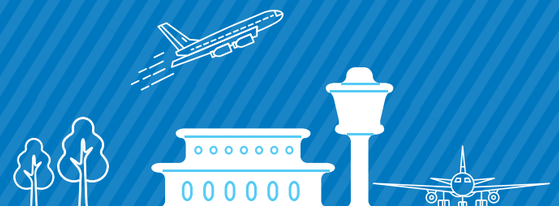
Sustainable Airport

Activity Highlights



Toward achievement of “Sustainable NRT 2050,” we are committed to combating climate change, environmental measures for local communities, and resource recycling. Here are some of our activities to reduce the environmental impact of airport operations.

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_2 emissions from aircraft

SAF Dramatically Lowers CO_2 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_2 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.

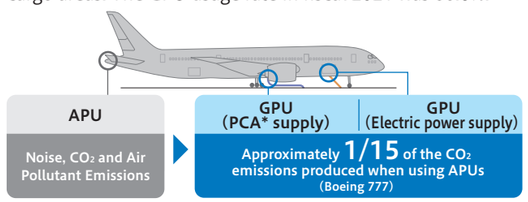
Reduce noise and CO_2 emissions from parked aircraft

GPU Usage Cuts Carbon Emissions to 1/15

We encourage airlines to use Ground Power Units (GPUs) for providing electricity and air conditioning to parked aircraft. GPU usage produces only one fifteenth of the emissions generated from APU (Auxiliary Power Units) operation, and reduces noise as well.

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

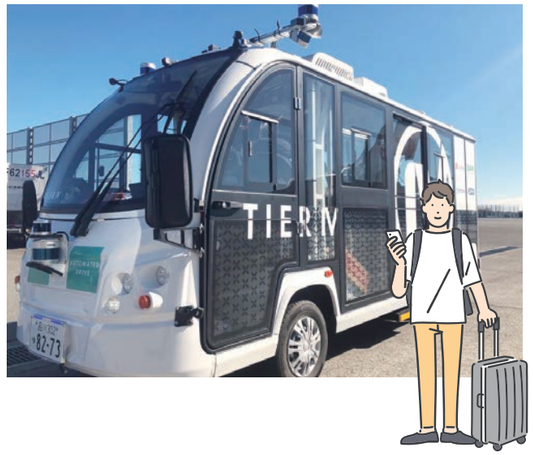
Introduction of Low-emission Vehicles

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.

Sustainable Airport

Activity Highlights

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_2 reduction and effective use of resources, we utilize the recycled carpet tiles, realizing horizontal recycling for a circular economy.

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

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_2 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.

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.

Round bales of grass mowed around a runway

Sustainable Airport

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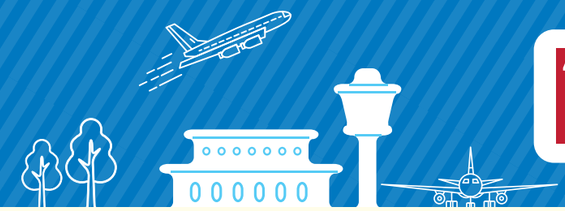


4 QUALITY EDUCATION · 8 DECENT WORK AND ECONOMIC GROWTH · 11 SUSTAINABLE CITIES AND COMMUNITIES · 12 RESPONSIBLE CONSUMPTION AND PRODUCTION · 15 LIFE ON LAND · 17 PARTNERSHIPS FOR THE GOALS

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 retractive belt barrier stanchions. The wooden columns create a relaxing atmosphere compared to metal ones, and give a warm welcome to Terminal 3 users.

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.

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.

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.

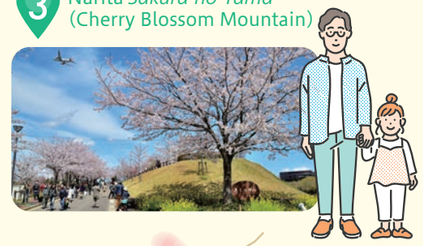
Greening Projects

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