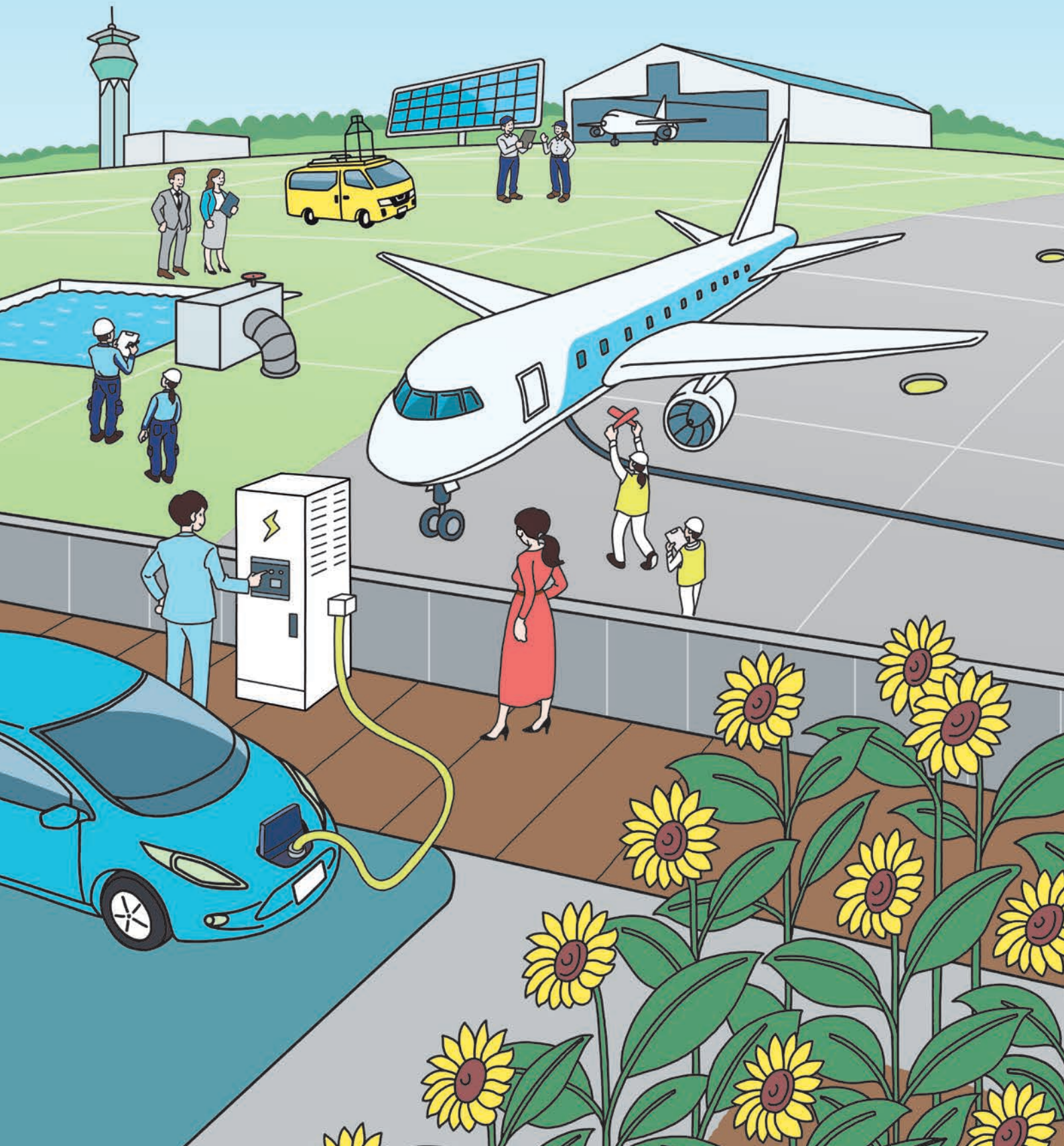


# What is Sustainable Airport



# We Contribute to Achieving Net Zero Carbon Emissions for the Post-COVID Era

Since opening in 1978, Narita International Airport has evolved as the country's gateway to the world and key infrastructure with safety first in mind. The coronavirus (COVID-19) pandemic drastically decreased the numbers of passengers and aircraft movements. However, in fiscal 2022, both numbers increased from the previous fiscal year. While domestic flights are almost back to pre-pandemic levels, we are starting to see a rebound in international passenger numbers thanks to relaxed border restrictions. In this background, our dedicated LCC (low-cost carriers) terminal, Passenger Terminal 3, was expanded in April 2022. Maximizing the potential of our LCC network, we will enhance our customer experience for casual travelers.

For an expected increase of aviation demand, we must steadily proceed with medium- to long-term initiatives such as the functionality enhancement at Narita Airport, including the construction of a new runway. We will promote our business by enhancing our environmental measures for coexistence with local communities supported by all stakeholders. Based on environmental assessments, we will steadily implement measures to reduce or compensate for our impact on nature. Besides the construction of a new runway, our functionality enhancement requires overall improvement including passenger/cargo terminals and airport access. Our goal is to be a sustainable airport that grows together with local communities. We will strive to achieve our new management plan

“Restart NRT” for upgrading passenger terminals, airport logistics, and access with all people concerned.

Recently, the world has experienced more frequent and more intense natural disasters caused by global warming, and it has led to calls for the decarbonization of aviation. To respond to the global change for the long-term growth of the aviation industry, Narita International Airport Corporation (NAA) established “Sustainable NRT 2050” in March 2021. The new framework sets medium- to long-term targets for net zero carbon emissions to further promote our climate change initiatives. To achieve the goals, there are many challenges that require cooperation with a wide range of stakeholders. Therefore, we share information and exchange opinions with airport-related business entities at the Sustainable NRT Development and Planning Council. In June 2022, the Council was renamed and restructured for active discussions on more specific initiatives. We will strengthen our relationship with stakeholders to promote initiatives at Narita Airport as a whole.

Preventing widespread of COVID-19 for passenger safety, we will support the recovery of air travel and the growth of Japanese economy. At the same time, we will proactively promote environmental initiatives and strengthen our relationship with all stakeholders including airport users, local communities, and airport related business entities to become a sustainable airport.



- 03 Sustainable NRT 2050
- 05 Sustainable Airport Digest Map

- 07 Special Feature Passenger Terminal 3 Expansion for Environment and Usability
- 09 Sustainable Airport Activity Highlights
- 15 Environmental Initiatives and Evaluation of FY 2021 Results

## Our Contribution to the Sustainable Development Goals

According to the targets of the United Nations Sustainable Development Goals (SDGs), we categorized our environmental activities. Icons corresponding to each goal are shown at the top of the Activity Highlights pages. Narita International Airport contributes to the achievement of the SDGs with our stakeholders\*.



\*“Our stakeholders” refers to passengers, local residents, local government, airport-related business entities and their employees, and all other persons associated with the airport.

# Sustainable NRT 2050

On March 25, 2021, NAA released “Sustainable NRT 2050.” This is the first time in Japan that an airport operator has set a net zero<sup>\*1</sup> target for the operating company and numerical targets for reducing CO<sub>2</sub> emissions among its stakeholders for the entire airport. To achieve our goals, we will address climate change mitigation with all stakeholders involved in our airport.

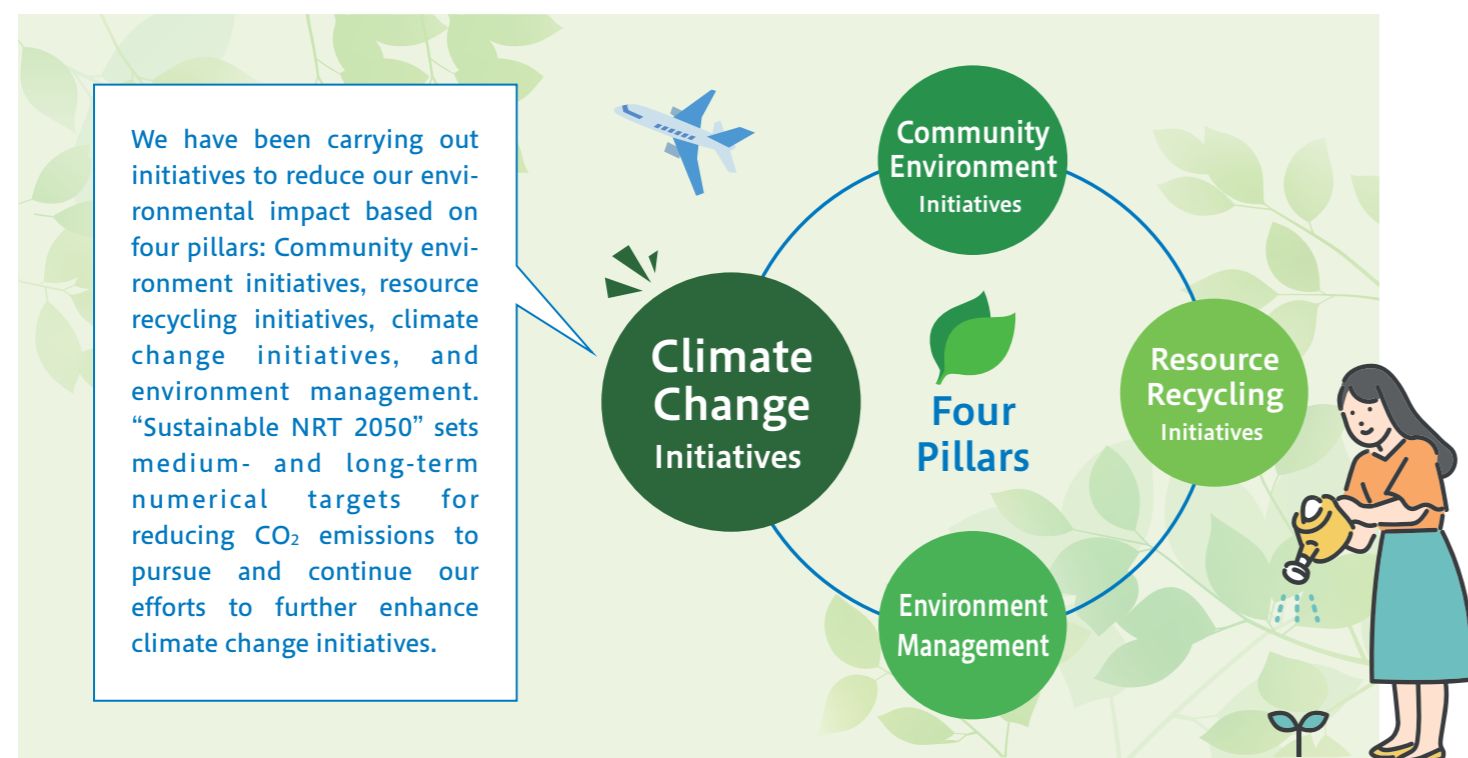
\*1 Net zero: The introduction of energy efficiency and renewable energy to reduce CO<sub>2</sub> emissions and then balancing CO<sub>2</sub> emissions through carbon fixation and removal, etc. to bring CO<sub>2</sub> emissions effectively to zero. (credit purchase is not included)

### FY 2030 Targets (Mid-Term)

- NAA Group will reduce its CO<sub>2</sub> by **30%** compared to fiscal 2015.
- We will aim to reduce Narita Airport's CO<sub>2</sub> emissions per flight by **30%** compared to fiscal 2015.
- We have set out our “**Next Actions**” for NAA to further reduce CO<sub>2</sub>.
- Our **Functionality Enhancement at Narita Airport** will continue to promote initiatives to **reduce environmental impact**.

### FY 2050 Targets (Long-Term)

- NAA Group will achieve **net zero** corporate CO<sub>2</sub> emissions.
- We will aim to reduce Narita Airport's CO<sub>2</sub> emissions by **50%** compared to fiscal 2015.



## Initiatives for “Sustainable NRT 2050”

NAA Group will contribute to the realization of a sustainable society starting with a decarbonized society in cooperation with our stakeholders.

### NAA Group's Initiatives

2030	2050	
Carbon neutral <sup>*2</sup> buildings	Convert buildings to ZEBs <sup>*3</sup> and zero-carbon <sup>*4</sup> energy supply	<ul style="list-style-type: none"> <li>● Continue to promote energy efficiency.</li> <li>● Newly constructed facilities and reconstructed buildings will be made carbon neutral and converted to ZEB (Net Zero Energy Building) by FY 2050.</li> <li>● Use zero-carbon fuels to supply energy for air conditioning and other applications.</li> </ul>
Convert 20% of purchased electricity to renewable energy	Convert 100% of purchased electricity to renewable energy	<ul style="list-style-type: none"> <li>● Introduce renewable energies sequentially and convert 20% of purchased electricity to renewable energy by FY 2030 and 100% by FY 2050.</li> </ul>
80% of aviation lighting to be converted into LED	100% of aviation lighting to be converted into LED	<ul style="list-style-type: none"> <li>● Promote the gradual conversion of aviation lights to LED, with 80% of aviation lights to be converted to LED by FY 2030 and 100% by FY 2050.</li> <li>● All lights to be installed will be LED for further Functionality Enhancement at Narita Airport.</li> </ul>
Convert all business vehicles other than special-purpose vehicles to low-emission vehicles	Convert all business vehicles to zero-carbon	<ul style="list-style-type: none"> <li>● Continue to promote the use of low-emission vehicles for business use, and by FY 2030, all vehicles except special vehicles such as airport fire trucks and snow removal vehicles will become low-emission vehicles.</li> <li>● Convert all business vehicles to zero carbon by FY 2050.</li> </ul>

\*2 Carbon neutral: The introduction of energy efficiency and renewable energy to reduce CO<sub>2</sub> emissions and then offsetting CO<sub>2</sub> emissions through carbon fixation and removal, etc. as well as carbon offset credit purchases to bring CO<sub>2</sub> emissions effectively to zero.  
 \*3 ZEB: Abbreviation for Net Zero Energy Building. A building that aims to achieve a zero annual primary energy consumption balance by introducing renewable energy sources in addition to energy conservation through architectural design and the use of natural energy.  
 \*4 Zero carbon: Achieving zero CO<sub>2</sub> emissions by using renewable energy and biofuels.

### Next Actions

NAA will raise employees' awareness to rapidly achieve the following goals.

Carbon neutralization of NAA Building	<ul style="list-style-type: none"> <li>● Carbon neutralize NAA Building. (Conversion of electricity to renewable energy, offsetting<sup>*5</sup> CO<sub>2</sub> emissions associated with air conditioning)</li> </ul>
Zero CO <sub>2</sub> business trip for NAA employees	<ul style="list-style-type: none"> <li>● Reduce NAA employees' CO<sub>2</sub> emissions from business travel to zero through offsetting.</li> </ul>
Promotion of low-carbon commuting for NAA employees	<ul style="list-style-type: none"> <li>● Promotion of teleworking and switching to low carbon transport will reduce CO<sub>2</sub> emissions from NAA employees commuting by 50%.</li> </ul>

### Functionality Enhancement at Narita Airport

We will promote initiatives for reducing the impact on the environment of our Functionality Enhancement at Narita Airport.

Reduced taxiing distance	<ul style="list-style-type: none"> <li>● Reduce aircraft taxiing distance by 30% by improving facilities.</li> </ul>
Reduced environmental impact during construction	<ul style="list-style-type: none"> <li>● Ensure the use of emission-control construction machinery, etc.</li> <li>● Use low-carbon construction methods (utilization of information and communication technology [ICT] to reduce labor, enhance development and achieve more efficiency as well as reduce the quantity of heavy machinery, etc.)</li> <li>● Promote the early greening of construction surfaces, the development of green belts and conservation of low-lying wetlands.</li> </ul>
Effective use of logged timber	<ul style="list-style-type: none"> <li>● Recycle logged timber generated by construction.</li> </ul>

\*5 Offset: Compensating for the volume of CO<sub>2</sub> emissions that are difficult to reduce despite all efforts by carbon offset credit purchases and investing in CO<sub>2</sub> reduction activities.

### Joint Initiatives with Our Stakeholders

In collaboration with our stakeholders, we will undertake multilateral studies and encourage measures to promote the reduction of CO<sub>2</sub> emissions.

2030	2050	
Development of a framework for accepting SAF <sup>*6</sup>	Development of a framework for accepting next-generation aircraft	<ul style="list-style-type: none"> <li>● Work with stakeholders to provide the necessary acceptance framework and encourage the introduction of SAF.</li> <li>● Develop the necessary framework for accepting next-generation aircraft (electric and hydrogen powered) while monitoring their development and use.</li> </ul>
Convert forklifts to low-emission	Convert GSE <sup>*7</sup> vehicles to zero-carbon	<ul style="list-style-type: none"> <li>● Fifty percent of forklifts to be low-emission by FY 2030.</li> <li>● Improve the efficiency and decarbonization of the entire GSE fleet by promoting the sharing and zero-carbonization of GSE vehicles used for ground handling operations.</li> </ul>
Introduction of measures to encourage lower stakeholder CO <sub>2</sub> emissions		<ul style="list-style-type: none"> <li>● Consider various measures to contribute to the reduction of CO<sub>2</sub> emissions of stakeholders. (e.g., discounted parking fees for holders of EV/FCV [fuel cell vehicle] certification cards)</li> </ul>

\*6 SAF: Abbreviation for Sustainable Aviation Fuel. A jet fuel produced from sustainable sources with low CO<sub>2</sub> emissions in the process from production and collection of raw materials to combustion.  
 \*7 GSE: Abbreviation for Ground Support Equipment. The general term for equipment used in ground handling operations.

●\*1, \*2, and \*4 are definitions based on the Airports Council International (ACI)



Principal Environmental Initiatives at a Glance

# Sustainable Airport Digest Map

## In Passenger Terminals

### 1 General Waste Sorting

Waste is sorted for recycling into six categories in terminal lobbies, and 10 categories in office areas.



### 2 Solar Panels

Solar power panels installed at Passenger Terminal 1 and the NAA-Building generate electricity for lighting in those buildings.



### 3 Kitchen Wastewater Treatment Facilities and Grey Water Production Facilities

Waste water from restaurants in terminals is treated and reused as flushing water in airport toilets.



## For Vehicles

### 4 Fast Chargers for Electric Cars

For the convenience of airport users driving electric vehicles (EVs), fast chargers are provided in parking lots P1 and P2.



### 5 Hydrogen Station

This station supports drivers of fuel cell vehicles, which are becoming popular in recent years.



### Introduction of Low Emission Vehicles

We promote the introduction of low emission vehicles such as EVs as well as fuel-efficient and low-exhaust cars.



## On Taxiways

### 6 LED (Light-Emitting Diode) Lighting

Highly energy-efficient LED lights have been installed for taxiways and some parts of lighting in passenger terminal buildings.



## Around the Airport

### Noise Mitigation Embankments

Mitigation embankments and wooded buffer zones have been constructed to reduce aircraft noise.



### Greenport Eco-Agripark

On the noise mitigation land, we maintain a hands-on nature conservation park with a rich diversity of natural life.



### Environment Monitoring

To understand the environmental impacts from airport operations, we take year-round and short-term noise, air quality, and water quality measurements and disclose the results on our website.



## At Airport Facilities

### 7 Recycling Plant

Asphalt, concrete, and other construction waste is crushed and recycled into paving material.



### 8 Rainwater Treatment Facility

Rainwater from a holding pond is treated and reused for cooling water in the Central Heating and Cooling Plant and for flushing water in the passenger terminal toilets.



## On Aprons

### Construction Waste Management

We reduce construction waste for apron pavement repair work through a technique developed by NAA called "Bonded Overlay Method."

### GPU (Ground Power Units)

Quiet, zero-emission GPUs have been installed at fixed stands of passenger terminals and in cargo areas. They provide electricity and air conditioning to parked aircraft.



## For Aircraft

### 9 Noise Reduction Hanger (NRH)

A hangar-type noise reduction facility drastically decreases sound levels of aircraft engine testing.



### Landing Charge System for International Flights Based on the Narita Aircraft Noise Index

To encourage airlines to use quieter aircraft, we have introduced a noise-related landing charge system for international flights. These aircraft also contribute to the reduction of CO<sub>2</sub> emissions.



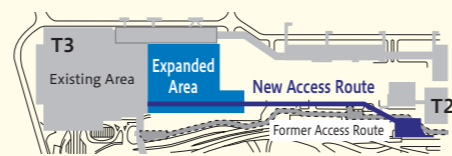


Special Feature Evolution into a Sustainable Airport

# Passenger Terminal 3 Expansion for Environment and Usability

## Project Overview

In response to increasing demand for low-cost carriers (LCCs), Terminal 3 was expanded to the south for a more spacious departure lobby. Self-service check-in machines and self-service baggage drop machines are widely available in the expanded area to promote non-contact services and FAST TRAVEL. The smooth and safe flow of the processes has increased its annual capacity from nine million to 15 million passengers. The new access route shortened the travel distance between Terminals 2 and 3 by 200 meters.



## Major Points for Improving Usability with Less Environmental Impact

### 1 Preliminary and conceptual design for Terminal 3

Incorporating its design concept of being "casual, functional and exciting," the expanded Terminal 3 offers a simple, user-friendly, and captivating space and atmosphere to passengers and visitors. For terminal design, reducing the environmental impact was one of the key elements. Instead of backlit signage, we adopted large and easy-to-see illustrated signs on the walls and floors, reducing power consumption. White walls and floors make the space feel brighter with fewer lighting fixtures or lumens. As illustrated by the floor graphics featuring running tracks, the terminal is also designed under the concept of "more than 2 into 1" which consolidates multiple functions into one.

### 2 Review of passenger route and improved access to railway station

For the smooth flow of departing passengers, the floor is painted in different colors to make walking areas

noticeable. Passenger routes were designed to be as straight as possible for better visibility and a high level of safety. The new access corridor connecting Terminal 3 and the railway station leads passengers directly to trains without passing through Terminal 2.



### 3 Effective use of logged timber

In this expansion project as well, we used building materials with a lower environmental impact as much as possible. Airport stanchions in the expansion area are made from logged timber resulting from our functional enhancement (See page 13).

## A WORD FROM OUR STAFF

### Toward becoming a green building with an even better customer experience



**KAYAMA Kumi** Architecture, Engineering Department  
Narita International Airport Corporation (NAA)

During the expansion project, I have covered wide range of roles including internal and external coordination, examination of interior design, and schedule adjustments. As for coordination, I repeatedly held discussions with many related parties, hearing opinions from the operation side. Our goal is realizing ZEB (Net Zero Energy Building) with eco-friendly materials and energy-efficient construction equipment. We also try to develop construction plans with minimal environmental impact, paying attention to CO<sub>2</sub> emissions generated from operation to renovation and destruction of buildings.

## Creating a Colorful Space with Art to Support SDGs

On the departure lobby expansion project, we aimed for an even better customer experience (CX). On your way from the train station to Terminal 3, you will find vibrant art here and there. They are displayed to fill the passengers' memories with bright colors under the concept of "Make Terminal 3 Vivid." Knit artist HASUNUMA Chihiro was appointed to create artwork with eco-friendly materials and unused airport equipment. We take account of

sustainable airport design fitting the times.



A young team cooperated from planning to execution.



Artwork was made from used clothes donated by employees.



Artwork by knit artist HASUNUMA Chihiro. In addition to viewing enjoyment, it also functions according to the location and space to provide comfort and a better experience to passengers.

## A WORD FROM OUR STAFF

### To become a place for new customer experiences



**KUBOKI Shuhei** Sales Planning Promotion Section, CS & ES Enhancement Department  
(Currently Facility Planning Group, Airport Planning Department)  
NAA

The main users of Terminal 3 are Millennials<sup>\*1</sup> and Generation Z<sup>\*2</sup> passengers. Since they are belief-driven buyers and conscious of the brand's position on social issues, we applied the concept of "ethical consumption"<sup>\*3</sup> for our terminal design. Interactive art pieces that can be touched or photographed are also installed to amuse customers. As a result, our new facilities have received a great deal of positive feedback such as photos posted on social media and featured in the fashion press as well. Terminal 3 has received several prestigious design awards in Japan, and I am honored to have created new values at Narita International Airport. With this eco-conscious art installation, I wish to offer a new customer experience to airport users, employees, and local residents.

\*1 Millennials: Those born from 1989 to 1995. The first generation that grew up with the internet.

\*2 Generation Z: Those born from late 1990's to around 2000. They value experiences and seek authentic local activities while traveling.

\*3 Ethical consumption: Practice of purchasing products and services depending on the stance a business takes in regard to social or ethical issues.

# Activity Highlights



Toward achievement of “Sustainable NRT 2050,” we are committed to combating climate change, environmental measures airport operations.

for local communities, and resource recycling. Here are some of our activities to reduce the environmental impact of

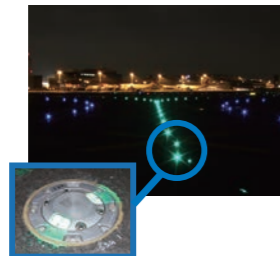
**Reduce environmental impact at airport facilities**

## Reduce Energy Consumption with LEDs

At Narita International Airport, huge number of lightings are used such as taxiway lights and those in passenger terminals. Currently, in consideration of convenience, running costs, and the environmental aspect, we are switching to light-emitting diode (LED) light bulbs.

**Measure 1 On Taxiways**

The taxiway lights that navigate aircraft have been replaced from halogen bulbs to LEDs, which have longer lifespans and consume one tenth of the electricity of conventional lamps. As of the end of fiscal 2021, LEDs accounted for 71.6% of taxiway edge lights and taxiway center line lights.



**Measure 2 In Passenger Terminals**

In Terminals 1 and 2, lighting for the ceilings, signs outside of buildings, advertising boards, and information signs have been switched to LEDs. Eight thousand units are to be replaced with LED lighting by fiscal 2023.



**Reduce CO<sub>2</sub> emissions from aircraft**

## SAF Dramatically Lowers CO<sub>2</sub> Emissions

At Narita, where aircraft emissions account for 70% of the airport's total carbon emissions, industry-wide initiatives are required. We proactively carry out measures to reduce CO<sub>2</sub> emissions and become a sustainable airport.

**Measure 1 Integration of Sustainable Aviation Fuel**

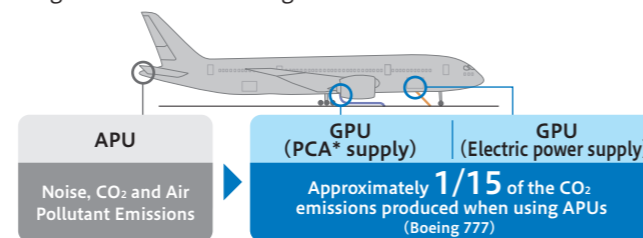
Narita International Airport has incorporated sustainable aviation fuel (SAF) into its operation with existing fueling facilities since October 2020. In the first half of 2022, ground facilities for loading SAF were completed based on “Sustainable NRT 2050” initiatives. Since the new facilities accept even small amounts of SAF produced in feasibility studies, SAF manufactured in Japan was transported to Narita Airport in September 2022. This was the first case in which domestically produced SAF for demonstration purposes was supplied to aircraft with an airport hydrant system.



\*SAF is produced from feedstocks such as vegetable oils, animal fats, and waste cooking oils. It is used by blending with traditional jet fuels and is certified to have the same qualities and characteristics as conventional fuel.

**Measure 1 Encouraging GPU Usage**

APU operation generates gases causing global warming and air pollution. Consequently, the use of APUs is restricted and the use of GPUs is encouraged in passenger terminals and cargo areas. The GPU usage rate in fiscal 2021 was 88.6%.



\*PCA: Pre-Conditioned Air

**Solve staff shortages and cut emissions with autonomous buses**

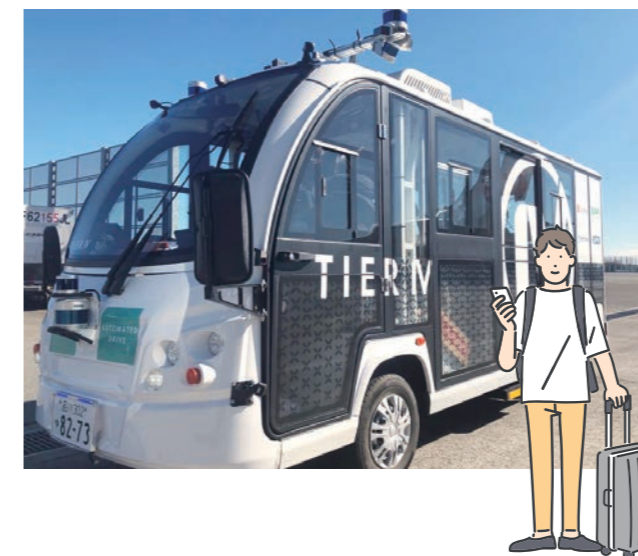
## Introduction of Low-emission Vehicles

Self-driving buses are all-electric vehicles mounted with electric motors instead of gasoline engines. The introduction of low-emission vehicles will contribute to achieving the goals set in “Sustainable NRT 2050.”

**Measure 1 Demonstration Experiment of an Autonomous Bus**

To introduce autonomous driving technology, NAA carried out demonstration experiments\* in an airport restricted area by using the local 5G network as the first airport in Japan. Through this measure, we aim to solve staff shortages and reduce the risk of car accidents caused by human error.

\*FY 2021 Development Demonstrations for Realizing Local 5G Services to Solve Issues by the Ministry of Internal Affairs and Communications, Japan

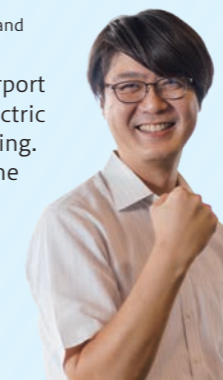


**A WORD FROM OUR STAFF**

**For the realization of autonomous driving**

HORI Kiyoshi  
DX Development and Planning, DX Development and Planning Department, NAA

In the demonstration experiment, airport staff were invited to ride on an electric self-driving bus to experience the feeling. We will continue our tests toward the introduction of eco-friendly driverless buses.



**Use local produce transported on mixed trains**

## Joint Feasibility Experiment by Three Parties

In March 2022, a demonstration experiment was conducted in which locally grown vegetables were transported on a passenger train and served in an airport restaurant. Three entities were involved in this project; Keisei Electric Railway Co., Ltd., a restaurant operator (Iwore Keisei), and a non-profit organization (“Chiba Veggie”).

**Measure 1 Transportation of Local Produce on Mixed Trains**

Once a week, Chiba Veggie loads locally grown vegetables including substandard produce onto trains at Keisei-Sakura Station. Keisei Electric Railway carries the vegetables to the airport on passenger trains. This initiative promotes local food production and consumption and cuts emissions by replacing truck delivery with rail transport.

**Measure 2 Menu Development with Imperfect Produce**

A Japanese restaurant in Terminal 1, KEISEI YUZEN, developed a menu with the transported produce and served the produce in limited numbers. The utilization of substandard vegetables reduced food waste and was well received by customers.



Soba with “kakiage” tempura featuring locally grown vegetables

**A WORD FROM OUR STAFF**

**Promoting SDGs with colorful vegetables**

IWAI Hiroyoshi KEISEI YUZEN, Iwore Keisei

We started this project to help support the SDGs (United Nations Sustainable Development Goals). The local products supplied by Chiba Veggie are fresh and delicious. The menu was developed to make the best use of their flavor and color.





Minimize the area impacted by aircraft noise

## Establishing Flight Corridors

To minimize the area impacted by aircraft noise, flight corridors before landing and after takeoff have been established. Aircraft are urged not to deviate from these corridors.

**Measure 1** Monitoring Flight Corridors

In case of deviation without any valid reasons such as weather or safety, their flight numbers and reasons are disclosed to the public. Also, the Ministry of Land, Infrastructure, Transport and Tourism issues a directive to the airlines concerned. In fiscal 2021, the number of aircraft deviating without valid reason was five (0.004%).

Resource recycling

## 3Rs of Waste

To reduce the environmental impact, the 3Rs (Reduce, Reuse, and Recycle) are encouraged when handling waste produced by airport operation.

**Measure 1** General Waste Sorting

The greatest volume of general waste produced at Narita International Airport is aircraft cabin waste\*. Waste such as inflight magazines, bottles, cans, and plastic bottles are sorted and recycled by some airlines in spite of limited onboard sorting space and time available for cabin cleaning. Meanwhile, general waste from passenger terminals and the cargo and office areas is sorted for recycling. To reduce general waste and increase the recycling rate of plastic bottles, waste receptacles for leftover beverages have been installed before security checkpoints, where many plastic bottles with leftover are thrown away, since fiscal 2015. We also recycle paper that is shredded at the airport, 132 tonnes in fiscal 2021.



\*Except catering waste that must be incinerated under quarantine laws.

Address the plastic waste problem

## Eliminate Disposable Plastic Products for 100% Sustainability

In our Narita Airport Plastic Smart initiatives, we aim to switch all disposable plastic products distributed at NAA-managed stores and lounges to sustainable ones by fiscal 2025.

**Measure 1** Paper Straws and Shopping Bags Made from Biomass\* Materials

Since September 2019, all five NAA managed-restaurants and lounges have replaced their plastic straws with paper ones. As for shopping bags provided at NAA-managed stores, NAA Retailing Corporation has switched to material that contains 40% biomass\* plastic.

\*Biomass: Renewable organic material that comes from plants and animals. It can be converted into energy sources and other materials (except fossil ones including oil and coal).



Paper straws Shopping bags from NAA-managed stores

**Measure 2** Sustainable Private-Label Product and Packaging Materials

“Kusui (sky water)” is a private branded product of Greenport Agency Co., Ltd. (GPA). The PET plastic bottle and cap are made with 30% bioplastic, with thinner labels printed in biomass ink. As for NAA calendars, the wrapping material was switched to paper from plastic.



GPA's private brand “Kusui” Paper wrapping for a calendar

Recycle used uniforms and carpet tiles

## Waste Less, Save More

We promote the recycling of used uniforms and carpet tiles generated from airport renovation work.

**Measure 1** Material Recycling of Unnecessary Uniforms

NAA Retailing Corporation recycles textiles of used uniforms into car sound deadening materials. Now, only 11.7% of the fabric is discarded, cutting emissions by 92.4%.



**Measure 2** Horizontal Recycling for a Circular Economy

Interior construction at the airport generates large amounts of used carpet tiles. We outsource the recycling of the tiles to a material recycling manufacturer. For CO<sub>2</sub> reduction and effective use of resources, we utilize the recycled carpet tiles, realizing horizontal recycling for a circular economy.



A WORD FROM OUR STAFF  
Uniform recycling to help the environment

MAEKAWA Tomomi  
Operations Division, Operations Department  
NAA Retailing Corporation

I expect that uniform recycling will help reduce CO<sub>2</sub> emissions and provide a solution to environmental problems and natural disasters. Now that addressing environmental issues is an urgent task, I feel it necessary to always look for what we can do.



A WORD FROM OUR STAFF  
To increase the recycling rate of waste

KAJIYAMA Daiki (Left)  
Architecture, Facilities Management Department, NAA  
FUTAGOISHI Risa (Right)  
Construction Management Section, Construction Operations Department  
AIRPORT MAINTENANCE SERVICE CORPORATION

We achieved the recycling of our construction waste, checking related legal issues carefully. The recycled carpet tiles are equivalent to conventional tiles in terms of price and construction, bearing comparison with appearance and usability. Starting with this approach, we aim to recycle more waste material.



Reduce waste by recycling

## Construction Waste Recycling at the Airport

Concrete and asphalt rubble produced by upgrading aprons and runways is crushed at the on-site recycling plant and used as aggregate in airport projects. Seventy-five thousand tonnes of construction waste were processed in fiscal 2021.

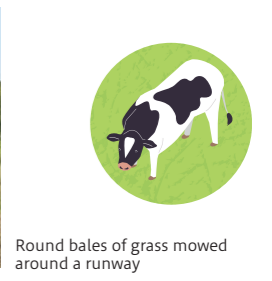


Recycling plant

Utilize grass cuttings from green spaces around the runways

## Use the Grass Cuttings as Feed

The green spaces around the runways are mowed several times a year, generating 3,300 tonnes of grass cuttings in fiscal 2021. The grass cuttings are given to farmers around the airport, and some of them are used effectively as feed.



# Activity Highlights



**Effective use of logged timber and coexistence with local communities**

## Effective Use of Cut Trees

The functionality enhancement at Narita Airport is estimated to require the clearing of 150,000 tonnes of trees. We upcycled some of them into meeting desks and airport stanchions to utilize our precious resources.

**Measure 1 Creation of Barrier Posts**

We transformed cut down trees such as cedar and wild mountain cherry into retractable belt barrier stanchions. The wooden columns create a relaxing atmosphere compared to metal ones, and give a warm welcome to Terminal 3 users.



**Corporation with local communities for sustainable growth**

## Lectures and Career Education for Students

**Measure 1 Presentation for Junior High Schools**

For better understanding on the role of Narita Airport and its environmental initiatives, we offer lectures to junior high school students around the airport. The presentation sessions are organized by Narita Airport Regional Symbiosis Promotion Foundation, and we introduce our recycling activities, initiatives for decarbonization, and countermeasures against aircraft noise.



Presentation in a junior high school

**Measure 2 Aviation Lecture for Career Education**

We provide presentations on the aviation industry to elementary and junior high school students in cooperation with airline companies. The presentations are part of the regional revitalization project implemented by municipalities on the south side of the airport.



Aviation seminar at the Museum of Aeronautical Sciences

Deepening their knowledge about the airport and its role, jobs and its worth, the students become more interested in airport jobs as well as the work itself.

**Environmental information dissemination**

## Public Relations Activities through Various Media

We disseminate information on the environmental measures taken at Narita Airport and the results in various media. Our environmental reports are posted on the NAA website, distributed to airport-related business entities and local residents, and sent to libraries and universities throughout the nation. They are also registered on a free distribution site that features corporate publications.



**Become an approachable community center for local residents**

## Promoting Interaction with Local Residents

The South Area Consultation Center was relocated inside an airport spa resort and given a new nickname the "Soraport Narita Airport Community Lounge."

Desks and partitions in the space are made from eco-friendly logged timber.



**A WORD FROM OUR STAFF**

### For coexistence and coprosperity with local residents

**SATO Masashi**  
Southern Community Center  
Community and Environmental Affairs Department, NAA

Relocation of the Center to a more accessible site has promoted our interaction with local residents. For our coexistence and coprosperity, it is important to be supportive and build trust with the communities. I believe that the Center will play a more significant role in that aspect.



## Greening Projects

According to the Greening Master Plan for Narita Airport and Environs, we develop green areas in consideration of vegetation, aesthetic value, and unique topographical features.

**1 Satoyama (Countryside Forest) Development**

**2 Development of Drainage Ways and Waterside Environments**

**3 Narita Sakura no Yama (Cherry Blossom Mountain)**

**4 Shibayama Mizube no Sato (Waterside Park)**

**5 Asakura Yasuragi no Mori (Tranquil Forest)**

**6 Greenport Eco-Agripark**

**7 Sanrizuka Sakura no Oka (Cherry Blossom Hill)**

**8 Minami Sanrizuka Nature Trail**

**9 Toyomi Shinonome no Oka (Hill of Dawn)**

**Natural Parkland Development**

Greenport Eco-Agripark is a pristine natural adventure park on a 17.6-hectare tract of NAA land that adjoins Shibayama Mizube no Sato Waterside Park, south of the airport (in the Iwayama district of Shibayama). Opened in 2007, it has a variety of geographical features including low hills and vales (*yatsu*), which are typical of the Hokuso region. The Park is home to many species of insects and has a rich diversity of plants and animals. Our aim is to restore the *satoyama* landscape, and to protect an environment rich in biodiversity.

## COLUMN

### Natural Environmental Conservation for Our Precious Flora and Fauna

Regarding the environmental impact on functionality enhancement at Narita Airport, we conducted an assessment based on the Environmental Impact Assessment Law. Our Environmental Impact Statement was published with its results and protection measures to remedy the effects included. According to the statement, we launched a series of conservation measures such as precious wildlife relocation, transplanting, and other compensatory measures. The capture and ex-situ conservation of Japanese pond turtles and Japanese fire belly newts has been conducted.



Japanese fire belly newt





# Environmental Initiatives and Evaluation of FY 2021 Results



## Community Environment Initiatives

\*1 Quieter aircraft: Aircraft classified as Class A to C according to the Narita Aircraft Noise Index.  
 \*2 Low-emission vehicles: Electric, hybrid, plug-in hybrid, natural gas, fuel cell, clean diesel, and low fuel consumption, low-emission certified vehicles (gasoline, diesel, and LPG [liquefied petroleum gas])

Targets	Initiatives	Results (FY 2021)	
Reduce environmental impact from aircraft noise	<ul style="list-style-type: none"> <li>Encourage the introduction of quieter aircraft<sup>*1</sup></li> <li>Limit the use of auxiliary power units (APUs) and encourage the use of ground power units (GPUs)</li> </ul>	<ul style="list-style-type: none"> <li>Strengthen noise mitigation measures</li> <li>Enhance aircraft noise monitoring and disclosure of results</li> </ul>	<ul style="list-style-type: none"> <li>The introduction rate of quieter aircraft was 93.8%, an increase of 2.3% from FY 2020</li> </ul>
Conserve air quality	<ul style="list-style-type: none"> <li>Encourage the introduction of low-emission aircraft</li> <li>Implement measures to reduce aircraft taxiing times</li> <li>Limit the use of APUs and encourage the use of GPUs</li> </ul>	<ul style="list-style-type: none"> <li>Promote energy saving at airport-related facilities</li> <li>Encourage the introduction of low-emission vehicles<sup>*2</sup></li> <li>Enhance air quality monitoring in the vicinity of the airport and disclosure of results</li> </ul>	<ul style="list-style-type: none"> <li>Air pollutant (NOx) output: Decreased by 7.2% compared to FY 2020 levels (19.1 kg/flight)</li> </ul>
Maintain water quality of rainwater runoff	<ul style="list-style-type: none"> <li>Properly use, collect, and process deicing agent</li> <li>Take measures to prevent the release of turbid water, etc.</li> <li>Create retention areas and settling grit chambers in construction areas during construction to prevent the release of turbid water</li> </ul>	<ul style="list-style-type: none"> <li>Divide construction zones to limit the occurrence of turbid water</li> <li>Enhance water quality monitoring in rivers, etc., in the vicinity of the airport and disclosure of results</li> </ul>	<ul style="list-style-type: none"> <li>Some fluctuation, but maintaining water quality of an average year</li> </ul>
Conserve natural environments that nurture biodiversity	<ul style="list-style-type: none"> <li>Ascertain the status of the natural environment and take preservation measures for rare species</li> <li>Preserve agricultural environments</li> </ul>	<ul style="list-style-type: none"> <li>Restore the <i>satoiyama</i> (countryside forest) landscape</li> <li>Preserve the Greenport Eco-Agripark and use it for educational programs, etc.</li> </ul>	<ul style="list-style-type: none"> <li>Suitable management of greening projects in the airport area</li> <li>Greenport Eco-Agripark preservation and use</li> </ul>
Implement and reinforce environmental initiatives in collaboration with local communities	<ul style="list-style-type: none"> <li>Use noise control areas tailored to local conditions</li> </ul>	<ul style="list-style-type: none"> <li>Encourage environmental conservation initiatives in collaboration with local communities</li> </ul>	<ul style="list-style-type: none"> <li>Suitable management of land vacated by relocation and leasing of agricultural land</li> </ul>



## Resource Recycling Initiatives

Targets	Initiatives	Results (FY 2021)	
Recycle resources	<ul style="list-style-type: none"> <li>Reduce general waste and encourage recycling at airport-related facilities</li> <li>Encourage recycling of industrial waste (packaging material, wooden skids, etc.)</li> <li>Encourage measures to reduce aircraft cabin waste</li> </ul>	<ul style="list-style-type: none"> <li>Conduct activities to raise awareness among passengers, employees, and other airport users</li> <li>Recycle concrete and asphalt waste material generated by the airport</li> <li>Take measures for the effective use of grass clippings, cut trees, etc.</li> <li>Encourage green procurement</li> </ul>	<ul style="list-style-type: none"> <li>General waste incinerated: Decreased by 19.2% compared to FY 2020 levels (0.42 kg/airport user)</li> </ul>
Recycle water resources	<ul style="list-style-type: none"> <li>Implement potable water saving measures based on analysis of water usage conditions by building and by season</li> <li>Encourage the installation of water-saving equipment when facilities are updated</li> </ul>	<ul style="list-style-type: none"> <li>Reduce potable water usage by utilizing grey water</li> <li>Conduct activities to raise awareness among passengers, employees, and other airport users</li> </ul>	<ul style="list-style-type: none"> <li>Potable water usage: Decreased by 26.4% compared to FY 2020 levels (64.0 L/airport user)</li> </ul>



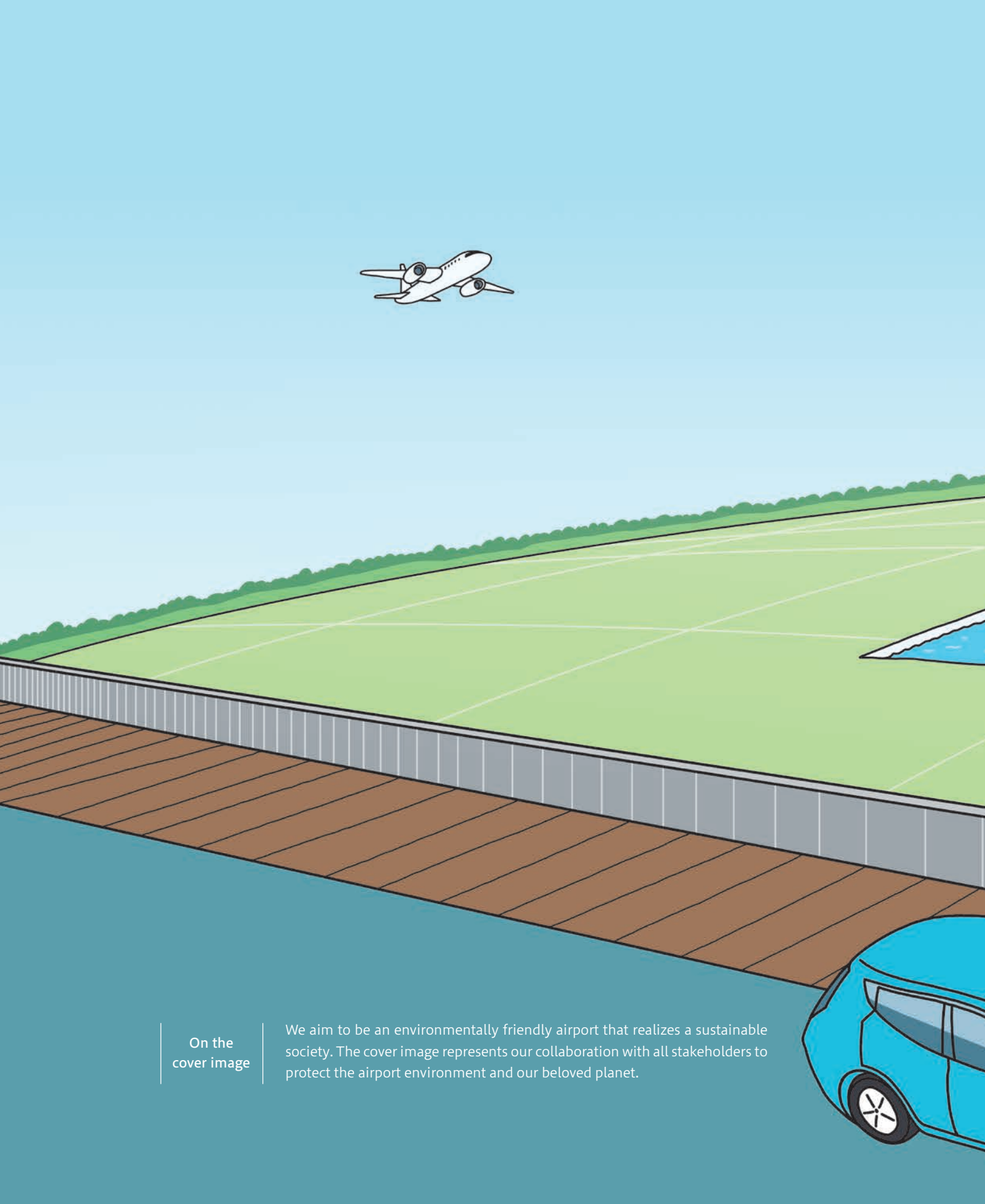
## Climate Change Initiatives

Targets	Initiatives	Results (FY 2021)	
Reduce CO <sub>2</sub> emissions from the airport	<ul style="list-style-type: none"> <li>Encourage the introduction of low-emission aircraft</li> <li>Implement measures to reduce aircraft taxiing times</li> <li>Limit the use of auxiliary power units (APUs) and encourage the use of ground power units (GPUs)</li> <li>Take measures toward the introduction of next-generation aviation fuels</li> <li>Encourage travel to the airport in low-emission vehicles (install EV charging stations, natural gas and hydrogen stations)</li> <li>Encourage the introduction of low-emission vehicles and eco-driving</li> <li>Generate electricity when incinerating waste through energy recovery</li> </ul>	<ul style="list-style-type: none"> <li>Select low-carbon electric power sources when purchasing electric power</li> <li>Encourage the introduction of renewable energy</li> <li>Increase installation of LED lights on taxiways</li> <li>Encourage energy-saving measures through energy management</li> <li>Conduct energy conservation programs (raise awareness of energy conservation, "COOL BIZ" and "WARM BIZ")</li> <li>Encourage installation of energy-saving equipment when constructing new facilities and renovating existing facilities</li> </ul>	<ul style="list-style-type: none"> <li>Airport CO<sub>2</sub> emissions: Decreased by 10.9% compared to FY 2020 levels (4.99 tCO<sub>2</sub>e/flight)</li> </ul>



## Environment Management

Targets	Initiatives	Results (FY 2021)	
Engage in dialogue with stakeholders	<ul style="list-style-type: none"> <li>Promote dialogue with stakeholders</li> <li>Implement environmental conservation programs centered on the Eco-Airport Development and Planning Council</li> <li>Conduct environmental education and awareness activities for airport staff</li> </ul>	<ul style="list-style-type: none"> <li>Publicly release environmental information such as noise, air quality, and water quality measurement results and flight routes</li> <li>Give presentations at environment-related conferences on noise, air quality, and other topics</li> <li>Conduct Touring Environmental Classrooms and seminars at universities</li> </ul>	<ul style="list-style-type: none"> <li>Held interactive dialogue with airport-related business entities through the Eco-Airport Development and Planning Council</li> <li>Conducted activities to raise awareness among passengers, employees, and other airport users through various events organized by the Council</li> <li>Conduct lectures at universities, elementary and junior high schools in local municipalities, and for career education</li> </ul>
Pursue the creation of value by taking measures with stakeholders to reduce the environmental impact of airport activities throughout society as a whole	<ul style="list-style-type: none"> <li>Encourage activities to reduce environmental impact in collaboration with stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>Encourage procurement that takes the environment into consideration</li> </ul>	<ul style="list-style-type: none"> <li>Promoted green procurement at the Council</li> </ul>
Reduce environmental impact in collaboration with airports in Japan and abroad	<ul style="list-style-type: none"> <li>Encourage information exchanges and joint environmental conservation activities through liaison conferences with other leading airports in Japan</li> </ul>	<ul style="list-style-type: none"> <li>Exchange information with and express opinions to the Airports Council International (ACI)</li> <li>Exchange information with and provide technology to overseas airports</li> </ul>	<ul style="list-style-type: none"> <li>Exchanged information through ACI activities</li> </ul>
Environmental conservation through environmental assessments and verification	<ul style="list-style-type: none"> <li>Conduct environmental assessments based on the Environmental Impact Assessment Act toward improvement of airport functionalities</li> </ul>	<ul style="list-style-type: none"> <li>Conduct voluntary environmental assessments</li> </ul>	<ul style="list-style-type: none"> <li>Implemented protection measures based on the Environmental Impact Statement</li> <li>Conducted voluntary environmental assessment monitoring</li> </ul>
Conduct environment management using environmental certification programs	<ul style="list-style-type: none"> <li>Encourage environment management using environmental certification programs</li> </ul>		<ul style="list-style-type: none"> <li>Maintained Airport Carbon Accreditation Level 3 and promoted environment management using the program's methods</li> </ul>



On the  
cover image

We aim to be an environmentally friendly airport that realizes a sustainable society. The cover image represents our collaboration with all stakeholders to protect the airport environment and our beloved planet.

## Narita International Airport Corporation

### Airport Sustainability, Planning Department

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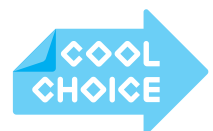
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Data are actual figures from fiscal 2021 (April 2021 to March 2022) while activity details are, in principle, current as of September 30, 2022.



Narita International Airport supports  
COOL CHOICE, an initiative aiming  
for a low-carbon society.

This document uses a universal design font that is easy to read.