



RUNWAY

04

➤ Becoming the Airline of
Choice for the
Next Generation
through Sustainability

Key Points in This Chapter

- GX Strategy Aimed at Achieving Sustainability for Both the Airline Industry and Society
- Promoting the Use of SAF across Industry Boundaries

Measures for Sustainability of Natural Capital

Message from the Director in Charge of Green Transformation Strategy

Enhancing Corporate Value by Achieving Both Climate Goals and Business Growth through Our Green Transformation Strategy



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Turning Green Transformation from Risk Mitigation into a Driver of Growth

Air transportation provides vital social infrastructure for the movement of people and goods, but its high CO₂ emissions also mean that reducing its environmental impact is an important imperative. The JAL Group's enduring mission is to transport passengers and cargo safely to their destinations. Looking ahead, we believe that addressing climate change must become an equally important part of our role in society.

The aviation industry is currently putting in place international frameworks to reduce CO₂ emissions. Decarbonization requires greater use of sustainable aviation fuel (SAF), carbon credits, and other measures, but this also brings challenges, including higher procurement costs and limited supply.

We do not, however, see these changes simply as risks. We consider them as opportunities to make our business more sustainable and more competitive through our green transformation (GX) strategy. We believe it is essential to take the initiative in driving decarbonization forward, working across the entire supply chain with aircraft manufacturers to reduce environmental impact, promoting the mass production of SAF, and securing high-quality carbon credits.

In the JAL Group Management Vision 2035 announced in March this year, we describe our envisioned future as a Sustainable Well-being Future. This reflects our determination to pass on a prosperous way of life in harmony with nature to future generations and to create relationships and societal connections through the movement of people and goods. Over the long term, our goal is to ensure that environmental and social sustainability go hand in hand with the sustainability of our own business. Our Green Transformation strategy is essential to making this vision a reality.

In recent years, as environmental awareness has grown, a company's approach to environmental issues is increasingly influencing customers' preference. I believe that consistently demonstrating our genuine commitment to the environment will also enhance the JAL Group's brand value.

For example, by introducing the state-of-the-art Airbus A350, we have reduced CO₂ emissions by approximately 20

percent compared to previous-generation aircraft. In fact, some customers choose the A350 for its environmental performance and comfort. Improving environmental performance is not simply a cost. It can also be a reason for customers to choose JAL.

At the same time, Green Transformation inevitably comes with additional costs. It is therefore important that we actively participate in rulemaking and help develop frameworks that allow the cost of decarbonization to be shared across society, rather than placing a disproportionate burden on particular industries. For the JAL Group, Green Transformation is a management strategy in its own right and by addressing climate change, we aim to reduce our capital cost and business risks while also driving business growth, thereby increasing corporate value.

Advancing Decarbonization through the Five Pillars of Our Green Transformation Strategy

The JAL Group is advancing its Green Transformation strategy through five pillars, namely upgrading to more fuel-efficient aircraft, operational innovations, using SAF, utilizing carbon credits and new technologies for removal of CO₂.

We are already seeing tangible results by upgrading to more fuel-efficient aircraft. By replacing existing aircraft with newer models, including the Airbus A350, we reduced CO₂ emissions by approximately 500,000 tonnes in FY2025. Over the medium to long term, we are also looking ahead to next-generation technologies such as hydrogen-powered and electric aircraft. We have already begun working with startups to explore promising technologies for the future.

Next is operational innovations. This involves reducing CO₂ emissions through a series of day-to-day improvements, from optimizing flight routes to improving operational practices. What makes this initiative particularly important, in my view, is that frontline employees take the initiative and work together across different roles to drive these efforts forward.

The next pillar is the use of SAF. SAF is currently the most

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effective means of reducing CO₂ emissions because it can replace with the aviation fuel we use today without requiring major changes with to existing aircraft or infrastructure. However, significant challenges remain, including costs several times higher than conventional fuel and limited supply.

The JAL Group achieved its target of one percent SAF usage in FY2025 and aims to increase this to 10 percent by FY2030. Achieving this target, however, will not be easy. That is why it is essential that we work together with our partners rather than trying to tackle this challenge alone. To help expand production and lower costs, the JAL Group is pursuing a range of initiatives, including investing through **oneworld**, the global airline alliance, in a fund that supports startups and promoting SAF production in Japan.

The fourth pillar is the use of carbon credits. We have begun procuring and retiring credits eligible under CORSIA,* the international framework established by the ICAO. As demand and prices are expected to rise, we are placing strong emphasis on credit quality while also helping to build a reliable market. In addition, we are pursuing initiatives such as blue carbon that contribute to regional revitalization, with the aim of creating both environmental and social value.

For the final pillar, new technologies for removal of CO₂, we are taking a medium- to long-term approach. New technologies such as direct air capture (DAC) and direct ocean capture (DOC), which capture CO₂ directly from the atmosphere and oceans, are not yet commercially viable, but we believe they will be essential to achieving net-zero emissions by 2050. The JAL Group is investing in and collaborating with startups in these fields to help bring these technologies to practical use in the future.

Making Green Transformation Personal for Every Employee is the Driving Force Behind Our Green Transformation Strategy

I believe that the most important factor in advancing our Green Transformation strategy is for every employee to see Green Transformation as something that directly concerns them.

Simply setting out policies and strategies is not enough. They only become effective when they are translated into action.

A prime example is the operational innovations discussed earlier. Frontline employees make continuous improvements in their day-to-day operations, and seeing the tangible results of their efforts in the form of lower CO₂ emissions gives them a strong sense of fulfillment. I believe that the process of working together across roles and departments and steadily achieving results is itself a driving force in embedding our Green Transformation strategy throughout the organization.

Some initiatives have also originated with frontline employees. One example is an effort to reduce the use of plastic bags at airports to protect customers' baggage. After seeing the large volume of plastic bag being discarded, employees spoke up about wanting to change the situation. With customers' understanding and cooperation, we were able to reduce our use of single-use plastic by 87 tonnes a year.

To help conserve biodiversity, we are also working to prevent the illegal removal of wildlife and plants from islands and other areas to protect their unique ecosystems. Airport employees have taken ownership of this issue and are working with relevant authorities and companies to prevent illegal removal at the source. Precisely because our business can affect the natural environment, I believe it is important that we reflect on our own work and turn that awareness into responsible action.

Going forward, we will need to focus even more on creating economic value alongside social value. This means viewing environmental challenges as opportunities for growth and finding ways to turn them into viable businesses. Creating both social and economic value, making the results visible, and establishing an environment in which employees can see the value of their efforts will ultimately lead to greater corporate value.

Working with Our Stakeholders to Achieve Net-Zero Emissions in 2050

Achieving Green Transformation involves a degree of risk, as it requires investment in new and as-yet-unproven technologies.

However, if we are to pass on a sustainable society to future generations, we must be willing to share those risks across society and move forward together. "Looking beyond the boundaries of our industry and working together with society to shape the future." This is the commitment that drives my efforts to advance Green Transformation.

In recent years, we have published a joint report with other companies to promote SAF production across the industry, while also expanding our efforts beyond the aviation sector. Through a project that collects used cooking oil from households for use as SAF feedstock, we are also giving customers an opportunity to participate in Green Transformation. I believe these initiatives do more than help secure fuel supplies. They also encourage society as a whole to recognize the challenges we face and take action together.

In addition, we are expanding initiatives that create social value together with our customers, including recycling paper cups used for inflight services and, utilizing a portion of fares on certain routes to support environmental conservation. a portion of fares to support environmental conservation. Through these efforts, we hope to build broader awareness of environmental challenges across society and encourage customers to share in the JAL Group's vision and join us in working toward a sustainable society.

Achieving net-zero emissions by 2050 will by no means be easy. However, given the scale of the impact this would have on society, we believe that the greater the challenge, the more worthwhile it is to pursue. We will continue to strengthen our partnerships with stakeholders, turn our response to climate change into greater corporate value, and take on the challenge of building a sustainable future.

* Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA): A scheme by the International Civil Aviation Organization (ICAO) that requires airlines operating international flights to purchase eligible credits to offset CO₂ emissions exceeding 85 percent of 2019 levels.

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Environmental Management, TCFD and TNFD Governance and Risk Management

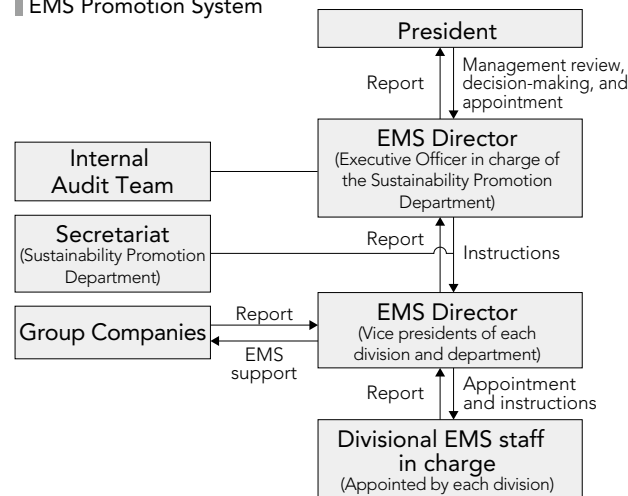
Policies and Structure

The JAL Group recognizes the significant impact that the aviation business has on the environment and has established the JAL Group Environmental Policy to passing on our precious Earth to the next generations.

Based on this policy, we have established an Environmental Management System (EMS) to promote environmental conservation activities effectively and drive continuous improvement. Each company and division sets targets and action plans linked to management targets and materiality, including reducing CO₂ emissions and single-use plastics. Through quarterly reviews and annual internal audits, we verify compliance with laws and regulations, conformity with the system, and progress toward our targets. When nonconformities are identified, we take corrective action, analyze the causes, and review the effectiveness of the measures taken. Urgent issues are addressed through our risk management program.

In 2021, JAL Royal Catering Co., Ltd., which provides inflight meals, obtained ISO 14001:2015 certification, the international standard for environmental management systems. It passed its recertification audit in 2024 and has continuously been certified as of 2026.

EMS Promotion System



Comprehensive Approach to TCFD and TNFD

JAL Group aims to comprehensively address climate change and biodiversity, which are particularly important issues for the sustainability of society, because the preservation and restoration of nature strengthen the social infrastructure. We analyzed the risks and opportunities that various social issues, including environmental issues, pose to society and business risks, and in 2021 we began disclosing information in line with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), and in 2023, we made an advance disclosure of information in compliance with the Task Force on Nature-related Financial Disclosures (TNFD).

Governance

The JAL Group's Board of Directors receives regular reports (twice in FY2025) regarding executive initiatives on climate change and biodiversity, and exercises a strong supervisory function. Under high transparency, they exercise strong management oversight through the selection of the board nominees, executive officers and their remuneration as well as strategic decisions. In execution, the Sustainability Promotion Council, chaired by the president, formulates basic policies, sets important targets and manages progress, and deliberates and decides on policies to deal with issues.

The Sustainability Promotion Committee, chaired by the Executive Officer in charge of Sustainability Promotion Department, deliberates on issues identified through the EMS and issues confirmed through the Green Transformation-Related Officers Committee (held 9 times in FY2025), and reports the results to the Sustainability Promotion Committee.

The Board of Directors has identified seven key issues (materiality) in overall sustainability to address social issues through business. Based on our strong will to achieve sustainable business operations and increased corporate value through steady efforts to address these issues, we reflect external ESG assessments and the targets for reduction of CO₂ emissions as indicators in our officer remuneration. In addition, we place respect for human rights and conservation of biodiversity at the core of our management issues. We promote sustainable business strategies in line with the TNFD framework, and strive to build a sustainable supply chain,

including respect for human rights and appropriate labor practices.

Key Matters Submitted to the Board of Directors and Sustainability Promotion Council in FY2025

- Progress status of key sustainability issues and annual targets
- Decisions on responses to climate change- and biodiversity-related risks and opportunities
- Monitoring and evaluation of the EMS
- Monitoring and evaluation of human rights due diligence

For more information on our sustainability governance framework, click here. [P.35](#)

Risk Management

The JAL Group defines risk as an event or action that may impede the achievement of the organization's mission, objectives, or goals, and conducts semiannual risk surveys and assessments. Those assessed as particularly important are positioned as priority risks, and the Group Risk Management Council, chaired by the president, confirms the status of risk management and deliberates and decides on countermeasures. With regard to environmental issues such as climate change and biodiversity, which are key issues in our management strategy, we implement risk management through the PDCA cycle based on the EMS, while taking into consideration relevant laws, regulations, and policy trends in the international community.

Addressing Climate Change (TCFD) and Green Transformation Strategy

Basic Concept

The JAL Group recognizes that taking action on climate change is a particularly important issue for the sustainability of society. In June 2020, we announced our commitment to achieve net zero CO₂ emissions in 2050, in order to steadily promote various initiatives, including the reduction of CO₂ emissions in order to fulfill our responsibilities as an air transport operator.

For more information, please refer to our TCFD disclosures.

 [Website | JAL Group Environmental Policy](https://www.jal.com/en/sustainability/environment/environment-management/policy/)

<https://www.jal.com/en/sustainability/environment/environment-management/policy/>

Strategy

Scenario Analysis

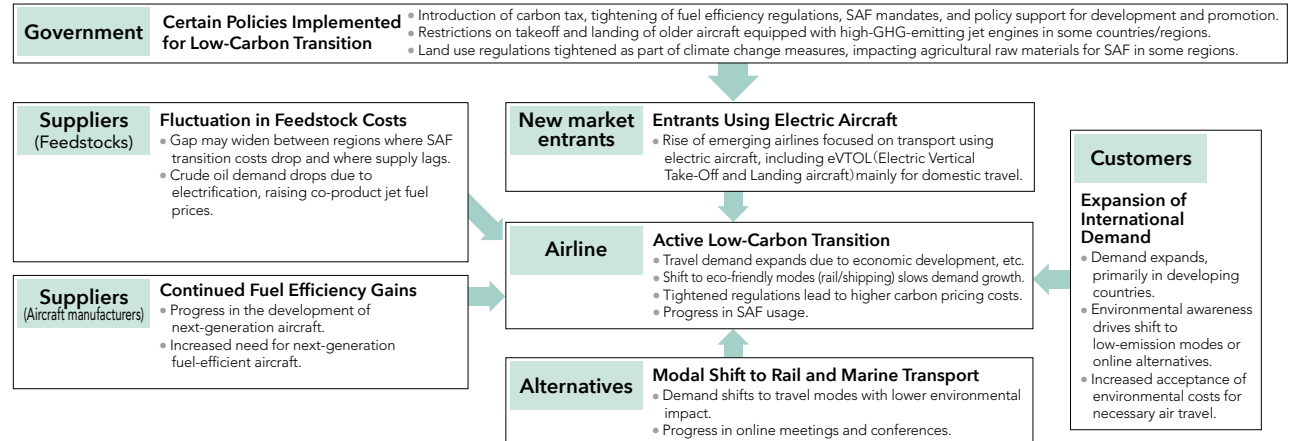
In 2018, the JAL Group considered what society might look like in 2030 based on scenarios developed by the International Energy Agency (IEA) and the Intergovernmental Panel on Climate Change (IPCC). We subsequently reviewed our scenario analysis in response to updates to these scenarios and changes in the business environment. Our analysis has now been updated to consider society in 2040 based on IEA scenarios and two IPCC scenarios representing warming of 4° C and 1.5° C (SSP5-8.5*¹ and SSP1-1.9*², respectively).

*1 SSP5-8.5 scenario: A high-emissions scenario in the IPCC Sixth Assessment Report in which no climate policies are introduced under fossil fuel-driven development and CO₂ emissions double from current levels by 2050.

*2 SSP1-1.9 scenario: A low-emissions scenario in the IPCC Sixth Assessment Report in which climate policies are introduced under sustainable development to limit warming to approximately 1.5° C or less by the end of the 21st century, with net-zero CO₂ emissions achieved around 2050.

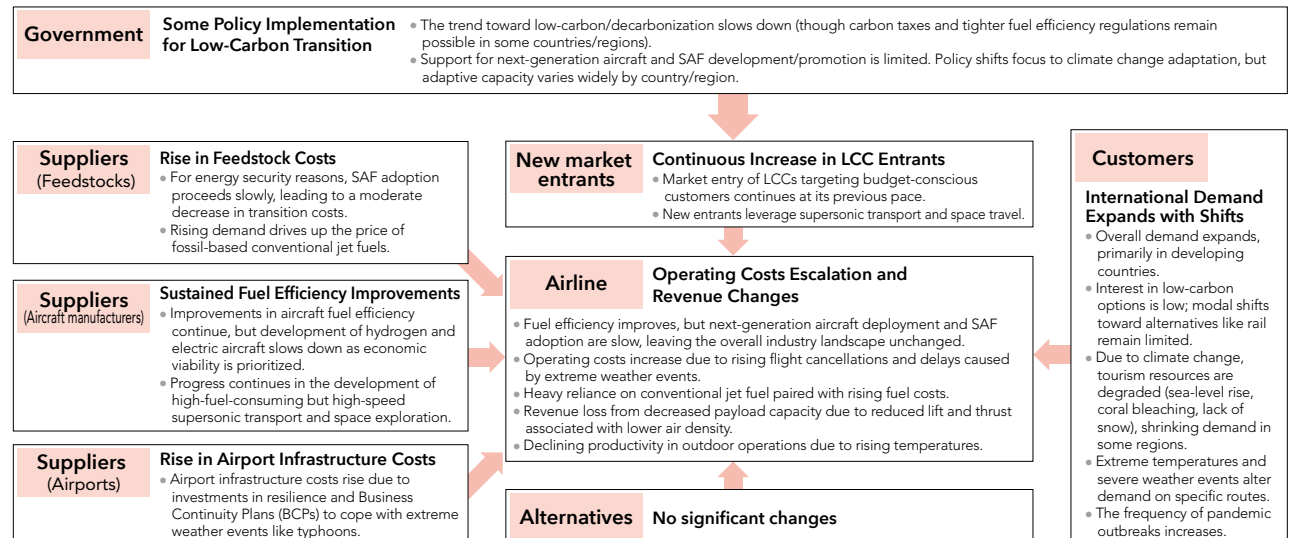
1.5°C Scenario

A world where supply chains and business models must be renewed due to the promotion of SAF and the impact of modal shifts



4°C Scenario

A world where the impacts of climate change are normalized, and conventional common sense in aviation no longer applies



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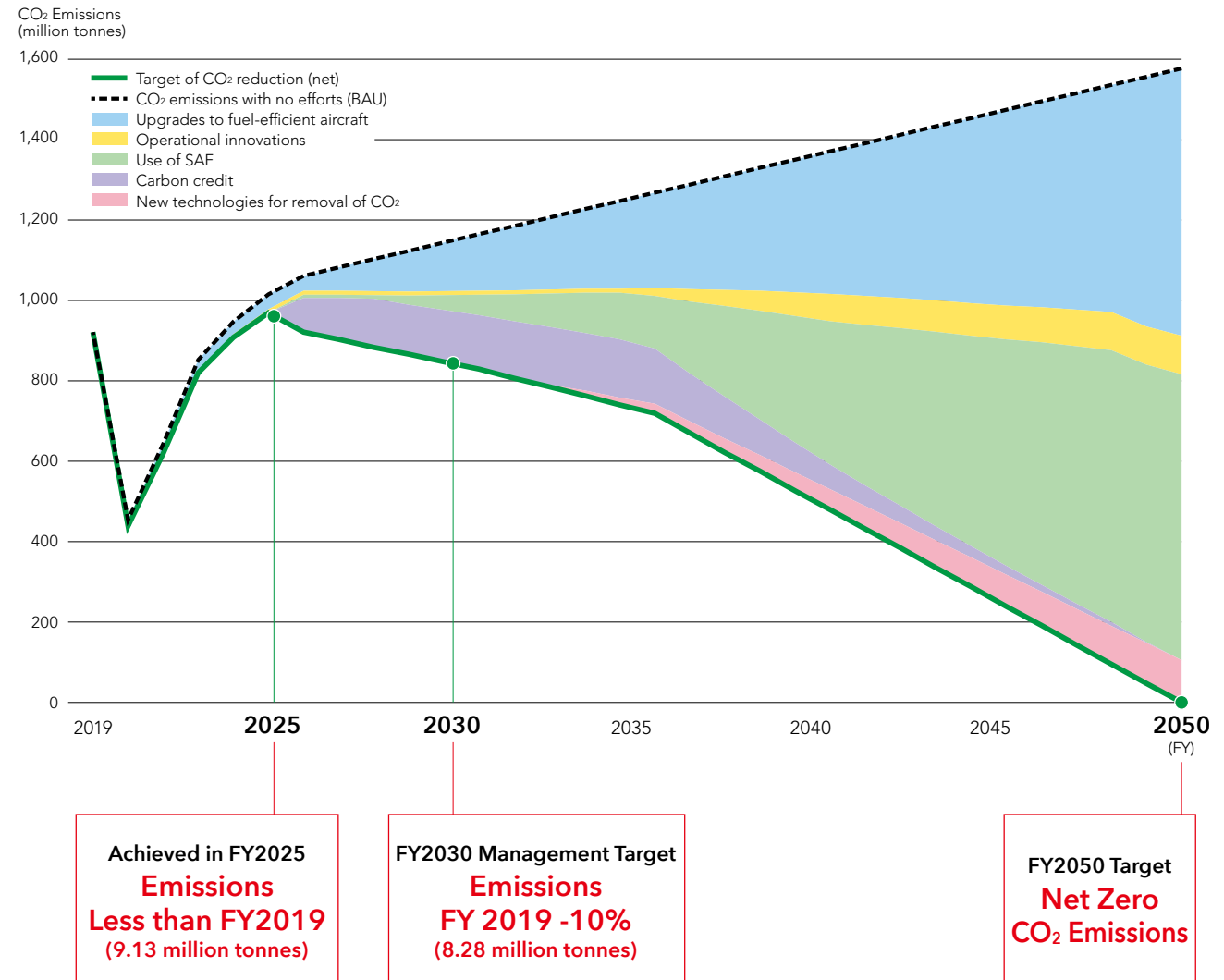
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JAL Group's Transition Plan to Achieve Net Zero CO₂ Emissions

Based on the 1.5° C scenario, the JAL Group set a target of net zero CO₂ emissions in 2050 at the shareholders meeting in June 2020. Subsequently, a specific roadmap was created in consideration of risks and opportunities based on the IEA scenario and other factors, which was reflected in the "JAL Group Medium-Term Management Plan 2021-2025" in 2021 and the latest version has been published in the JAL Group Management Vision 2035 announced in March 2026. This roadmap outlines a strategy to achieve net zero emissions by offsetting the approximately 10% of residual emissions that will remain in 2050—even after maximizing reductions through the upgrades of fuel-efficient aircraft, operational improvements, and SAF—by utilizing new technologies for removal of CO₂.

With regard to the reduction of CO₂ emitted by the JAL Group's aircraft, we are studying scenarios for CO₂ reduction by 2050, referring to the latest study materials from the ICAO and the IATA and the latest scenarios such as "WAYPOINT 2050"*1 of ATAG, and discussing future issues and measures to take. In preparing the scenarios, we calculated the total CO₂ emissions by 2050 by setting the growth of RTK (Revenue Tonne Kilometers) based on total demand for both international and domestic flights, and reflected the effects of each initiative.

*1 ATAG Waypoint 2050: A decarbonization scenario developed by the Air Transport Action Group (ATAG), a global coalition promoting sustainability in the aviation industry.
<https://aviationbenefits.org/other-environmental-challenges/climate-action/waypoint-2050/>

Revision of the JAL Group's Road Map towards Net Zero CO₂ Emissions in 2050

Addressing Climate Change (TCFD) and Green Transformation Strategy

Risks and Opportunities

Climate change will have a negative impact on the air transport business, which is based on the premise of operating in a society that is safe with peace of mind, and, as a result, it could pose an enormous risk to the business continuity. Especially in recent years, there have been many examples of physical risks manifested by climate change.

In addition, the response to climate change, including the

reduction of CO₂ emissions by airlines, could have various financial impacts, such as upgrading to fuel-efficient aircraft and responding to carbon pricing. The JAL Group organizes and examines these factors that affect its business in accordance with the TCFD classification of risks and opportunities related to climate change and lists them in the table below. The classifications of “period” and “impact of occurrence” are as specified below. The following was reviewed at the Board of Directors meeting on August 3, 2026.

Classification		Impact Period
Short term	FY2026	
Medium term	FY2027 to FY2030 (The period set as the management goal and midway point of the JAL Group Management Vision 2035)	
Long term	FY2031 to FY2035 (The period of the JAL Group Management Vision 2035)	
Classification		Revenue or Expenses as Incurred (annual)
Small	Less than JPY 3 billion	
Medium	More than JPY 3 billion but less than JPY 30 billion	
Large	More than JPY 30 billion	

Risks

Classification	Risk Overview		Period	Impact of Risks	Our Response to Risk Reduction	Actions in FY2025
Transition risks Policy and regulations Technology Market Reputation	Carbon Credits	Increased cost of purchasing carbon credits due to tighter CO ₂ emission regulations in various countries	Short to long term	Small to medium	- Procurement of carbon credits at stable and reasonable prices - Public-private partnership through the Scheduled Airlines Association of Japan for analysis of supply-demand balance and cost projections for CORSIA*1 Eligible Emissions Units - Formation and participation in the domestic carbon emissions trading market through participation in the GX Future League - Foster the carbon credit industry	- Established the JAL Group Carbon Credit Utilization Guidelines. - Demonstrated compliance and sent demand signals by pioneering retirement of CORSIA-eligible credits. - Built knowledge on high-quality procurement through information exchange with CVC-investee BeZero Carbon Limited. - Contributed to the domestic credit industry by utilizing J-Blue Credits through Hokkaido Air System (HAC) (purchased in Rishirifuji Town, retired in Okushiri Town).
	SAF	Insufficient supply due to delays in development, production, and dissemination of SAF Impact on balance of payments due to high prices of SAF	Short to long term	Medium to large	- Procurement of SAF from producers on a long-term basis and at favorable prices, either individually or through an alliance - Active involvement in domestic SAF production and expansion of SAF procurement points - Collaborate with several sectors, including aviation and energy etc. to request support from the government and relevant stakeholders for both SAF producers and users, and engagement in rule-making, including regulations - Foster social momentum to promote the use of SAF throughout the supply chain	- Concluded contracts with domestic/foreign suppliers to meet 1% SAF replacement goal for 2025. - Promoted the "Let's Fly with Used Cooking Oil" project (262 collection points established at municipalities, retailers, etc., nationwide as of the end of FY2025). - Engaged with stakeholders, including exchange of opinions with the government and petroleum wholesalers. - Participated in the policy-making process for the deployment of domestically produced SAF by 2030 through engagement in the "Public-Private Council for the Promotion of SAF" (2 meetings) and the "Task Force on Further Promotion of SAF" (7 meetings).
	Ground Vehicles	Increased costs of electrification of vehicles and using alternative diesel fuels Delays in the development of airport facility infrastructure for the use of electric vehicles	Short to medium term	Small	- Request support from the government and other relevant agencies for the replacement of vehicles with electric-powered ones and the use of alternative diesel fuel - Request support from the government and other related parties for the development of airport infrastructure for the use of electric vehicles - Build momentum to promote airport infrastructure development	- Utilized subsidies for new electric vehicle implementation. - Lobbied the relevant authorities for charging infrastructure. - Participated in the Hydrogen Supply System Study Council (including pipelines) in Tokyo. - Engaged in technical discussions with airport authorities for charging standards (standardization of charging specifications and connectors). - Utilized government subsidies for the expansion of electric vehicle charging infrastructure at Narita and Haneda Airports.
	Aircraft	Delay in development of aircraft using new technologies such as hydrogen and electric power, and development of airport infrastructure	Long term	Large	- Collaboration with next-generation aircraft development startups - Collaborate and cooperate with government and airframe and engine manufacturers	- Concluded an MOU with Maeve Aerospace GmbH to promote the development of hybrid-electric aircraft aiming to transform regional aviation. - Participated in the "Public-Private Council on New Technologies for Aircraft Decarbonization" and promoted initiatives aligned with the "New Technology Roadmap for Aircraft Decarbonization."

*1 CORSIA: Carbon Offsetting and Reduction Scheme for International Aviation

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Addressing Climate Change (TCFD) and Green Transformation Strategy

Risks

Classification	Risk Overview		Period	Impact of Risks	Our Response to Risk Reduction	Actions in FY2025
Transition risks Policy and regulations Technology Market Reputation	Demand	Decrease in preference due to delayed response to climate change, and slowdown in growth of air transport demand in Japan due to modal shift	Medium to long term	Small to medium	- Promote the value of air travel based on thorough CO₂ reduction efforts - Build momentum by strengthening communication of environmentally friendly measures, such as the "Sustainable Challenge" project, communication of SAF's planned procurement progress, participation in symposiums, etc.	- Participated in "Fry to Fly Project" events celebrating domestic SAF supply at Kansai and Haneda airports. - Participated in "Kankyo Hiroba Sapporo" in collaboration with the Scheduled Airlines Association of Japan to raise awareness and build momentum for SAF, promoting aviation decarbonization initiatives to the next generation. - Participated in the "SAF Awareness Promotion Campaign at Narita Airport: Taking Flight with SAF Toward the Sustainable Future of Air Travel" triggered by COP30. - Conducted joint public-private advocacy activities with the Ministry of Land, Infrastructure, Transport and Tourism and partner companies to promote the necessity and future potential of SAF through newspaper advertisements. - Conducted awareness-raising activities for SAF by speaking at and exhibiting a booth at the "Carbon Neutral Symposium for the Sky Vol.4" co-hosted by the Ministry of Land, Infrastructure, Transport and Tourism and the Agency for Natural Resources and Energy.
	Operation	Impact on revenue and expenditures due to decrease in total passengers and increase in flight cancellations caused by climate disasters due to extreme weather events and changes in precipitation and climate patterns	Short to long term	Medium	- Strengthen crisis management capabilities against typhoons and other disasters - Strengthen efforts to avoid the impact of turbulence and lightning strikes on flight operations - Strengthen efforts to avoid the impact of high temperature weather on employees - Public-private partnerships, including participation in study groups on disaster response at airport facilities	- Conducted a review meeting after the typhoon season to discuss successful response cases and issues with Group companies and airports, and reflected the results in typhoon preparations for the following season. - Broadcast inflight videos to encourage passengers to always fasten their seatbelts to prevent injuries caused by sudden turbulence during the flight. - Conducted a cross-divisional campaign to prevent injuries caused by turbulence. - Participated in the "Real-time Turbulence Prediction Project," a collaborative industry-academia-government initiative to predict clear-air turbulence in real-time, contributing to improved flight safety and reduced environmental impact. - Distributed air-conditioned vests for ground handling staff and maintenance engineers to prevent heat stroke. - Commenced atmospheric observations using Boeing 787-9 aircraft under the "CONTRAIL" project, an ongoing atmospheric observation program using aircraft since 1993.
Physical risks Acute Chronic		Impact on air transportation business of a pandemic outbreak of infectious disease caused by ecological and other changes due to rising average temperatures	Long term	Large	- Provide a "safe and secure" flight safety environment through infectious disease countermeasures - Formulate flexible flight operation plans based on passenger demands	Participated in an exercise hosted by the Cabinet Agency for Infectious Disease Crisis Management as a designated public institution under the Act on Special Measures against Novel Influenza.
	Demand	Due to long-term climate change, decrease in demand due to degradation of tourism resources (e.g., lack of snow, degradation of landscape, changes in local products)	Long term	Large	- Create "relationships and societal connections" between people and people, people and goods, and regions through air transportation to solve social issues - Promote tourism resource conservation activities in cooperation with local governments and companies in each country and region - Promote efforts to preserve tourism resources by taking advantage of the characteristics of the air transportation business	- Announced an ecosystem for creating well-being through the co-creation of "relationships and social connections" in the JAL Group Management Vision 2035. - Launched dual residency initiatives, which propose a new lifestyle based on dual-residence living, and started co-creation with JR-EAST. - Promoted "JAL Tabi-Academy," a program for visiting local communities to learn about local issues. - Expanded collaboration agreements with local governments and regional companies (e.g., Sapporo City, Setouchi Village Inc., Japan-America Society of Hawaii). - Promoted red tide monitoring in cooperation with Hokkaido University, utilizing scheduled flight aircraft to detect red tide outbreaks at an early stage and promptly provide information to fishery-related personnel to prevent damage to the fishing industry.

Opportunities

Classification	Opportunity Overview		Period	Impact of Opportunities	Our Response to Expanding Opportunities	Actions in FY2025
Opportunities Resource efficiency Energy Sources Resilience Markets Products and services	Operation Aircraft	Reduction in fuel consumption through improved fuel efficiency and CO ₂ reduction through improved infrastructure, including operational innovations, technological improvements to aircraft, and more sophisticated air traffic control (credit purchase cost reduction)	Short to long term	Large	- Reduce CO₂ through innovations in daily operations and aircraft upgrades - Collaborate with manufacturers, government, and other related parties for introduction of more sophisticated air traffic control and aircraft with new technologies - Diversify financing (ESG finance) - Steadily introduce of fuel-efficient aircraft (Airbus A350-900, A350-1000, A321neo, Boeing 787-9, 737-8)	- Applied large-area riblet shaped paint to Boeing 787 aircraft operated by ZIPAIR. - Deepened public-private partnerships through participation in study groups regarding CO₂ reduction in aircraft operations. - Routinely coordinated with aircraft manufacturers to ensure reliable aircraft delivery. - Renewed fleet to fuel-efficient aircraft (Taking delivery of 2 Airbus A350-900 and 3 Airbus A350-1000 aircraft; retiring 3 Boeing 777-300ER aircraft).

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Opportunities

Classification	Opportunity Overview		Period	Impact of Opportunities	Our Response to Expanding Opportunities	Actions in FY2025
Opportunities Resource efficiency Energy Sources Resilience Markets Products and services	SAF	Diversification of fuel supply sources to ensure a stable supply of aircraft fuel and reduce prices and costs	Short to long term	Small to medium	• Procure SAF consisting of multiple manufacturing methods • Build momentum to expand the use of SAF in Japan through the all-Japan SAF through ACT FOR SKY, etc. • Contribute to the procurement of used cooking oil and wood-derived bioethanol as feedstocks for SAF • Collaborate between the public and private sectors through public-private councils, among others, to solve technical and economic issues in domestic SAF production, such as CAPEX support for SAF production and supply side through GX Transition Bonds, support for business operation costs including SAF feedstock procurement, and how to support incentives • Foster social momentum to promote the use of SAF throughout the supply chain	• Invested in Morisora Biorefinery LLC to advance plant construction and aim for purely domestic bioethanol production starting in 2027, as part of the “MORISORA Project,” which targets bioethanol production from domestic wood for SAF use. • Concluded a memorandum of understanding (MOU) with the Hongo Reforestation Research Institute Inc. to study local production for local consumption of SAF, aiming to build a manufacturing process using local timber as raw material. • Co-invested with oneworld member airlines and partners in the “oneworld Breakthrough Energy Ventures Fund,” an investment fund for companies developing next-generation SAF.
	New Technologies	Diversification of CO ₂ reduction methods by utilizing CO ₂ removal technologies such as Direct Air Capture	Long term	Medium	• Invest in and strengthen collaboration with startups that have a technology for removing CO₂ from the atmosphere	• Collaborated with and supported for the business development of two companies invested in 2024 (Captura Corp. and Heirloom Carbon Technologies in the U.S.A.).
	Ground Vehicles	Reduction of CO ₂ through the use of alternative fuels and the use of special airport vehicles that combine various power sources	Short to long term	Small	• Procure biodiesel fuel, and use electrically powered special vehicles • Promote decarbonization at airports through public-private partnerships	• Expansion of airports introducing renewable diesel fuel (total: 23 airports). • Researching diverse fuels other than used cooking oil to prepare for future procurement risks. • Electrification of various ground support equipment (GSE) used at airports, including aircraft tow tractors and high-lift loaders (total: 18 airports). • Requested the installation of charging infrastructure from 6 airport operators after conducting a survey of all airports. Simultaneously, piloted in-house installation of charging infrastructure at 6 other airports. • Demonstrated Japan's first hydrogen-powered aircraft tow tractor, utilizing the Tokyo Metropolitan Government Fuel Cell (FC) Mobility implementation support program.
	Demand	Increasing preference and air transport demand through appropriate response to diversifying customer needs	Short to long term	Medium	• Provide low-carbon, environmentally friendly products and services (JAL Corporate SAF Program, JAL Carbon Offset) • Expand disclosure of information on measures to combat climate change, including reduction of CO₂ • Build momentum by strengthening communication of environmentally conscious measures • Consider new businesses related to supersonic aircraft and space	• Expanded the "JAL Corporate SAF Program" to 13 companies, which certifies the environmental value of CO₂ reductions generated by SAF usage and provides it to corporate customers utilizing JAL Group flights. • In collaboration with 7 companies including Narita International Airport Corporation, completed the first phase of a Scope 3 environmental value trading pilot program to promote SAF usage, and commenced the second phase. • Held a dialogue between the President of the University of Tokyo and JAL's Chairman at the 10th Anniversary “Airplane Workshop,” co-hosted with the Institute of Industrial Science, The University of Tokyo, and reflected on the past decade and shared their commitment to nurturing the next generation and expectations for STEAM education; the event was streamed on Todai TV as part of the lead-up to the University of Tokyo's 150th anniversary in 2027. • Conducted environmental initiatives and communications in partnership with sports teams. • Launched initiatives to raise awareness and build momentum for SAF, commemorating March 2 (“SAF Day”). • JALUX and ispace concluded a contract for lunar transport in 2028, as part of the “ARGO PROJECT” which is the world's first lunar transport service by an airline.
		Securing new sources of revenue through the creation of new businesses based on low carbon	Short to long term	Large	• Create new businesses utilizing the JAL Group assets • Promote investments that contribute to CO₂ reductions by utilizing Internal Carbon Pricing (ICP) (ICP is used as one of the evaluation items in the selection of new medium-sized aircraft types) • Foster human resources to lead a decarbonized society	• Four investment decisions made utilizing ICP*1. • Partnered with PowerX Inc. to launch a demonstration of a carbon-zero agriculture model utilizing renewable energy. • Launched a new initiative allowing customers to contribute to the creation of lush forests in Japan when purchasing “JAL Original Beef Curry” on the official online shopping site, “JAL Shopping JAL Mall.” • Commenced examination of new businesses based on social value as part of the business portfolio transformation newly defined in the JAL Group Management Vision 2035.

*1 For Scope 1 and 2, a base price of 15,000 yen per ton of CO₂ emissions (equivalent to USD 112, at the time of ICP pricing in FY2023) is used as a shadow price in investment decision-making.

Measures for Sustainability of Natural Capital

Addressing Climate Change (TCFD) and Green Transformation Strategy

Indicators and Targets

The JAL Group's CO₂ emissions consist primarily of direct emissions from aircraft, which account for approximately 99% of the total. We therefore place the highest priority on reducing CO₂ emissions from aircraft. At the same time, we have set similarly ambitious targets for reducing CO₂ emissions from non-aircraft sources, such as ground facilities and ground vehicles, which account for approximately 1% of the total, and are working together across the Group to achieve them. In 2025, we limited net emissions to 9.13 million tonnes, achieving our CO₂ reduction target of keeping emissions below the FY2019 level of 9.21 million tonnes. To overcome a range of challenges, including technological innovation and market development, we will strengthen collaboration with stakeholders in Japan and overseas. In accordance with international frameworks for reducing CO₂ emissions and in alignment with the Japanese government's Clean Energy Strategy, we will continue to lead the industry through cutting-edge initiatives.

» Targets and Initiatives to Reduce CO₂ by 2030

As a milestone toward achieving net-zero CO₂ emissions in 2050, in May 2021 the JAL Group established a specific target for FY2030: a 10% reduction in total emissions compared with FY2019. Since then, we have taken the lead on initiatives such as joint procurement of SAF through the **oneworld** alliance and the use of ESG financing for aircraft replacement, helping to advance decarbonization across the global aviation industry. Going forward, we will accelerate our existing initiatives, including the steady transition to more fuel-efficient aircraft, operational innovations in our day-to-day flight operations (JAL Green Operations), and strategic procurement of SAF based on specific targets for its use. We will also explore and implement the use of carbon credits and new technology for removal of CO₂ as we take on the challenge of achieving our targets. To achieve our ambitious goals of 10% SAF usage and reducing CO₂ emissions by 5% through the use of SAF, we will actively promote the commercialization of SAF through public-private partnerships and collaboration with stakeholders in Japan and overseas.

CO₂ Reduction Targets and Results

		Base Year		Year 2025		Year 2030		Year 2050
Direct Emissions*1	Aircraft	FY2019 Results 9.21 million tonnes*2	FY2025 CO ₂ Reduction target Total emissions: less than 9.21 million tonnes Less than FY2019	FY2025 Results 9.13 million tonnes	FY2030 CO ₂ Reduction target Total emissions: less than 8.28 million tonnes 90% compared to FY2019	Net zero		
	Non aircraft	FY2019 Results 96,000 tonnes		FY2025 Results 84,000 tonnes	Total emissions: less than 62,000 tonnes 65% compared to FY2019	Net zero		
Indirect Emissions		FY2013 Results 84,000 tonnes	Total emissions: less than 54,000 tonnes 67% compared to FY2013	FY2025 Results 53,700 tonnes	Total emissions: less than 40,000 tonnes 50% compared to FY2013			

*1 Including offsets. *2 Including 0.12 million tonnes; FY2019 CO₂ emissions of Spring Japan Co., Ltd which become a consolidated subsidiary in 2021

Efforts toward FY2030 Targets

Aircraft renewal	• Increase the ratio of fuel-efficient aircraft* (FY2019 23% ⇒ FY2030 67%) • Through collaboration with start-up companies, contribute to the technological development of next-generation aircraft (hydrogen and electric) *A350, 787, A321neo, 737-8	
Operational innovations	• Promote JAL Green Operations including Group Airlines • Demonstrate and deploy fuel consumption-saving technologies (e.g., riblet shaped paint)	
SAF	• 10% SAF Usage by FY2030 • Intensify cooperation with domestic SAF producers and expand procurement • Secure feedstocks for domestic SAF (e.g., household used cooking oil), and contribute to local production for local consumption • Expand overseas procurement points, oneworld joint procurement	
Carbon credit	• Utilize CORSIA-eligible credits • Collaborative initiatives with local communities using carbon credits	
New technologies for removal of CO ₂	• Promote and introduce new next-generation technologies by funding companies with technology to remove CO₂ from the atmosphere	

TOPICS

JAL Group Achieves FY2025 Green Transformation Management Target

The JAL Group achieved its FY2025 Green Transformation management target of keeping net CO₂ emissions below the FY2019 level, an important milestone toward achieving net-zero CO₂ emissions in 2050. One of the key drivers behind this achievement was the Group's early adoption and use of fuels and carbon credits eligible under the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), an international framework established by the International Civil Aviation Organization (ICAO).

• Successfully achieved 1% SAF usage

Through the proactive introduction of SAF that meets CORSIA requirements, we achieved our target of 1% SAF usage (approximately 40,000 kiloliters) of total fuel usage in FY2025 as planned.

• Pioneering Procurement of CORSIA-Eligible Fuel and Carbon Credits

We began procuring CORSIA-eligible fuel in FY2024. In FY2025, we also procured and retired CORSIA-eligible carbon credits.

Website | Press Release

<https://press.jal.co.jp/en/release/202604/009507.html>

Addressing Climate Change (TCFD) and Green Transformation Strategy

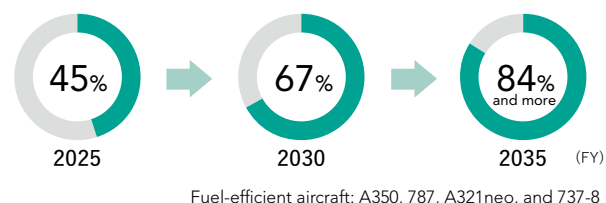
Priority Measures

▶ Upgrading to Fuel-Efficient Aircraft

We are upgrading our aircraft to fuel-efficient, low-noise aircraft that reduce CO₂ emissions by approximately 15 percent to 25 percent compared to the aircraft they replace. We introduced the Airbus A350-1000 on international routes in January 2024. Looking ahead, we plan to deploy an additional 20 Airbus A350-900 aircraft, currently the mainstay of our domestic aircraft, on international routes, as well as introducing 10 additional Boeing 787 aircraft. For domestic routes, we will introduce 38 Boeing 737-8 aircraft from FY2026 to replace the Boeing 737-800 aircraft. In addition, JAL will introduce 11 Airbus A321neo aircraft as the successor to the Boeing 767 currently in service on domestic routes. This will be the first time JAL has operated the Airbus A321neo.

We are also actively involved in advancing technological innovation by working with manufacturers as development of next-generation aircraft powered by electricity, hydrogen, and other new technologies accelerates. Because the widespread adoption of these aircraft will also require supporting airport and other infrastructure, we will work with the government, airport operators, and other stakeholders to develop the necessary infrastructure.

Increasing the Ratio of Fuel-Efficient Aircraft toward 2035



▶ Issuance of Transition Bonds to Procure Fuel-Efficient Aircraft

To steadily advance the upgrade of our aircraft with the latest fuel-efficient aircraft, we actively utilize ESG financing, including transition-linked loans and transition bonds.

We also engage in dialogue with investors and financial institutions to enhance their understanding of our ESG financing initiatives.

Reference Website | ESG Finance

<https://www.jal.com/en/sustainability/esg-finance/>



TOPICS

CONTRAIL Atmospheric Observation Project Transitions to Next-Generation Aircraft

JAL, in collaboration with the JAL Foundation, the Meteorological Research Institute of the Japan Meteorological Agency, the National Institute for Environmental Studies, and JAMCO Corporation, participates in the CONTRAIL project. The project aims to improve understanding of the global carbon cycle and the mechanisms of climate change by conducting extensive, high-frequency observations of upper-atmosphere greenhouse gas concentrations and isotopic ratios using commercial aircraft.

To date, the project has collected approximately 13.34 million atmospheric data points through approximately 22,000 flights serving 84 airports worldwide. The data have been highly valued by researchers in Japan and overseas and are contributing to climate change research around the world.

As the Boeing 777 aircraft that had served as the project's primary observation platform are being phased out, Continuous CO₂ Measuring Equipment (CME) and Automatic Air Sampling Equipment (ASE) for the Boeing 787-9 were developed with support from the Ministry of the Environment. During FY2025, modifications were completed on five Boeing 787-9 aircraft to install both observation systems. This has strengthened the observation system and is expected to enable the resumption of observations over India and equatorial regions, as well as the first-ever observations over the Middle East.

Going forward, the five partners will continue to contribute to a better understanding of climate change mechanisms and the protection of the global environment through the collection and analysis of atmospheric data, leveraging the unique ability of commercial aircraft to conduct regular observations over wide areas.



Measures for Sustainability of Natural Capital

Addressing Climate Change (TCFD) and Green Transformation Strategy

› Achievement of the FY2025 Target of 1% SAF Usage

The JAL Group has set targets for Sustainable Aviation Fuel (SAF) to account for one percent of its total fuel by FY2025 and 10 percent by FY2030. Through steady procurement efforts both in Japan and overseas, we have successfully achieved the FY2025 target of one percent (approximately 40,000 kiloliters).

› Working across Competitive Boundaries to Promote Stable Supply and Lower Costs

Establishing a stable supply system for SAF, including domestic SAF, requires not only expanded production but also cost reductions, including public support. In May 2026, the JAL Group and All Nippon Airways Co., Ltd. (ANA) jointly released a report to promote the stable supply of SAF and lower costs through a society-wide approach by working together within the supply chain, as well as national and local governments.

📄 Toward Net Zero CO₂ Emissions from Air Transport in 2050 (Second Edition)

<https://press.jal.co.jp/en/items/uploads/ANA%20and%20Japan%20Airlines%20Release%202nd%20Edition%20of%20Joint%20Report%20on%20SAF.pdf>



› Strategy for Expanding SAF Use

To achieve our ambitious next milestone of 10 percent SAF usage by FY2030, and to further expand SAF use beyond that, we are increasing the number of procurement locations while making maximum use of support programs for SAF production and utilization in countries and regions around the world. As global SAF supply remains limited, achieving this target will require a two-pronged approach: promoting the wider use of domestic SAF and investing in SAF production technologies to help expand supply.

Promoting the Wider Use of Domestic SAF

The JAL Group has been promoting the adoption of biofuel for more than 15 years. In October 2025, we invested in MORISORA Biorefinery LLC to realize SAF produced from domestically sourced woody biomass bioethanol. As an airline using SAF, we are directly investing in the project and sharing our expertise to support the early establishment of a purely domestic SAF business and the wider use of SAF in Japan.

Project MORISORA (P.87)

Investing in SAF Production Technologies (Participation in the oneworld BEV Fund)

In September 2025, together with oneworld alliance member airlines and partner companies, we invested in the oneworld Breakthrough Energy Ventures Fund, an investment fund managed by U.S.-based BEV. Through this investment, we will accelerate the development of next-generation SAF technologies, help establish a sustainable global SAF supply chain, and contribute to reducing CO₂ emissions.

📄 Press Release

<https://press.jal.co.jp/en/release/202509/009044.html>

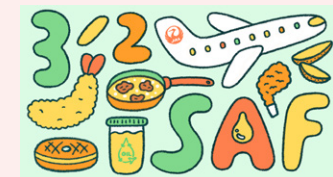
TOPICS

March 2 Designated as “SAF Day”—Raising Awareness and Building Momentum for SAF

Since successfully conducting the world's first flight using SAF in 2009, the JAL Group has spent more than 15 years promoting the use of SAF through initiatives including a project to produce domestic SAF from cotton clothing and participation in ACT FOR SKY.

In 2024, we launched the *Let's Fly with Used Cooking Oil project*, which utilizes household used cooking oil that would otherwise be discarded as feedstocks for SAF. With the cooperation of our customers nationwide, we have expanded our network of used cooking oil collection points to more than 280 locations (as of September 2026). As part of these efforts, on March 2, 2026, designated SAF Day (a play on the Japanese pronunciation of “3-2”), we carried out a range of initiatives, including awarding mileage to participants in the project, raising awareness of SAF at airports and onboard aircraft, and collaborating with sports teams.

Through these and other initiatives that transcend industry boundaries, awareness of SAF continues to grow. The JAL Group will continue to promote initiatives that raise awareness of SAF and build momentum for its wider adoption, working together with our stakeholders to help realize a decarbonized society.



SAF Day key visual

Addressing Climate Change (TCFD) and Green Transformation Strategy



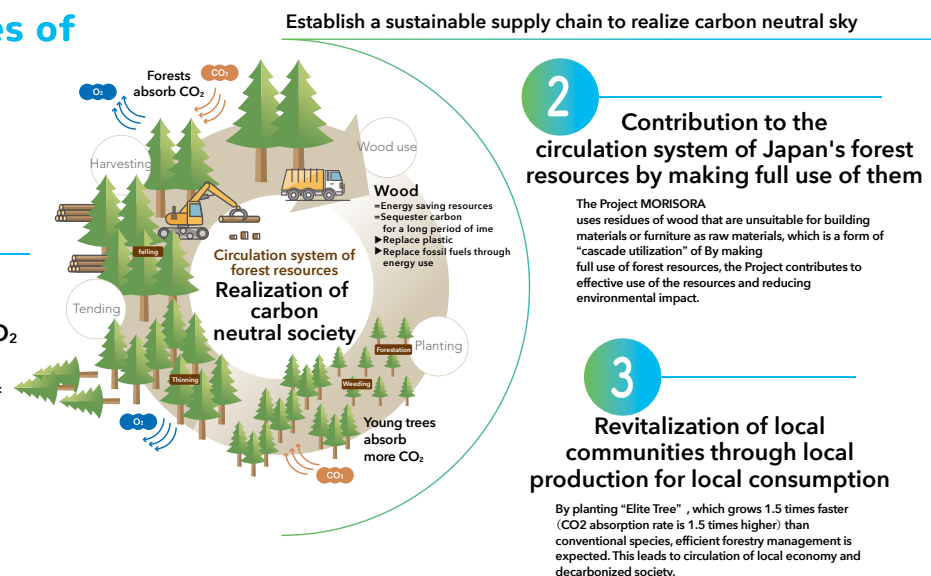
▶ Toward the Realization of a “Purely Domestic SAF” Business Using Domestic Woody Biomass

For more than a decade, the JAL Group has been working to promote the wider adoption of SAF. As one of our initiatives to advance domestic SAF production, we invested in MORISORA Biorefinery LLC in October 2025, a joint venture established by Nippon Paper Industries Co., Ltd., Sumitomo Corporation, and Green Earth Institute Co., Ltd. Project MORISORA aims to produce bioethanol primarily from domestic woody biomass in the Tohoku region. Through this initiative, we are helping advance purely domestic SAF while contributing to a decarbonized society, sustainable forest management, and the recovery of the Tohoku region.

Three Key Features of Project MORISORA

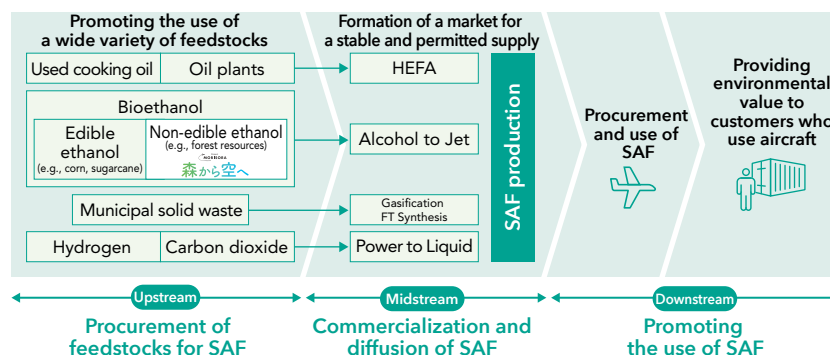
1 Purely domestic bioethanol from domestic woody biomass with little CO₂ emissions

Features of bioethanol from domestic woody biomass: shorter transportation distance and lower CO₂ emission by using black liquor in comparison with imported ethanol from edible sources



▶ The Role of Project MORISORA

Scaling up SAF production requires cross-industry collaboration at every stage of the value chain, from feedstock procurement to commercialization, market adoption, and wider use. Leveraging the partnerships it has built over the years, the JAL Group is working with stakeholders to build the value chain needed to accelerate the adoption of SAF.



VOICE

A vision for the future through bioethanol produced from domestic woody biomass

Project MORISORA produces bioethanol from woody biomass, primarily from the Tohoku region, with the goal of supplying SAF through the alcohol-to-jet (ATJ) process. To play a leading role in building a domestic SAF supply chain and advancing the commercialization of domestically produced SAF, the JAL Group invested in MORISORA Biorefinery LLC in October 2025.

Project MORISORA is guided by the slogan, “Transforming the Power of Forest into the Power of Flight,” and its significance extends far beyond supplying feedstock for domestically produced SAF. First, it contributes to sustainable forest management. By actively utilizing mature plantation forests with declining CO₂ absorption capacity and promoting reforestation and forest maintenance, the project helps maintain healthy forest ecosystems. It also improves the efficiency of forestry operations through the introduction of fast-growing, low-pollen “elite trees.” Second, it supports the recovery of the Tohoku region and contributes to local industries. By creating new demand for domestically sourced woody biomass, the project aims to sustain and expand forestry businesses and the forestry workforce while helping revive the forestry industry in areas where recovery has been delayed by the Great East Japan Earthquake.

A semi-commercial plant is scheduled to begin operations in fiscal 2026. The JAL Group is also exploring initiatives that will utilize the bioethanol produced there to help accelerate the transition to a decarbonized society.

Through these efforts, the JAL Group aims not only to achieve its CO₂ emissions reduction targets but also to nurture Japan's forests through the active use of domestically sourced timber and help realize a sustainable society by working together with local communities and economies.

HATTORI Sumire
Domestic SAF Promotion
Task Force



Measures for Sustainability of Natural Capital

Addressing Climate Change (TCFD) and Green Transformation Strategy

Reduction in Daily Operations

JAL Green Operations is the name given to our various efforts to reduce CO₂ emissions in our daily operations, with safe operations as the fundamental premise, including the timing of controls and devising of maneuvering during flight, reducing the weight of the aircraft, and shortening the flight route. We monitor actual flight routes on a daily basis and create flight plans with flight routes that match actual conditions in order to achieve optimization of the fuel on board. JAL Group companies with external companies and research institutions are working together to further reinforce and promote inflight operational efforts by flight crew, which have been actively implemented for some time.

In addition, together with the Japan Aerospace Exploration Agency (JAXA) and O-Well Corporation, we are participating in the JAXA Space Innovation through Partnership and Co-creation (J-SPARC) and conducting the world's first flight demonstration using aircraft with riblets applied over the aircraft's external paint. If put into practical use, this technology is expected to improve fuel efficiency by up to approximately two percent and contribute significantly to reducing CO₂ emissions. In January 2026, ZIPAIR began operating a Boeing

787-8 aircraft (JA851J) with a riblet-shaped coating applied to the sides of its fuselage for the first time. Going forward, we will verify the durability and appearance of the riblet-shaped coating applied over a large area, as well as its fuel-efficiency benefits on long-haul international flights, while seeking to expand the application area and continuing our efforts to advance decarbonization.



Riblet Coating to JA851J

Efforts to Reduce CO₂ in Ground Facilities and Vehicles

In accordance with Japan's Act on the Rational Use of Energy and the Transition to Non-Fossil Energy (Energy Conservation Act), the JAL Group has set a target of reducing energy consumption in its ground facilities by an average of at least one percent per year in energy intensity over a five-year period.

To achieve our 2030 carbon half target for indirect emissions, we are further accelerating the installation of LED lighting, introducing air-

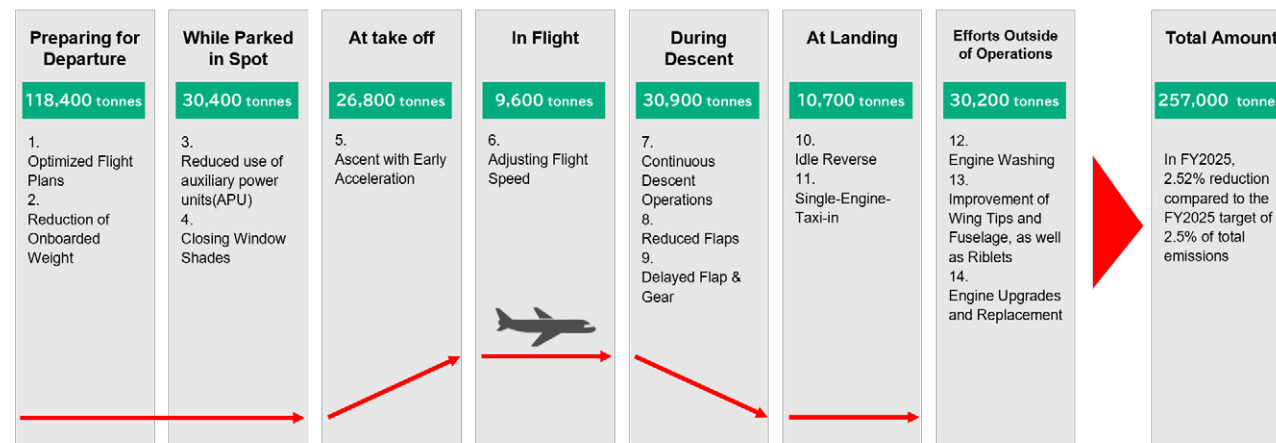
conditioning control systems, and procuring non-fossil certificates. In FY2025, we achieved our interim target of reducing CO₂ emissions by 33 percent from the FY2013 level to less than 54,000 tonnes, while also appropriately complying with the Tokyo Metropolitan Government's mandatory emissions reduction program.

We are also promoting the introduction of electric ground support equipment (GSE) and expanding the use of biodiesel fuel to reduce CO₂ emissions from airport ground vehicles. In collaboration with local communities, biodiesel fuel is now being used at 25 airports across Japan (as of July 2026). As charging infrastructure for electric vehicles at airports continues to expand, we will further accelerate the replacement of aging diesel-powered ground support equipment with electric vehicles.

Reducing CO₂ emissions at airports will require close collaboration with government agencies and other stakeholders to expand airport charging infrastructure. The JAL Group will continue working to introduce electric vehicles and expand the use of biodiesel fuel at airports throughout Japan, contributing to the realization of a decarbonized society.

JAL Green Operations

CO₂ reduction in FY2025



Other initiatives and data on operational innovations are also available on our website.

JAL Green Operations <https://www.jal.com/en/sustainability/environment/climate-action/co2-emissions/>



Electric vehicles

Addressing Climate Change (TCFD) and Green Transformation Strategy

Utilizing Carbon Credits

The JAL Group is working to achieve net-zero CO₂ emissions in 2050 through direct emissions reduction initiatives, including upgrading its aircraft with more fuel-efficient aircraft and expanding the use of sustainable aviation fuel (SAF). For emissions that cannot yet be eliminated, we use carbon credits to offset the remaining emissions.

In October 2025, we established the JAL Group's basic policy on the use of carbon credits. We have put in place a framework for the selective use of credits that comply with international frameworks, including the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), and have begun procuring and retiring CORSIA-eligible credits. Through these initiatives, we achieved our FY2025 Green Transformation target of keeping net CO₂ emissions from aircraft below the FY2019 level.

Strategic Investment in BeZero Carbon

In January 2025, we made a strategic investment in BeZero Carbon, a global carbon ratings agency that independently evaluates the quality of carbon credits and works to enhance transparency and credibility in the carbon market. This investment was recognized for its strategic value and social impact in the climate tech sector and was a key factor in the JAL Group being named one of the Top 100 at the Corporate Startup Stars 2025 global awards.

 [Reference Website](https://press.jal.co.jp/en/release/202512/009180.html) | [Press Release](#)
<https://press.jal.co.jp/en/release/202512/009180.html>



Carbon Credit Initiatives by Group Companies and Local Communities

Each JAL Group company is also promoting initiatives tailored to its business characteristics, including the use of carbon offsets and collaborative initiatives with local communities.

Hokkaido Air System Co., Ltd.

As part of a locally produced, locally consumed initiative undertaken in collaboration with the community, Hokkaido Air System purchased blue carbon credits issued by the town of Okushiri in January 2025. As a regional airline operating scheduled services to Okushiri, it is working together with the local community to support the realization of Sustainable Island Okushiri.

 [Reference Website](https://press.jal.co.jp/ja/areanews/items/uploads/HAC_Press_20250128.pdf) | [Press Release \(Japanese only\)](#)
https://press.jal.co.jp/ja/areanews/items/uploads/HAC_Press_20250128.pdf



ZIPAIR Tokyo Inc.

In May 2025, ZIPAIR became the first airline in the world to receive third-party certification for ISO 14068-1:2023, an international standard for carbon neutrality. In addition to its own emissions reduction efforts, the airline is promoting initiatives to help realize a sustainable society by offsetting through the use of carbon credits that meet the standard.

 [Reference Website](https://www.zipair.net/en/notification/313) | [Press Release](#)
<https://www.zipair.net/en/notification/313>



Left: URUSHIBARA Masaki,
Representative Director and
President, BSI Group Japan K.K.
(at the time)
Right: NISHIIDA Shingo,
Representative Director and
President, ZIPAIR Tokyo Inc. (at
the time)

TOPICS

JAL Corporate SAF Program: A Collaborative Model for Sharing Environmental Value

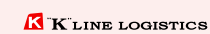
By using SAF, the JAL Group reduces CO₂ emissions directly generated by its aircraft (Scope 1) while also helping reduce the indirect CO₂ emissions (Scope 3) of customers who use air transportation. Through the JAL Corporate SAF Program, the environmental value of these Scope 3 emissions reductions is certified and provided to corporate customers, enabling them to reduce CO₂ emissions across their supply chains, including those associated with air cargo transportation and employee business travel. The program is a collaborative model in which society as a whole supports the wider adoption of SAF to help decarbonize aviation. Launched in 2024, the program had attracted 14 participating companies as of July 2026. By raising awareness of the CO₂ reduction benefits of SAF and promoting broader participation in the program, we aim to contribute to the realization of a decarbonized society together with our partner companies.



hinfetsu world express



extends your senses



NARITA AIRPORT



MOL Logistics



NIPPON EXPRESS



LINE JAPAN GROUP



Daiwa Securities Group



Perfect moments, always

Measures for Sustainability of Natural Capital

Biodiversity Conservation (TNFD)

Fundamental Principles

The JAL Group recognizes that its operations both deeply rely on and impact rich natural capital, and is dedicated to the comprehensive realization of “Nature Positive,” “Net-Zero Emissions,” and a “Circular Economy.” Through our business activities, JAL aims to create a society where nature and people coexist in harmony, driven by creating the flow of people as well as commercial and logistics flows. By leveraging mobility to build relationships and connections, JAL aspires to establish a future where everyone can feel affluence and hope, thereby enhancing our corporate value.

Strategy

In accordance with the LEAP approach proposed by the Task Force on Nature-related Financial Disclosures (TNFD) and under the concept of double materiality, we identified priority areas and evaluated associated risks and opportunities. Particularly for the airline business, which accounts for the majority of JAL’s revenue, we mapped the interfaces with nature across the entire value chain, from aircraft manufacturing to customer experience.

LEAP Approach Image

L E A P	Scoping	Set the destinations for the airline business as the scope as location information could be identified. Destinations were the key revenue source covering most of JAL Group’s revenue.
	Locate	Mapped out JAL Group destinations, with biodiversity and water risks, and set them as Sensitive Locations to identify points of contact with nature.
	Evaluate	The demand for air transportation depends on the flow of people to natural heritage sites and other natural tourist attractions. It also relies on nature surrounding the airport being protected from natural disasters. Hence, the possible environmental pollution to the area surrounding the airport and other factors is to be identified.
	Assess	Based on the identified dependencies and impacts, risks were examined with a focus on destination airports, and an initial study of future risks was conducted to prevent overtourism and environmental degradation from leading to a decline in passenger numbers. Concurrently, opportunities to create the flow of people were explored through the expansion of initiatives such as ecotourism and crane conservation activities.
	Prepare	Acceleration of initiatives, including expanding the analysis of the JAL Group’s biodiversity-related disclosure contents.

Identifying Priority Areas (Water/Biodiversity Risks)

The JAL Group recognizes water as a critical resource that impacts climate change and biodiversity, and is committed to its sustainable use. Based on an analysis utilizing Aqueduct*, our water withdrawal areas are primarily located in Japan, which is considered to have a low water-stress level. Although we recognize the risk as low, we have identified the Tokyo metropolitan area, namely Haneda and Narita which accounts for 80 percent of our total water withdrawal and serves as the hub of our air transportation business—as a priority area. We will strive to conserve water resources through initiatives such as recycling the water used for washing aircraft parts. Furthermore, beyond the perspective of water, we have identified priority locations for conservation by focusing on biodiversity itself, including ecosystems such as forests and oceans, as well as the diverse species that inhabit them. By cross-referencing with areas of significant biodiversity using the WWF’s Biodiversity Risk Filter, we recognized that many of the JAL Group’s domestic destinations are located in high biodiversity risk areas.

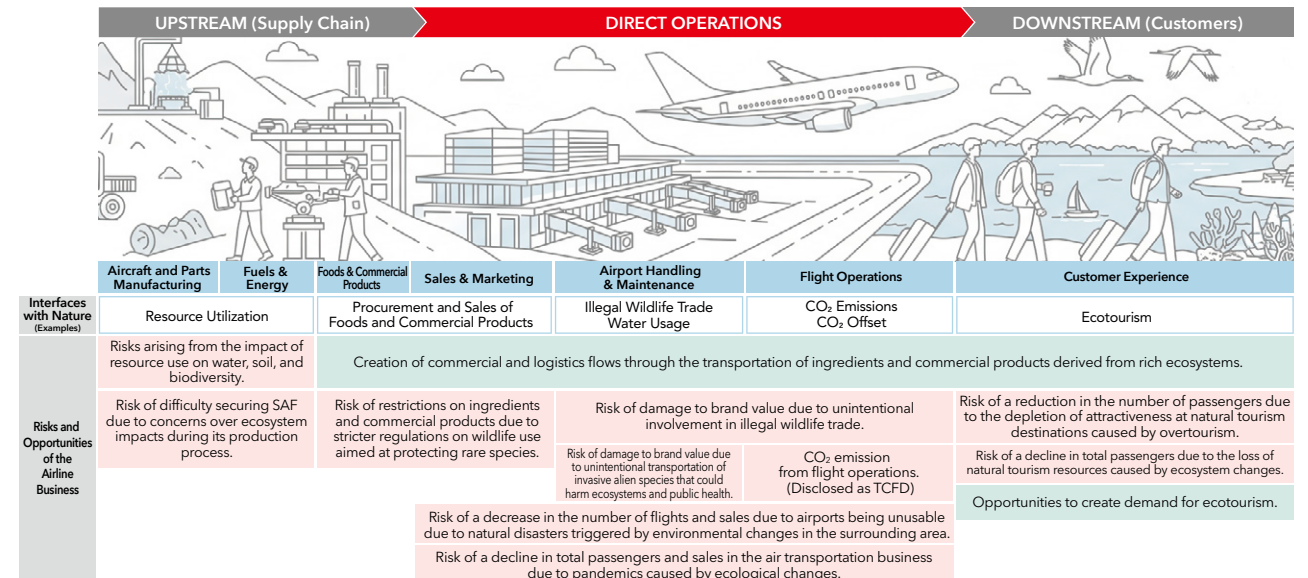
We identified “Sensitive Locations” and “Material Locations” and cross-referenced them to designate Hokkaido, Kagoshima, Okinawa, and Tokyo as priority areas, undertaking initiatives such as the cultivation of sexually reproduced coral in Okinawa. For overseas destinations, after identifying Sensitive Locations by combining the four tools recommended by the TNFD* (Aqueduct, IBAT, GFW, and ENCORE) with Illegal Wildlife Trade (IWT) hotspots, we cross-referenced them with Material Locations. Through this process, we identified Hawaii and Australia—where our operations depend on and impact nature—as priority areas and are driving targeted initiatives. For example, we conduct restoration activities at Diamond Head in Hawaii and implement measures on flights bound for Australia to prevent the entry of invasive pests.

* Aqueduct: Water risk mapping tool, IBAT: Biodiversity assessment tool, GFW: Biodiversity assessment tool, ENCORE: Tool for evaluating corporate risks and opportunities related to natural capital

Conservation of Biodiversity

<https://www.jal.com/en-jp/sustainability/environment/biodiversity/>

Examples of Interfaces with Nature and Risks and Opportunities Along the Value Chain of the Airline Business



Measures for Sustainability of Natural Capital

Biodiversity Conservation (TNFD)

Risks and Opportunities

While biodiversity loss poses a significant risk to the sustainability of the air transportation business, managing it also presents key opportunities.

Based on the dependencies and impacts identified during a workshop held with experts from WWF Japan in 2023, our evaluated

nature-related risks and opportunities are summarized in the table below.

Furthermore, these evaluations are reviewed annually, incorporating insights from expert dialogues with individuals such as HAMASHIMA Naoko, the then Director of the Biodiversity Mainstreaming Office at the Ministry of the Environment, and

HARAGUCHI Makoto from MS&AD Insurance Group Holdings, Inc., a TNFD Task Force member. Moving forward, we will deepen our evaluation of risks and opportunities through financial impact analysis and other assessments.

Risks

Types of Risks	Overview of Risks	Actions Taken to Mitigate Risks
Transition Risks - Policy and Law - Technology - Market - Reputation	Risk of restrictions on ingredients and commercial products due to stricter regulations on wildlife use aimed at protecting rare species.	- Compliance with internal guidelines based on the IUCN Red List and the like. - Use of sustainable food and merchandise.
	Risk of difficulty securing SAF due to concerns over ecosystem impacts during its production process.	Use of SAFs (e.g., ICAO CORSIA-eligible fuels) that consider raw materials, land use and ecosystem conservation, and other relevant factors in the production areas.
	Risk of carbon credits being unusable due to concerns over the negative impacts on biodiversity caused by land-use changes.	Purchase of credits that consider raw materials, land use and ecosystem conservation, and other relevant factors in the production areas.
	Risk of a reduction in the number of passengers due to the depletion of attractiveness at natural tourism destinations caused by overtourism.	Realization of sustainable tourism through appropriate management of the flows of people.
	Risk of damage to brand value due to unintentional involvement in illegal wildlife trade.	Educate employees and collaborate with airport authorities to prevent illegal wildlife trade.
	Risk of damage to brand value due to unintentional transportation of invasive alien species that could harm ecosystems and public health.	Thorough implementation of response procedures upon the detection of invasive alien species.
Physical Risks - Acute Risks - Chronic Risks	Risk of restriction on airport operations due to environmental pollution around airports.	Thorough prevention procedures and post-occurrence response procedures.
	Risk of a decline in total passengers and sales in the air transportation business due to pandemics caused by ecological changes.	- Provide a "safe and secure" air-transportation environment through thorough countermeasures to infectious diseases. - Develop flight operation plans based on passenger demand.
	Risk of a decline in total passengers due to the loss of natural tourism resources caused by ecosystem changes.	Promote efforts to restore natural tourism resources in cooperation with local communities.
	Risk of a decrease in the number of flights and sales due to airports being unusable due to natural disasters triggered by environmental changes in the surrounding area.	Preservation of the surrounding environment in cooperation with local airports.

Opportunities

Types of Opportunities	Overview of Opportunities	Actions to Expand Opportunities
Business Performance-Based Opportunities - Resource Efficiency - Products and Services - Markets - Capital Flows and Financing - Reputation	Opportunities to create demand for ecotourism.	- Balance tourism and nature conservation by promoting responsible tourism through training of tour guides and the like. - Foster relationships and societal connections through the airline network.
	Create flows of commodities and logistics through the transportation of food ingredients and merchandise derived from rich ecosystems.	Contribution to regional economic revitalization through rapid and fresh transportation of food ingredients and merchandise.
Sustainability Performance Opportunities - Protection, Restoration, and Rehabilitation of Ecosystems - Sustainable Use of Natural Resources	Protection, restoration, and rehabilitation of ecosystems to secure tourism resources.	Implementation of measures such as coral sexual reproduction projects and red-crowned cranes conservations.
	Protection, restoration, and rehabilitation of ecosystems to ensure stable supplies of commercial products.	Use of sustainable commercial materials (such as certified commercial materials) in collaboration with suppliers.
	Contribute to biodiversity through the use of unique airline technologies.	Consideration and implementation of new initiatives through the collaboration between industry and academia.

Measures for Sustainability of Natural Capital

Biodiversity Conservation (TNFD)

Metrics and Targets

The JAL Group recognizes that biodiversity is impacted by a wide range of environmental issues—including climate change, resource use, and pollution—and aims to address them through comprehensive solutions. In alignment with the TNFD Core Global Metrics, we disclose targets directly related to biodiversity conservation, as well as key environmental data such as CO₂ emissions, waste generation, and water consumption

Key Initiatives

Conserving Red-Crowned Cranes

The logo on the horizontal stabilizer of JAL Group aircraft is inspired by the red-crowned crane (Tancho), a protected species of Japan. To help conserve the red-crowned crane, which is also designated as a National Rare Species of Wild Fauna and Flora, employee volunteers have conducted annual habitat maintenance at the crane's feeding grounds in Tsurui Village, Hokkaido, since 2016.

In Naganuma Town, Hokkaido, in alignment with the municipality's vision of "Creating a Town Where Red-crowned Cranes Can Live," JAL has supported various local initiatives, including cooperating on crane-themed bus tours and selling regional products on "JAL Mall." Furthermore, starting in 2025, in partnership with AEON Hokkaido Co., Ltd., which has similarly engaged in local crane conservation, JAL launched the "Eco-Harmony Program," an initiative designed to achieve harmony between human society and the natural environment. In FY2025, the program provided educational activities on forming ecological networks to children residing in the Chitose River basin. These conservation activities in the region are also linked to initiatives undertaken by the Ishikari River Basin Ecological Network Promotion Council, established in February 2024. As a member of the Council, JAL collaborates with local governments and corporate partners to conserve basin-wide biodiversity, actively driving regional revitalization and economic activity through the sustainable utilization of rich natural capital.

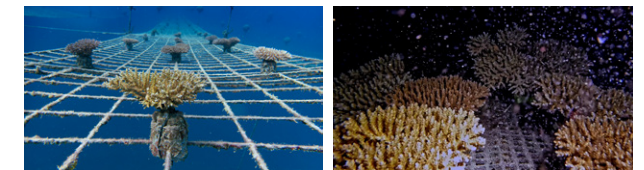
Initiatives	Metrics		Targets
CO ₂ Emission Reduction	Scope 1 [Aviation] Emissions		Net-zero by 2050
Reduction of Single-use Plastic*1	Cabins and Lounges : Maintaining 100% elimination of virgin petroleum-based plastics		Maintain 100%
	Cargo and Airport: Maintaining 100% use of eco-friendly materials contained items*2		Maintain 100%
Inflight Food Waste Reduction	Food waste rate		Maintain 2.5% or less (Maintain achieved FY25 target)
Resource Circulation via Composting Food Residue	Composting rate		Maintain 100% (Maintain FY22 achieved level)
Industrial Waste Reduction	Final disposal rate		Maintain 1% or less
Preservation and Expansion of Tourism Resources	[Okinawa] Number of sexually reproduced coral colonies cultivated		1,000 colonies within 2026
	[Okinawa] Expansion status of tours related to sexually reproduced coral		Expand tours within 2026
	[Hokkaido] Expansion of regional partnerships and participants through red-crowned crane conservation:	Cumulative participants in "Conservation Activities" and "Learning Programs"	FY30: 700 participants
		Cumulative number of partnering municipalities and organizations	FY30: 20 organizations
Utilization of Certified Products	[Kagoshima (Amami/Uken Village)] Mangrove planting through industry-government-academia collaboration*3: Number of eco-tours conducted		3 times per year
	% of inflight items utilizing certified paper		Maintain 100%
Prevention of Illegal Wildlife Trade (IWT)	Number of incidents of illegal wildlife transportation		Maintain 0 incidents
Biodiversity Considerations in Handled Food and Products	Number of violations of internal guidelines for food and products aimed at mitigating ESG risks		Maintain 0 violations
Minimizing Impacts on Ecosystems Surrounding Airports	[Tokyo] Number of incidents of improper management of water containing hazardous substances		Maintain 0 incidents

*1 Single-use plastic products provided to our customers, Japan Airlines Co., Ltd. only *2 Items that do not use virgin petroleum-based raw materials or have reduced their use by utilizing materials such as biomass, recycled plastic, and certified paper, etc. *3 Project based on an industry-academia-government collaboration agreement with Uken Village, Sophia University, and ITOCHU Corporation.

Coral Restoration Project by Enhancing Sexual Reproduction

Coral reefs serve as vital habitats for the coexistence and productivity of diverse marine species, fulfilling a wide array of ecological functions. In recent years, however, the increasing frequency of coral bleaching and other factors have affected these ecosystems, outpacing their natural ability to recover autonomously. In response to this crisis, the Coral Seedling Production Committee of the Yaeyama Fisheries Cooperative has been working to restore coral reefs since 2018. The committee's core methodology focuses on sexual reproduction—cultivating coral from eggs—which offers the benefit of preserving genetic diversity through a "full-cycle aquaculture" model that continuously produces juvenile coral seedlings from annually harvested eggs. To support this initiative, Japan Transocean Air (JTA), in partnership with the Fisheries Civil Engineering Technology Center and local Okinawan businesses, established the Council for Supporting Coral Restoration through Sexual Reproduction in 2020, and in May 2024 and June 2025, coral spawning from sexually

propagated colonies was confirmed for the first time in Sakieda Bay, Ishigaki City. Furthermore, in 2025, the "Ishigaki Island Coral Spawning Farm" managed by the committee became the first site in Japan to receive official national certification as a "Nature Coexistence Site" primarily dedicated to coral restoration—a rare national milestone in active ecosystem recovery. Maintaining these breeding hubs through coral restoration contributes to the expansion of fishery resources and the regeneration of fishing grounds, representing an initiative deeply aligned with a "Nature-Positive Economy."



Purple tipped acropora cultivated on wire-type shelves (left) and Spawning (right)
Courtesy of Yaeyama Fishery Cooperative Association Coral Seedling Production Committee

Measures for Sustainability of Natural Capital

Effective Use of Limited Resources

Basic Concept and Strategy

Based on the JAL Group Environmental Policy and to fulfill our responsibility to pass on a precious Earth to future generations, the JAL Group is committed to realizing a circular economy through the effective use of limited resources.

In line with the 3Rs (Reduce/Reuse/Recycle), effective use and conservation of resources will be taken in all aspects of JAL's business operations, by means of reducing food and resource waste, reducing the use of single-use plastics products, and conserving water resources. Greenhouse gas emissions will also be reduced through these efforts. Together with our customers, this will be achieved by reducing food waste and the use of plastic products at every touchpoint. We will also work with our business partners to promote resource circulation and the effective use of resources by reducing waste throughout the supply chain and recycling inflight waste.

Food Waste Reduction Program 

Priority Measures

Reduction of Single-Use Plastics

To address the issue of single-use plastics, a contributing factor to global warming and marine pollution, in May 2021 the JAL Group established management targets up to FY2025. With the cooperation of our customers, JAL achieved its FY2025 target for all single-use plastic items*1 provided to customers under the 3R (Reduce/Reuse/Recycle) + 1R (Redesign) approach. Going forward, we will continue to maintain and advance these initiatives as a materiality KPI up to FY2030.

Materiality 

*1 JAL original items

*2 Items that do not use virgin petroleum-based raw materials or have reduced their use by utilizing materials such as biomass, recycled plastic, and certified paper, etc.

 For more information, visit the link below

<https://www.jal.com/en-jp/sustainability/environment/limited-resources/#anc02>

FY2025 Management Targets and Key Initiatives for Reducing Single-Use Plastics

FY2025 Targets	Results
Cabins and lounges: No use of virgin petroleum-based plastics	Achieved



Redesign/Recycle
Changed to internationally certified paper lid
Recycling paper cups on some domestic flights



Redesign/Recycle
100% recycled PET bottles



Reduce/Redesign
Containers made from recycled PET bottles

Reuse/Redesign
100% plant-based tableware reusable after washing
Lids made from 100% recycled PET bottles

Redesign
Containers and tray mats made from internationally certified paper



Redesign
Cutlery packaging made from 100% plant-based materials

FY2025 Targets	Results
Cargo and airport: Switch all items to eco-friendly materials*2 contained	Achieved



Redesign
Plastic baggage covers made from 50% biomass for hands-free travel service



Reduce
No more plastic baggage cover handouts at airports (1.5 million bags per year)



Recycle/Redesign
Plastic sheets for cargo packaging contain recycled materials, and stretch film used to secure cargo is made from biobased materials using the mass balance approach

Conservation of Water Resources

The JAL Group endeavors to conserve and reduce water consumption to address water resource issues. Our target at our aircraft maintenance facilities is to reduce water consumption by 1% year on year.

Approximately 240 m³ per day of water used in the aircraft maintenance and the component washing process is recycled and recirculated at a treatment facility. The wastewater discharged from the facility complies strictly with laws and regulations. Also, the water quality and conservation at the wastewater treatment facility in our maintenance facilities is thorough and strictly follow standards. No industrial water is used. Graywater is used at some of our ground facilities to conserve water on a daily basis.

 For more information, visit the link below

<https://www.jal.com/en-jp/sustainability/environment/limited-resources/#anc06>

Recycling of Inflight Waste

As a JAL's unique initiative to promote resource circulation, we collect and separate inflight waste, such as bottles, cans, PET bottles, used paper cups, newspapers, and inflight magazines, and recycle these materials in collaboration with recycling companies. Since December 2022, together with the Nippon Paper Group, we collect, sort, and recycle used paper cups on selected domestic flights. Through a three-company collaboration with Tokan Kogyo Co., Ltd., a paper cup manufacturer, we established a horizontal recycling scheme to turn "paper cups into paper cups." For a limited period in June 2024, beverages were served in recycled paper cups on domestic flights departing from Haneda Airport. In addition, in collaboration with choito®, a brand created through the Nippon Paper Group's paper container recycling project, we sell paper-thread hand towels and canvas products made partly from recycled paper cups at the JAL SKY MUSEUM. We also reuse resources such as upcycling of seat belts and life jackets used onboard through initiatives planned by our aircraft maintenance engineers.

