26.2%	66.3%	33.7%
Reservations	17.6%	75.1%	24.9%	13.7%	77.6%	22.4%
Maintenance and related	15.8%	6.4%	93.6%	15.4%	6.1%	93.9%
Fleet service	25.2%	15.9%	84.1%	25.9%	15.6%	84.4%
Pilots	6.8%	5.0%	95.0%	6.2%	4.0%	96.0%
Flight attendants	12.9%	58.7%	41.3%	13.2%	56.8%	43.2%

Ethnic Composition of American's U.S. Employees (continued)

NATIVE HAWAIIAN OR OTHER PACIFIC ISLANDER

	2022			2021		
	Total	Female	Male	Total	Female	Male
Total number of U.S. employees	1,676	47.3%	52.7%	1,297	51.1%	48.9%
Percentage of total U.S. employees	1.3%	0.6%	0.7%	1.1%	0.5%	0.5%
Percentage by category						
Director and above	0.0%	-	-	0.2%	100.0%	0.0%
Management and professional	1.0%	54.4%	45.6%	0.7%	60.0%	40.0%
Administrative	1.7%	82.6%	17.4%	1.6%	73.7%	26.3%
Passenger service	2.4%	67.7%	32.3%	2.0%	70.1%	29.9%
Reservations	2.1%	86.8%	13.2%	2.7%	82.7%	17.3%
Maintenance and related	0.7%	7.3%	92.7%	0.5%	9.6%	90.4%
Fleet service	2.6%	31.4%	68.6%	2.2%	35.5%	64.5%
Pilots	0.2%	3.7%	96.3%	0.1%	0.0%	100.0%
Flight attendants	0.4%	59.5%	40.5%	0.3%	65.4%	34.6%

The diversity data shown has been aggregated for presentational purposes and includes mainline employees as well as the employees of our wholly-owned regional carriers. Numbers may not add up to 100% due to rounding.

TWO OR MORE RACES

	2022			2021		
	Total	Female	Male	Total	Female	Male
Total number of U.S. employees	4,857	47.9%	52.1%	2,513	48.3%	51.7%
Percentage of total U.S. employees	3.8%	1.8%	2.0%	2.1%	1.0%	1.1%
Percentage by category						
Director and above	2.3%	33.3%	66.7%	1.3%	33.3%	66.7%
Management and professional	3.7%	46.9%	53.1%	2.3%	44.9%	55.1%
Administrative	5.6%	75.0%	25.0%	2.9%	66.2%	33.8%
Passenger service	5.4%	66.8%	33.2%	2.8%	69.0%	31.0%
Reservations	4.3%	80.5%	19.5%	2.9%	78.6%	21.4%
Maintenance and related	2.6%	11.8%	88.2%	1.5%	14.2%	85.8%
Fleet service	3.8%	24.8%	75.2%	2.0%	25.5%	74.5%
Pilots	1.7%	6.2%	93.8%	1.2%	5.3%	94.7%
Flight attendants	4.5%	67.3%	32.7%	2.4%	73.4%	26.6%

Ethnic Composition of American's U.S. Employees (continued)

WHITE

	2022			2021		
	Total	Female	Male	Total	Female	Male
Total number of U.S. employees	60,058	36.4%	63.6%	61,407	36.0%	64.0%
Percentage of total U.S. employees	46.8%	17.0%	29.8%	50.7%	18.2%	32.4%
Percentage by category						
Director and above	68.0%	25.9%	74.1%	70.0%	28.4%	71.6%
Management and professional	48.6%	40.8%	59.2%	52.0%	39.3%	60.7%
Administrative	41.3%	73.5%	26.5%	46.2%	73.2%	26.8%
Passenger service	27.5%	65.0%	35.0%	31.5%	64.7%	35.3%
Reservations	27.2%	75.9%	24.1%	33.5%	76.9%	23.1%
Maintenance and related	58.7%	5.6%	94.4%	62.5%	5.4%	94.6%
Fleet service	24.8%	15.3%	84.7%	27.3%	15.3%	84.7%
Pilots	77.2%	5.8%	94.2%	80.1%	5.4%	94.6%
Flight attendants	56.8%	76.8%	23.2%	60.4%	76.8%	23.2%

The diversity data shown has been aggregated for presentational purposes and includes mainline employees as well as the employees of our wholly-owned regional carriers. Numbers may not add up to 100% due to rounding.

UNKNOWN

	2022			2021		
	Total	Female	Male	Total	Female	Male
Total number of U.S. employees	5,680	34.8%	65.1%	4,668	33.5%	66.5%
Percentage of total U.S. employees	4.4%	1.5%	2.9%	3.9%	1.3%	2.6%
Percentage by category						
Director and above	2.7%	21.4%	78.6%	2.5%	16.7%	83.3%
Management and professional	3.5%	42.4%	57.4%	2.5%	34.1%	65.9%
Administrative	3.1%	71.4%	28.6%	2.9%	63.2%	36.8%
Passenger service	3.5%	68.0%	32.0%	3.1%	67.0%	33.0%
Reservations	4.1%	76.3%	23.7%	2.3%	73.0%	27.0%
Maintenance and related	3.7%	8.3%	91.7%	2.8%	10.9%	89.1%
Fleet service	4.2%	20.2%	79.8%	4.1%	19.8%	80.2%
Pilots	8.1%	4.6%	95.4%	7.0%	4.6%	95.4%
Flight attendants	4.1%	71.7%	28.3%	3.7%	72.1%	27.9%

Age Composition of American's U.S. Employees		2022			2021		
Employee Category	Total	Female	Male	Total	Female	Male	
Less than 30 years old	19,877	43%	57%	17,663	41%	59%	
From 30–50 years old	49,625	40%	60%	45,744	39%	61%	
More than 50 years old	58,768	38%	62%	57,741	38%	62%	

American's Employee Turnover and Rate		2022		2021		American's New Employee Hires		2022	2021
		Turnover	Rate	Turnover	Rate	GLOBAL			
GLOBAL									
Total		29,343	21.8%	28,406	22.4%	Total		37,422	26,439
TURNOVER BY TYPE									
Voluntary		22,561	16.8%	22,765	17.9%	United States		35,885	24,908
Involuntary		6,782	5.0%	5,641	4.4%	Canada		252	184
TURNOVER BY REGION									
United States		28,227	21.0%	27,576	21.7%	Mexico, Caribbean, Latin America		934	1,270
Canada		149	0.1%	87	0.1%	Europe and Asia		351	77
Mexico, Caribbean, Latin America		747	0.6%	628	0.5%	NEW EMPLOYEE HIRES BY GENDER			
Europe and Asia		220	0.2%	115	0.1%	Female		18,025	11,947
TURNOVER BY GENDER									
Female		13,961	10.4%	13,351	10.5%	Male		19,394	14,492
Male		15,381	11.4%	15,016	11.8%	Undisclosed		3	0
Undisclosed		1	0.0%	39	0.0%				

STATEMENT AND NOTES ON GREENHOUSE GAS EMISSIONS FOR AMERICAN AIRLINES GROUP INC.

Year ended Dec. 31, 2022



KPMG LLP
Suite 1400
2323 Ross Avenue
Dallas, TX 75201-2721

Independent Accountants' Report

To the Board of Directors and Management
American Airlines Group Inc.:

We have examined the Scope 1 and Biogenic emissions and related notes, insofar as they relate to Scope 1 and Biogenic emissions, in the accompanying Greenhouse Gas ("GHG") emissions statement (the "GHG Statement") for American Airlines Group Inc. (the "Company") for the year ended December 31, 2022 (the "GHG Examination Subject Matter") included in the American Airlines 2022 Sustainability Report (the "Report"). We have also reviewed the Scope 2 and Scope 3 Category 3 and Category 4 emissions and related notes, insofar as they relate to Scope 2 and Scope 3 Category 3 and Category 4 emissions, in the GHG Statement for the Company for the year ended December 31, 2022 (the "GHG Review Subject Matter") included in the Report. Management of the Company is responsible for presenting the GHG Examination Subject Matter and the GHG Review Subject Matter in accordance with the criteria presented in Note 2 (the "Criteria"). Our responsibility is to express an opinion on the GHG Examination Subject Matter based on our examination, and to express a conclusion on the GHG Review Subject Matter based on our review.

Our examination was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants in AT-C Section 105, *Concepts Common to All Attestation Engagements*, and AT-C Section 205, *Examination Engagements*. Those standards require that we plan and perform the examination to obtain reasonable assurance about whether the GHG Examination Subject Matter is in accordance with the criteria, in all material respects. An examination involves performing procedures to obtain evidence about the GHG Examination Subject Matter. The nature, timing, and extent of the procedures selected depend on our judgment, including an assessment of the risks of material misstatement of the GHG Examination Subject Matter, whether due to fraud or error. We believe that the evidence we obtained is sufficient and appropriate to provide a reasonable basis for our opinion.

Our review was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants in AT-C Section 105, *Concepts Common to All Attestation Engagements*, and AT-C Section 210, *Review Engagements*. Those standards require that we plan and perform the review to obtain limited assurance about whether any material modifications should be made to the GHG Review Subject Matter in order for it to be in accordance with the criteria. The procedures performed in a review vary in nature and timing from and are substantially less in extent than an examination, the objective of which is to obtain reasonable assurance about whether the GHG Review Subject Matter is in accordance with the criteria, in all material respects, in order to express an opinion. Accordingly, we do not express such an opinion. Because of the limited nature of the engagement, the level of assurance obtained in a review is substantially lower than the assurance that would have been obtained had an examination been performed. We believe that the review evidence we obtained is sufficient and appropriate to provide a reasonable basis for our conclusion.

We are required to be independent and to meet our other ethical responsibilities in accordance with relevant ethical requirements related to the engagement.

The procedures we performed in our review were based on our professional judgment and consisted primarily of inquiries of management to obtain an understanding of the methodology and inputs used in deriving the GHG Review Subject Matter, recalculating a selection of the GHG Review Subject Matter based on the methodology and inputs identified by management, and performing analytical procedures over the GHG Review Subject Matter.

KPMG LLP is a Delaware limited liability partnership and a member firm of the KPMG global organization of independent member firms affiliated with KPMG International Limited, a private English company limited by guarantee.


Our examination was limited to the GHG Examination Subject Matter presented in the GHG Statement and our review was limited to the GHG Review Subject Matter presented in the GHG Statement. The Report includes other information, metrics, and prospective information that were not subject to our examination or review procedures. Accordingly, we do not express an opinion, conclusion, or any other form of assurance on such information, the assumptions and achievability of prospective information, or metrics in the Report.

As described in Note 4 of the GHG Statement, emissions data are subject to measurement uncertainties resulting from limitations inherent in the nature and methods of determining such data. Obtaining sufficient appropriate examination evidence to support our opinion and sufficient appropriate review evidence to support our conclusion does not reduce the inherent uncertainty in the data. The selection by management of different but acceptable measurement techniques could have resulted in materially different measurements.

In our opinion, the GHG Examination Subject Matter is in accordance with the Criteria, in all material respects.

Based on our review, we are not aware of any material modifications that should be made to the GHG Review Subject Matter in order for it to be in accordance with the Criteria.

KPMG LLP

Dallas, Texas
July 7, 2023

GREENHOUSE GAS EMISSIONS STATEMENT AND NOTES

Year ended Dec. 31, 2022

Statement on Greenhouse Gas (GHG) Emissions

In metric tons of carbon dioxide equivalent (CO₂e)

Scope 1 emissions	34,628,819
Biogenic emissions	27,184
Scope 2 emissions:	
Location-based method	205,818
Market-based method	125,781
Total Scope 1 and 2 emissions (market-based method)	34,754,600
Selected Scope 3 emissions:	
Category 3, fuel- and energy-related activities	7,350,276
Category 4, upstream transportation and distribution	3,477,988
Total Selected Scope 3 emissions	10,828,264

1. Reporting entity

American Airlines Group Inc. is a holding company whose primary business activity is the operation of a major network carrier headquartered in Fort Worth, Texas, providing scheduled air transportation for passengers and cargo through its mainline operating subsidiary, American Airlines, Inc. and its wholly-owned regional airline subsidiaries, Envoy Aviation Group Inc., PSA Airlines, Inc. and Piedmont Airlines, Inc. as well as contracted third-party regional carriers. American Airlines Group Inc. is hereafter referred to as "American."

2. Basis of presentation

American has prepared its greenhouse gas (GHG) emissions statement for the year ended Dec. 31, 2022, in accordance with the following standards and guidance developed by the World Resources Institute's and World Business Council for Sustainable Development's Greenhouse Gas Protocol standards and guidance (collectively, the GHG Protocol):

- GHG Protocol Corporate Accounting and Reporting Standard (revised edition)
- GHG Protocol Scope 2 Guidance: An Amendment to the GHG Protocol Corporate Standard

In addition to Scope 1, biogenic and Scope 2 emissions, American has elected to present certain Scope 3 emissions in its GHG emissions statement. These Scope 3 emissions have been calculated in accordance with the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard and related guidance.

3. Organizational boundary

American presents its emissions under the operational control approach, accounting for emissions from operations over which it or one of its subsidiaries has the full authority to introduce and implement its operating policies.

4. Use of estimates and estimation uncertainties

American bases its estimates and methodologies on historical performance, available information and various other assumptions that it believes to be reasonable. Emissions data presented are subject to measurement uncertainties resulting from limitations inherent in the nature and the methods used for determining such data. The selection of different but acceptable measurement techniques can result in materially different measurements. The precision of different measurement techniques may also vary.

5. Operational boundaries

Emissions are calculated and presented independent of any banking of GHG trades such as sales, purchases, transfers or banking of allowances.

a. Scope 1 emissions

Scope 1 emissions are direct emissions from the combustion of fuel inside the organizational boundary and include the following:

Source	Boundary description
Mobile combustion	Aircraft and ground service equipment
Stationary combustion	Boilers and furnaces
Fugitive emissions	Leaks from air conditioning and refrigeration

b. Biogenic emissions

Biogenic emissions are direct emissions from the combustion of fuels produced by biological processes of living organisms, e.g., plant or animal material, inside the organizational boundary. These include the following:

Source	Boundary description
Sustainable aviation fuel (SAF)	Consumed by aircraft on a mass-balance basis ¹
Renewable diesel fuel	Consumed by ground service equipment on a mass-balance basis
Ethanol	Consumed by ground service equipment on a mass-balance basis

c. Scope 2 emissions

Scope 2 emissions are indirect emissions from the generation of acquired and consumed electricity, steam, heat or chilled water occurring at sources outside of the organizational boundary as a consequence of activities from sources inside the organizational boundary, and include the following:

Source	Boundary description
Purchased electricity	Owned and leased office spaces, hangars and hub terminals under operational control

American has a market-based Scope 2 reduction target for 2035.

d. Scope 3 emissions

Scope 3 emissions are indirect emissions from the generation of fuel from sources outside the organizational boundary as a consequence of American's activities. American has elected to include two categories of Scope 3 emissions in its GHG emissions statement.

Source	Boundary description
Category 3, fuel- and energy-related activities (not included in Scope 1 or Scope 2 emissions)	Upstream emissions from jet fuel and renewable fuels attributable to aircraft, ground service equipment and facilities within the organizational boundary Upstream emissions from the production of electricity consumed in facilities within the organizational boundary
Category 4, upstream transportation and distribution (T&D)	Lifecycle emissions attributable to aircraft operated by contracted regional carriers that are outside the organizational boundary

¹ Mass balance tracks and accounts for the volume of fuel in a fuel system, such as a common tank or pipeline, but does not track physical fuel molecules.

6. Emissions per gas

Emissions data below for selected GHGs in metric tons of gas and in metric tons of CO₂e include only Scope 1 and Scope 2 emissions. American has included in its reporting carbon dioxide, methane, nitrous oxide and hydrofluorocarbons. Perfluorocarbons, sulphur hexafluoride and nitrogen trifluoride have been omitted because they are not material sources of GHGs for the Company.

All amounts are for the year ended Dec. 31, 2022.

	in absolute metric tons of gas			
	Carbon dioxide (CO ₂)	Methane (CH ₄)	Nitrous oxide (N ₂ O)	Hydrofluorocarbon (HFCs)
Scope 1	34,352,043	4,794	294	28
Scope 2				
- Location-based	204,811	15	2	—
- Market-based	125,099	10	1	—

	in metric tons of CO ₂ e			
	Scope 1	Scope 2	Scope 3	
Scope 1	34,352,043		142,864	80,263
Scope 2				53,649
- Location-based	204,811	432	575	—
- Market-based	125,099	295	387	—

7. Base year

American's base year for Scope 1 and Scope 2 (location and market-based) emissions is 2016. American's base year for Scope 3 emissions is 2019. American selected 2019 as the Scope 3 base year because it is the first year the Company reported emissions data at a level of aggregation that allows for comparability.

The base year is recalculated if there are changes in any of the following that are significant either individually or in aggregate:

- Structural changes in the organizational boundary, including acquisitions and divestments.
- Changes in calculation methodology or improvements in the accuracy of emission factors or activity data that result in a significant impact on the base year emissions data.

Significance is defined as changes of greater than 10% of the Company's aggregate Scope 1, Scope 2 and Scope 3 emissions.

As of Dec. 31, 2022, American has not had any structural or material methodology changes that warrant recalculating its Scope 1, Scope 2, or Scope 3 base year emissions.

American's GHG emissions fluctuate over time primarily due to the use of jet fuel in operations. As a result of the COVID-19 pandemic, our operations were significantly impacted such that our fuel consumption and associated emissions in 2020 and 2021 were lower than historical levels. As American's operations have returned to near pre-pandemic levels in 2022, associated emissions have also increased.

8. Measurement methodologies

a. Scope 1 emissions

Source	Method	Emissions factor	Inputs
Mobile combustion	Emission factors applied to volumes determined from primary use data or estimated volumes based on primary spend data	<ul style="list-style-type: none"> ▪ Volumetric factors are from the Environmental Protection Agency's (EPA) GHG Emissions Factor Hub (March 2023) ▪ Mass factors are from the GHG Protocol's most recent Cross Sector Tool (March 2017) 	Supplier invoices
Stationary combustion	Emission factors applied to volumes determined from primary use data or estimated volumes based on primary spend data	Volumetric factors are from the EPA's GHG Emissions Factor Hub (March 2023)	Supplier invoices
Fugitive emissions	Emission factors applied to estimated mass of goods purchased	Intergovernmental Panel on Climate Change Sixth Assessment Report (March 2023)	<ul style="list-style-type: none"> ▪ Supplier invoices ▪ Estimated weight ▪ Product chemical composition

Methodology descriptions

Emissions from mobile combustion by aircraft are calculated by multiplying the mass of the jet fuel consumed by emission factors. Emissions from all other mobile combustion are calculated by multiplying volumes consumed by the relevant emission factors. In the event that source documents for volumes are not available, volumes are estimated based on average spend per gallon of fuel consumed.

Emissions from stationary combustion are calculated by multiplying volumes consumed by emission factors. In the event that source documents for volumes are not available, volumes are estimated based on average spend per gallon of fuel consumed.

Fugitive emissions are calculated by multiplying the purchased weight of gases by the emissions factors for those gases.

b. Biogenic emissions

Source	Method	Emissions factor	Inputs
SAF	Emission factors applied to volumes determined from primary use data	International Civil Aviation Organization (ICAO) <i>Default Life Cycle Emissions Factors for CORSIA Eligible Fuels</i> (June 2022)	Supplier-provided reports
Renewable diesel fuel	Emission factors applied to volumes determined from primary use data	California Air Resources Board <i>Substitute Pathways and Default Blend Levels for LCFS Reporting for Specific Fuel Transaction Types</i> (2022)	Supplier-provided reports
Ethanol	Emission factors applied to volumes determined from primary use data or estimated volumes based on primary spend data	<i>Carbon Intensity of Corn Ethanol in the United States: state of the science</i> , published in Environmental Research Letters, Volume 16, Number 4 (March 2021)	Actual and estimated domestic gasoline volumes

Methodology descriptions

Emissions from SAF, renewable diesel fuel and ethanol are calculated by multiplying volumes consumed by the relevant emission factors.

c. Scope 2 emissions

Source	Method	Emissions factor	Inputs
Purchased electricity	Location-based	<ul style="list-style-type: none"> EPA Emissions and Generation Resource Integrated Database (eGRID) factors (March 2023) U.S. Energy Information Administration (EIA) <i>Commercial Buildings Energy Consumption Survey</i> (May 2016) 	<ul style="list-style-type: none"> Utility bills Square footage of buildings
Purchased electricity	Market-based	2022 Green-e Residual Mix Emissions Rates	<ul style="list-style-type: none"> Utility bills Square footage of buildings Supporting documentation of Renewable Energy Certificates (REC) from supplier

Methodology descriptions

Emissions are calculated by multiplying the amount of company-purchased electricity by the appropriate emissions factors. Electricity consumption is based on billed consumption from utility bills. At some locations, electricity is not billed directly and is included in lease payments. In those situations, consumption is estimated by applying leased square footage by electricity consumption factors from the EIA *Commercial Buildings Energy Consumption Survey*.

Location-based and market-based method estimates are based on their respective grid-average emission factors for defined geographic locations. The market-based method also accounts for RECs retired by electricity providers.

d. Scope 3 emissions

Source	Method	Emissions factor	Inputs
Category 3, fuel and energy related activities (not included in Scope 1 or Scope 2)	Volume based	<ul style="list-style-type: none"> Upstream jet fuel factor is derived from the petroleum jet fuel factor in ICAO <i>Default Life Cycle Emissions Factors for CORSIA Eligible Fuels</i> (June 2022), with the Scope 1 emissions removed SAF emissions are based on the ICAO <i>Default Life Cycle Emissions Factors for CORSIA Eligible Fuels</i> (June 2022) T&D loss is based on the 2020 Argonne National Laboratory Greenhouse Gases, Regulated Emissions, and Energy Use in Technologies (GREET) Model and International Energy Agency Emissions factors, 2011 	<ul style="list-style-type: none"> Supplier invoices Utility bills Square footage of buildings
Category 4, upstream transportation and distribution	Volume based	GHG Protocol <i>Emission Factors from Cross-Sector Tools</i> (March 2017)	Supplier invoices

Methodology descriptions

Upstream emissions from petroleum-based jet fuel are calculated by subtracting reported Scope 1 emissions from total life cycle emissions. Life cycle emissions are based on CORSIA default life cycle emission factors.

Upstream emissions from renewable fuels are calculated by applying lifecycle emissions factors, as described in the table immediately above, to fuel consumption.

Upstream emissions from electricity (T&D loss) are calculated by applying T&D factors to electricity consumption by eGRID to estimate electricity loss due to T&D. eGRID emission factors are then applied to electricity loss to estimate emissions.

Less than 1% of Scope 3, category 3 emissions were calculated using data obtained from suppliers. No Scope 3, category 4 emissions were calculated using data obtained from suppliers.

e. Global warming potentials

Global warming potential for all GHGs were sourced from the Intergovernmental Panel on Climate Change Sixth Assessment Report.



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ASSURANCE STATEMENT

Context

VERIFAVIA SAS ('VERIFAVIA') has been engaged by American Airlines Group to perform an independent verification of selected pieces of Environmental Performance data for the calendar year 2022 (January 1st, 2022 – December 31st, 2022) as presented in the American Airlines 2022 Sustainability Report. The verification was performed to a limited level of assurance.

GHG Emissions Intensity

Passenger fuel consumption (Liters/100 passenger-kilometers)	3.792
Cargo fuel consumption (Liters/ton kilometers transported)	0.379
Passenger NOx intensity (g of NOx/passenger kilometer)	0.049
Cargo NOx intensity (g of NOx/ton kilometer)	0.723

Standardized Energy Consumption

Total Nonrenewable Energy Consumption (MWhs)	129 784 573
Total Renewable Energy Consumption (MWhs)	285 172

Water

Water use for American's major facilities, excluding airports (Gallons)	480 117 149
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American Airlines Group holds the responsibility for preparing and presenting the Group's Environmental Performance data, which includes the reported annual environmental data and related information. We are responsible for providing an Assurance Statement on the selected reported environmental performance data found in American Airlines Group's Sustainability Report and in the table above. VERIFAVIA disclaims any liability or responsibility to a third party for decisions, whether an investment or otherwise, based on this Assurance Statement.

Criteria

We conducted the independent audit based on the following verification criteria for Greenhouse Gas emissions:

- ISO 14065:2013 – *Greenhouse gases – requirements for greenhouse gas validation and verification bodies for use in accreditation or other forms of recognition*
- ISO 14064-3:2019 – *Greenhouse Gases – Specification with guidance for the verification and validation of greenhouse gas statements*

Responsibilities

American Airlines Group is solely responsible for the preparation and reporting of its environmental performance data, for any information and assessments that support the reported data, for determining the company's objectives in relation to

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GHG information and management, and for establishing and maintaining appropriate performance management and internal control systems from which reported information is derived.

In accordance with the verification contract, it is our responsibility to form an independent opinion, based on the examination of information and data presented, and to report that opinion to American Airlines Group. We also report if, in our opinion:

- The environmental performance reported data is or may be associated with misstatements (omissions, misrepresentations, or errors) or non-conformities; or
- the verification team/verifier has not received all the information and explanations that it requires to conduct its examination; or
- improvements can be made to the company's performance in monitoring and reporting GHG inventory data.

We conducted our examination having regard to the verification criteria documents listed above. Also, discussions with the staff responsible to give us limited assurance that the amounts and disclosures relating to the data have been properly prepared in accordance with the requirements of the Greenhouse Gas Protocol in terms of relevance, completeness, consistency, transparency, and accuracy. This also involved assessing where necessary estimates and judgements were made by American Airlines Group in preparing the data and considering the overall adequacy of the presentation of the data.

Independence statement

We confirm that VERIFAVIA and the verification team are independent of American Airlines Group and have not assisted in any way with the development of the Environmental Performance data or in the preparation of any text or data provided, except for this Assurance Statement.

Opinion

We conducted a verification of the activity data reported by American Airlines Group as presented above. Based on the verification work undertaken, these data are fairly stated and contain no material misstatements or material non-conformities.

Paris, 16 August 2023



Mathias Grossmann
Aviation & Airports Director
VERIFAVIA SAS



Lizeth Claudio
Aviation Lead Auditor
VERIFAVIA SAS

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 SCIENCE
BASED
TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

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Approved science-based target

The Science Based Targets initiative has validated that the corporate greenhouse gas emissions reduction target(s) submitted by

American Airlines Inc.

have been deemed to be in conformance with the SBTi Criteria and Recommendations (version 4.2). The SBTi's Target Validation Team has classified your company's scope 1 and 2 target ambition and has determined that it is in line with a well-below 2°C trajectory.

The official target wording is:

American Airlines Group Inc. commits to reduce well-to-wake GHG emissions related to jet fuel 45% per revenue ton kilometer from owned and subcontracted operations by 2035 from a 2019 base year.

**The target boundary includes biogenic emissions and removals from bioenergy feedstocks.*

***Non-CO₂e effects which may also contribute to aviation induced warming are not included in this target. American Airlines Inc. commits to report publicly on its collaboration with stakeholders to improve understanding of opportunities to mitigate the non-CO₂e impacts of aviation annually over its target timeframe. American Airlines Group Inc. also commits to reduce absolute scope 2 GHG emissions by 40% over the same target timeframe.*

Date of issue: Apr, 2022

Certificate Number: AMAI-USA-001-OFF

An initiative by



Forward-Looking Statements

Certain of the statements contained in this report should be considered forward-looking statements within the meaning of the Securities Act of 1933, as amended, the Securities Exchange Act of 1934, as amended, and the Private Securities Litigation Reform Act of 1995. These forward-looking statements may be identified by words such as "may," "will," "expect," "intend," "anticipate," "believe," "estimate," "plan," "project," "could," "should," "would," "continue," "seek," "target," "guidance," "outlook," "if current trends continue," "optimistic," "forecast" and other similar words. Such statements include, but are not limited to, statements about the company's plans, objectives, expectations, intentions, estimates and strategies for the future and other statements that are not historical facts. These forward-looking statements are based on the company's current objectives, beliefs and expectations, and they are subject to significant risks and uncertainties that may cause actual

results and financial position and timing of certain events to differ materially from the information in the forward-looking statements. These risks and uncertainties include, but are not limited to, those set forth herein as well as in the company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2023 (especially in Part I, Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations and Part II, Item 1A. Risk Factors), and other risks and uncertainties listed from time to time in the company's other filings with the Securities and Exchange Commission. Additionally, there may be other factors of which the company is not currently aware that may affect matters discussed in the forward-looking statements and may also cause actual results to differ materially from those discussed. The company does not assume any obligation to publicly update or supplement any forward-looking statement to reflect actual results, changes in assumptions or changes in other factors affecting these forward-

looking statements other than as required by law. Any forward-looking statements speak only as of the date hereof or as of the dates indicated in the statement.

A Note on Materiality

This report contains statements based on hypothetical scenarios and assumptions as well as estimates or topics that are subject to a high level of uncertainty, and these statements should not necessarily be viewed as being representative of current or actual risk or performance, or forecasts of expected risk or performance. While certain matters discussed in this report may be significant, any significance should not be read as necessarily rising to the level of materiality used for the purposes of complying with or reporting pursuant to the U.S. federal securities laws and regulations, even if we use the words "material" or "materiality" in this report.

Learn more about how American Airlines manages sustainability at www.aa.com/sustainability

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