

What is ECO AIRPORT





Promoting Eco-Airport Initiatives from a Medium- to Long-Term Perspective

Until now, Narita International Airport has developed and served as a gateway to Japan's skies. During that time, demand for air travel went through periods of decline owing to global political, economic, and social conditions, including disasters, epidemics, wars, and economic recessions. However, each time demand recovered strongly and, as the medium- to long-term trend, the number of aircraft movements and passenger numbers have increased steadily. Currently, the spread of the Novel Coronavirus (COVID-19) is having a serious impact on economic and social activities throughout the world. In particular, the very foundation of the airline industry has been shaken by long-term restrictions on the movement of people both domestically and internationally, and this is naturally having an impact on Narita Airport.

Narita International Airport Corporation (NAA) is implementing thorough measures against infectious diseases in corporation with airport business entities for the purpose of ensuring the safe and efficient airport operations and passengers' peace of mind. We are striving to maintain secure and smooth airport operations even in the midst of a difficult business environment, with confidence in the revival and further development of the airline industry in the long run. Looking

ahead to the time when demand recovers, we need to take a steady approach today.

In particular, functionality enhancement at Narita International Airport, including the construction of a new runway, has been positioned as a top priority. We will work to this end with the understanding of surrounding municipalities, local residents, and our stakeholders. Further functional enhancements will involve major changes, but we will proactively deal with environmental protection measures based on environmental assessments and the impact our activities have on the environment as well.

The environmental initiatives of Narita Airport as a whole comprise a broad range of measures based on Eco-Airport Vision 2030, which lays out the direction we should aim for by fiscal 2030, and the Eco-Airport Master Plan (FY 2016–2020), which sets out specific plans. The current Eco-Airport Master Plan is in its final year. In formulating the next plan, we will take a medium- to long-term perspective, taking into account the importance of strengthening the functions of the airport while aiming for sustainable development in tandem with the region, as well as the worldwide movement to address global environmental issues, especially in the aviation sector.

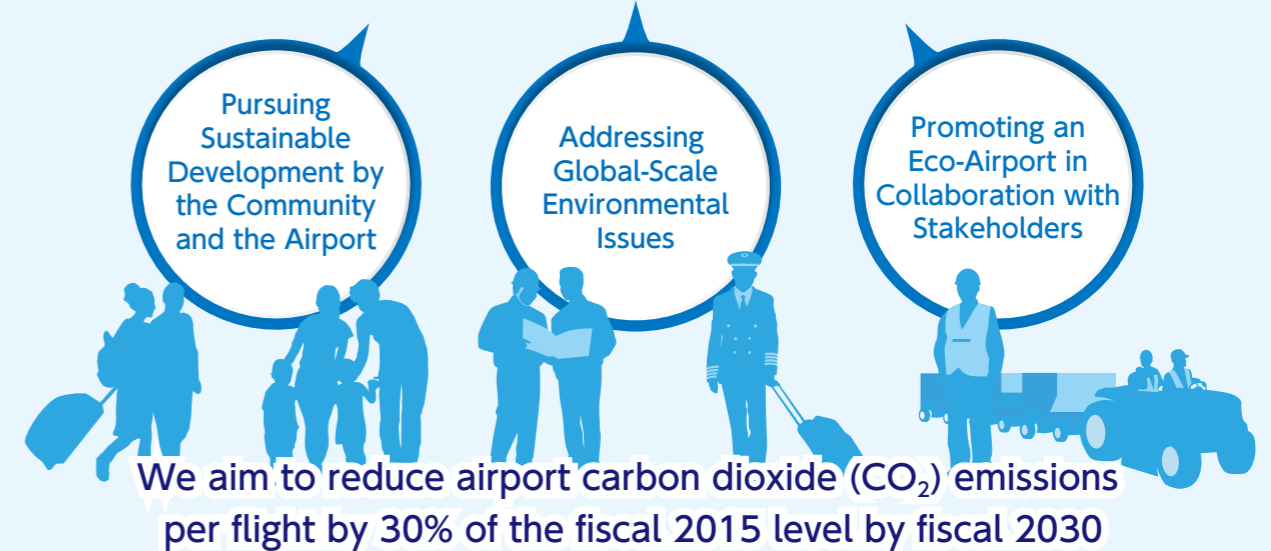
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Promoting Initiatives to Achieve Eco-Airport Vision 2030

Eco-Airport Vision 2030

In collaboration with stakeholders, Narita Airport pursues the development of a sustainable society by taking measures to reduce the environmental impact of airport operations on local communities and addressing global-scale environmental issues.



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



Eco-Airport Digest Map

Principal Environmental Initiatives at a Glance



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 Power Panels



Solar power panels at passenger terminal buildings 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.

5 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.

6 Hydrogen Station



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

For Vehicles

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

4 LED Lighting



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

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



To encourage airlines to use quieter aircraft and reduce CO₂ emissions, we have introduced a noise-related landing charge system. These aircraft also contribute to the reduction of CO₂ emissions.

For Aircraft

Noise Mitigation Embankments



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

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.



Around the Airport



Greenport Eco-Agripark



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

On Aprons



GPU (Ground Power Units)



Quiet, zero-emission GPUs have been installed at all fixed stands of passenger terminals to provide electric power and air conditioning to parked aircraft.

Construction Waste Management

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

At Airport Facilities

8 Recycling Plant



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



9 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.

Overcoming the Current Crisis on Our Way to Becoming an Environmentally Friendly Airport

Changes in Environmental Impact of Narita Airport Due to the COVID-19 Crisis

Owing to the COVID-19 (Novel Coronavirus) pandemic, Narita International Airport, which is used by a large number of customers from Japan and overseas, has closed some of its terminal facilities, resulting in a significant reduction in power consumption and thermal energy consumption for chilled water supply. Further, as the spread of COVID-19 forced the cancellation of local events that we have participated for many years, we dispatched our employees to community contribution activities instead. In Special Feature 1, we report on the reduction in power consumption and thermal energy consumption for chilled water supply due to facility closures, as well as our employees' activities to contribute to the local community.



Impacts from the Spread of COVID-19

The global spread of COVID-19 has had major impacts, especially on international passenger flights, at Narita International Airport. April and May 2020 saw significant decreases in the number of outbound passengers due to immigration restrictions implemented as a measure to prevent the spread of infection and loss of international travel demand from the Japanese market. Although the state of emergency was lifted in mid-May, the numbers of aircraft movements and international passengers both fell to record lows.

The number of international passenger flight aircraft movements in April was a record low of 2,238 (down 85% yoy*) and in May was the second lowest on record (down 85% yoy) since the airport opened, and domestic flights trended at a low level with 1,412 in April (down 68% yoy) and 632 in May (down 86% yoy). On the other hand, the number of international cargo flights marked record highs for two consecutive months, with 2,812 flights in April (up 35% yoy) and 3,449 in May (up 76% yoy). These record figures were due to the shortage of belly-cargo capacity amid the mass grounding of long-haul passenger aircraft, which led to an increase in the number of dedicated cargo flights, as well as the unusual arrangement of carrying

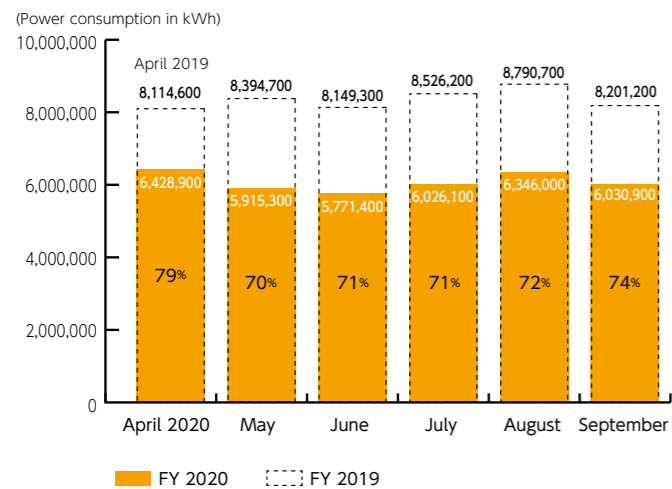
only cargo on passenger aircraft. In terms of the number of international passengers, in April foreign passengers numbered 24,974 (down 99% yoy), Japanese passengers numbered 23,203 (down 98% yoy), and transit passengers numbered 21,672 (down 90% yoy), and in May, foreign passengers numbered 17,732 (down 99% yoy), Japanese passengers numbered 11,753 (down 99% yoy), and transit passengers numbered 24,050 (down 92% yoy), marking record lows for two consecutive months.

To ensure passengers' peace of mind at the airport, we have implemented a number of measures to prevent the spread of infection such as temperature checks, disinfection and cleaning, increased airport ventilation, practice of social distancing, and dissemination of information to airport users.

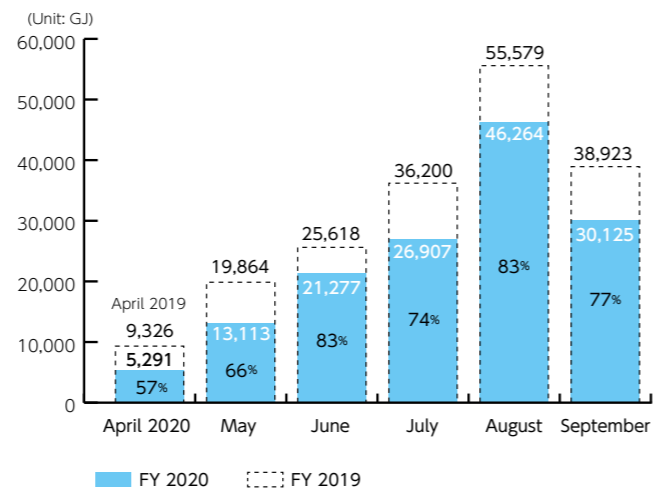
Regarding airport operation, Runway B was temporarily closed from April 12,*2 while terminal facilities (Satellite 1, Satellite 4, and the Domestic Flight Area of Terminal 1, and the Satellite of Terminal 2) were partially closed from April 20.*3 This partial closure of terminal facilities has resulted in a significant reduction in power consumption and thermal energy consumption for chilled water supply.

*1 yoy: year-over-year
 *2 Operation resumed from July 22.
 *3 Some facilities are scheduled to reopen from October 25.

Comparison of power consumption at Terminal 1



Comparison of thermal energy consumption for chilled water supply at Terminal 1



Community Contribution Activities

The COVID-19 pandemic has greatly affected the surrounding areas of the airport as well. The regional events we have been involved in for years were canceled or postponed.

As Narita is an inland airport, coexistence and co-prosperity with local communities is indispensable. To fulfill our commitment to "creating an airport that coexists in harmony with the local community," we conducted 14 community contribution activities in five cities and towns. This started with mowing the grass at a nursery school with All Nippon Airways (ANA) and Japan Airlines (JAL), and then expanded to include various activities such as hydrangea pruning and beach cleanups. From NAA, 106 executives and employees including all new recruits shared these valuable experiences, recognizing the role of Narita Airport as a member of the community.



Pruning Hydrangea in Tako Town



Beach cleanup at Yokoshibahikari Town

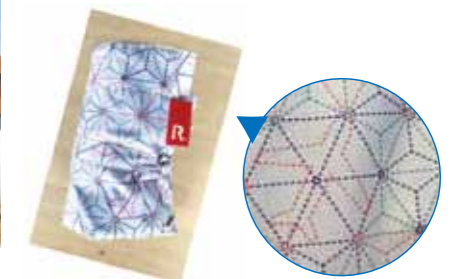
Have a pleasant flight with original eco-friendly bags!

Charging for plastic bags began on July 1. On the same day, Narita Airport original reusable shopping bags (eco-bags), jointly produced by NAA and ROOTOTE, a tote bag brand, went on sale. These bags have a large capacity of about 10 liters and are available in four different Japanese patterns, including a *kanoko* (fawn dot) pattern and an *asa-no-ha* (hemp leaves) pattern, casually interspersed with tiny airplanes.

Since the launch of our "Plastic Smart" initiative at Narita Airport in September 2019, we aim to eliminate disposable plastic products for 100% sustainability. In fiscal 2020, wooden straws were introduced in addition to the original eco-bags. Through the release of these bags, we promote reduced use of disposable plastic bags to combat ocean plastic pollution and make the airport more eco-friendly.



Narita Airport original eco-bags



Charging for Plastic Shopping Bags Changed Environmental Awareness

As mandatory charging for plastic shopping bags has been introduced, we asked tenant companies at Narita International Airport about their policies and views regarding the new system. Out of 117 stores that used plastic bags subject to the charge prior to July 1, 43 are now charging a fee while 74 are introducing bags with less environmental impact

or reducing the use of bags. The number of stores that use eco-friendly bags has increased to 251, including those that have been using such bags for some time already. With increased awareness of environmental issues, the airport tenants are taking proactive steps toward reducing plastic bag use.

* The figures include stores that are temporarily closed due to the COVID-19 outbreak.



Regarding the Environmental Impact Statement on Functionality Enhancement at Narita Airport

In September 2015, the "Four Party Council on Narita Airport" made up of the Ministry of Land, Infrastructure, Transport and Tourism (MLIT), Chiba Prefectural Government, the nine municipal governments around Narita Airport, and NAA began discussing specific measures to further enhance the functionality at Narita Airport, including the extension of the existing runways and the construction of an additional runway, in order to meet the expected increase in global demand for air travel. Subsequently, we conducted

an assessment based on the Environmental Impact Assessment Law (EIA Law) to evaluate the effects of our activities on the surrounding area, compiled a report on the result including the protection measures to remedy them, and published our Environmental Impact Statement (EIS) on September 27, 2019. We will continue to implement measures to reduce or compensate for the impacts indicated in the EIS with the cooperation of the concerned parties.

Natural Environment Conservation

The EIS summarizes the conservation methods of air quality, noise, water quality, hydrological environment, animals, plants, and ecosystems by category. Especially in the fields of animals and plants, we identified more than 2,000 species of animals such as birds, amphibians, insects, and fish, of which 215 are important species designated as endangered species. Further, more than 1,800 plant species, including

vascular plants and large fungi, were identified, of which 88 are important species listed as endangered or otherwise threatened. For these precious species, we will assess the needs of their conservation and implement compensatory measures such as transplanting to sites with less impact, along with environmental protection activities.

Examples of animals and plants to be protected



Japanese fire belly newt



Golden orchid



Goshawk



Eight-barbel loach

Post-Project Survey & Environment Monitoring Survey

Of the items selected for this EIA, a post-project survey will be carried out for those whose prediction remain highly uncertain. In addition, we will voluntarily

conduct environment monitoring surveys for items deemed to necessitate them.

Manager's Comment



Maki Doko Eco-Airport Development and Planning, Community and Environmental Affairs Department, NAA

Until now, I tended to focus on the development of the airport, but since being put in charge of this area, I have personally gone out into nature and discovered our precious flora and fauna and *satoyama* (countryside forest) landscape, and I have become aware of the richness of the natural environment around the airport and the magnitude of the impact of our functional improvements on the natural environment. Going forward, I would like to contribute to the further development of Narita Airport by focusing on both environmental conservation and airport development.

Ex-Situ Conservation of the Japanese Pond Turtle

The rivers around Narita International Airport are inhabited by Japanese pond turtles (*Mauremys japonica*), which are an endemic species of Japan. Their habitat has deteriorated significantly due to the increase of alien species, the three-sided concreting of waterways, etc. Presently, we catch and raise them for emergency relocation with the counsel of experts who are familiar with the local environment and this species, in line with the basic policies of Japan. With their release into the wild in mind, we strive for ex-situ conservation of this valuable endemic species by breeding and removal of hybrid specimens through genetic research.



Japanese Pond Turtle

Scientific name : *Mauremys japonica*
Classification : **Class** Reptilia **Order** Testudine
Family Geoemydidae **Genus** *Mauremys*

[Species characteristics]
Endemic to Japan. The carapace is slightly flat and juveniles have three ridges on their back, but adults have only one distinct ridge in the center. The trailing edge of the carapace is serrated, but this becomes less noticeable as the turtle ages. Japanese pond turtles are found in upper and mid-river areas, ponds and marshes in mountains, and wetlands. The turtles are omnivorous and spawn once or twice from May to August.

Reference: *The important Species for Protection in Chiba Prefecture, Red Data Book Chiba, Animal Edition 2011*

Japanese Pond Turtle Conservation Activities

There are few cases of ex-situ conservation activities for the Japanese pond turtle, and breeding methods are currently being explored. Breeding turtles requires time and effort, including frequent and detailed checks for parasites and fungus. We operate through trial and error with guidance from experts regarding any breeding-related issues that we run into.

Last year, we confirmed spawning for the first time and we had successful hatchings. Fallen leaves were laid for the juveniles' hibernation, and they overwintered safely.

With the cooperation of the concerned parties, we will promote the ex-situ conservation of Japanese pond turtles, aiming to return them to the wild.

Turtles' breeding pool



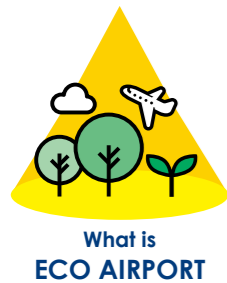
Escaping from the breeding pool!



Baby turtles were born!



Checking a turtle's condition



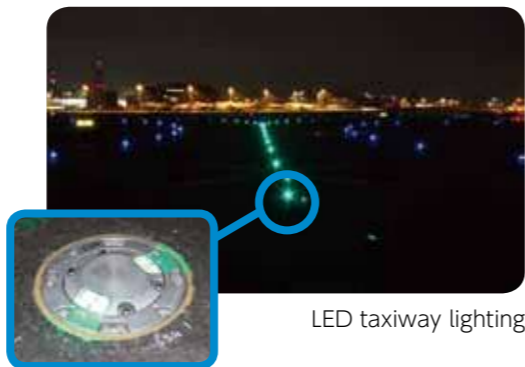
Activity Highlights

As an "Eco-Airport," Narita International Airport engages in initiatives to combat global warming, contribute to the local environment, and implement resource recycling. Here are some of our activities to reduce the environmental impact of airport operations.

LED Lighting

On Taxiways

We have been promoting the shift of taxiway lights to navigate aircraft from halogen lamps to light-emitting diodes (LEDs). LEDs have a longer life than halogen lamps and reduce the replacement frequency of lighting components. LEDs consume 1/10 of the power of halogen bulbs and are four times more energy-efficient even when including the lighting device. As of the end of fiscal 2019, LEDs accounted for 66.5% of all taxiway lights.



LED taxiway lighting

In Passenger Terminals

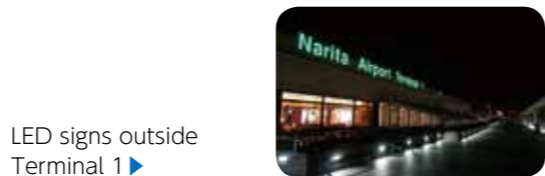
Besides ceiling lights and signs outside the passenger terminal buildings, LEDs are also used for the backlights in advertising boards and information signs. Through the use of LEDs, illuminance has increased and displays are brighter and easier to see. In addition, LEDs offer many other advantages in terms of convenience, running cost, and the environment such as lower heat emission, significantly reduced power consumption, and longer life. Currently, we are in the process of updating the lighting in Terminals 1 and 2, and we plan to replace approximately 3,500 units with LED lighting (completion scheduled for April 2021). We will expand the introduction of high-efficiency lighting fixtures such as LED lighting in conjunction with future facility renovation plans.



International Arrival Lobby in Terminal 2



International Departure Lobby in Terminal 2



LED signs outside Terminal 1

Main LED Switching Locations

Period	Location	Number of LEDs	Power Consumption Reduction
March 2016	International Arrival Lobby in Terminal 2	1,270 units	40%
December 2017	Neon signs outside Terminals 1 and 2	9 locations	50%
June 2019	International Departure Lobby in Terminal 2	600 units	40%
April 2021 (planned)	Various locations in Terminals 1 and 2	3,500 units	50%

Green Power Certificate

To promote the reduction of greenhouse gas (GHG) emissions and the introduction of renewable energy, we have purchased a "Green Power Certificate" for solar power generation of 125,000 kilowatt-hours since fiscal 2017. This amount is equivalent to the energy consumed for continuous real-time monitoring of aircraft noise, air quality, and water quality around the airport in one year.

Green power refers to electricity produced from renewable energy such as hydroelectric, wind, solar, biomass, and geothermal. It is environmentally friendly as it produces little to no emissions unlike fossil fuel energy.

The Green Power Certification scheme promotes the spread and expansion of renewable energy use through the issue of tradable certificates certifying the environmental value of clean power.

Narita Airport also uses these Certificates at events within the airport. We will further increase the use of renewable energy to reduce GHG emissions through various initiatives.



Green Power Certificate

Encouraging GPU Usage

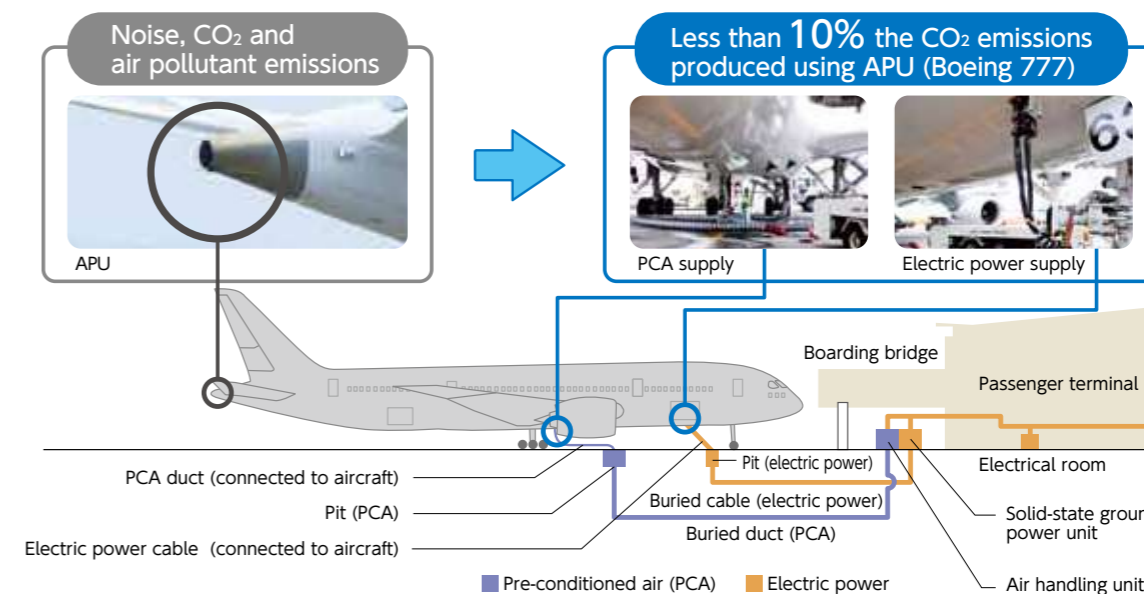
When aircraft are parked on the apron and engines are shut off, essential power and air conditioning can be provided by a small engine fitted to the aircraft known as an Auxiliary Power Unit (APU).^{*1} However, APU operation generates noise and gases causing global warming and air pollution. Consequently, the use of APUs is restricted and the use of Ground Power Units (GPUs)^{*2} is encouraged at Narita International Airport. GPUs enable us to reduce these emissions as they provide power and air conditioning from ground facilities. Currently, GPUs have been installed at all fixed stands in Passenger Terminals 1 and 2, and most stands in

Passenger Terminal 3 and cargo areas (power supply only). Since the power requirements of state-of-the-art aircraft such as the Boeing 787 and Airbus A380 exceed the capacity of existing GPUs, we have been increasing their power output.

^{*1} An Auxiliary Power Unit (APU) is used to start the main engine of aircraft and as a power source for air conditioning and electrical systems.

^{*2} A Ground Power Unit (GPU) is equipment for supplying necessary air conditioning and electrical power to aircraft parked on the ground. It can be either mobile or stationary.

GPU Supply Channels



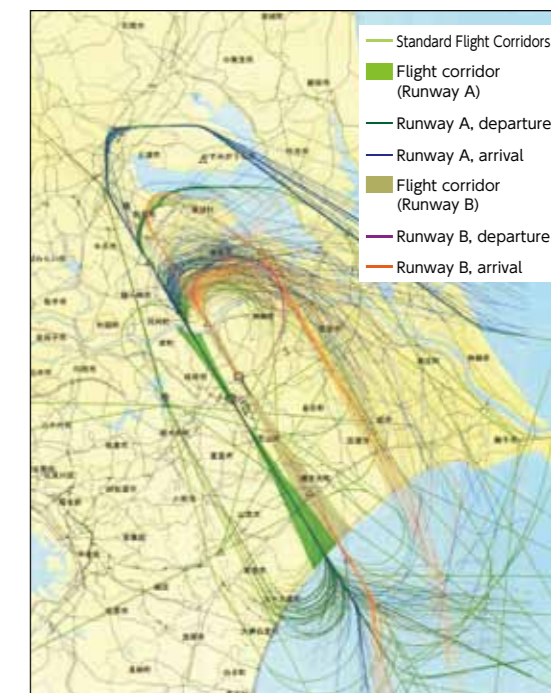
Establishing and Monitoring Flight Corridors (Monitoring Zones)

To minimize the impact of aircraft noise, flight corridors (monitoring zones) for direct ascent and descent have been established from the Tonegawa River to the Kujukuri Coastline. They are monitored to ensure that aircraft do not deviate from these 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 as necessary. In fiscal 2019, the number of aircraft deviating without valid reason was 4 (0.002%).

< Aircraft in Violation >

FY	2015	2016	2017	2018	2019
Number of aircraft deviating without valid reason (percentage of total flights)	7 (0.003%)	16 (0.007%)	7 (0.003%)	10 (0.004%)	4 (0.002%)
Number of flights	235,190	245,705	252,447	256,821	258,497

Aircraft Tracking Map with Flight Corridors



General Waste Sorting

The greatest volume of general waste produced at Narita International Airport is aircraft cabin waste, which comprises half of the total amount. While catering waste must be incinerated under quarantine laws, other 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 other facilities including the cargo and office areas, is sorted into bottles, cans, and plastic bottles, ensuring that reusable items are recycled. In an effort to reduce general waste and increase the recycling rate of plastic bottles, waste receptacles for plastic bottles with leftover beverages have been installed in front of security checkpoints since fiscal 2015.



Sorted recycling bins in terminals

We also recycle paper that is shredded at the airport, 220 tons in fiscal 2019. Led by the Eco-Airport Development and Planning Council, recycling initiatives have been expanded to include the airport as a whole. We will pursue the reduction of waste and promote our recycling initiatives in cooperation with airport-related business entities.

Recycling Wastewater from Restaurant Kitchens

Kitchen wastewater from restaurants in passenger terminals contains many impurities such as fat and organic substances. To reuse it as grey water, impurities are removed at the Treatment Facilities and the processed water is purified through membrane separation, activated carbon absorption, and disinfection at the Grey Water Production Facilities. Grey water is reused for flushing toilets in passenger terminals and at the NAA Building. In fiscal 2019, approximately 200 million liters of grey water was generated from restaurant wastewater.



Kitchen wastewater treatment facility

Rainwater Recycling

An oil separation plant and holding pond have been installed at Narita International Airport to prevent rainwater runoff from affecting the quality and volume of water at downstream waterways. Rainwater is collected in a holding pond with a capacity of 610,000 cubic meters located on the western side of Runway A, then flows into drainage canals outside the airport. For effective use of rainwater runoff, we collect it from the pond, purify and convert it into grey water at a treatment facility, then reuse it as cooling water in the Central Heating and Cooling Plant and flushing water in terminal toilets. In fiscal 2019, the rainwater treatment facility produced 400 million liters of grey water.



Holding pond

Construction Waste Recycling

Concrete and asphalt rubble produced by upgrading the aprons and runways is crushed at the on-site recycling plant and used as aggregate in airport projects. Sixty-nine thousand tons of construction waste were processed in fiscal 2019.



Recycling plant

Effective Utilization of Grass Cuttings

The green spaces around the runways are mowed several times a year, generating 3,800 tons of grass cuttings in fiscal 2019. 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

First Airport in Japan to Achieve Level 3 on Airport Carbon Accreditation

In accordance with our Eco-Airport Master Plan, we participate in the *Airport Carbon Accreditation* program. In January 2018, Narita International Airport was accredited at Level 2, which certifies the achievement of the programmed reduction of emissions by NAA and its subsidiary companies. Furthermore, in November of the same year, Narita achieved Level 3, the first among Japanese airports. Achieving these higher levels of accreditation is evidence of our firm commitment to keep track of carbon emissions from aircraft, motor vehicles, employee transport, and other sources across the airport, and work with airport stakeholders to develop a framework for CO₂ reduction. Narita Airport will continue participating in the *Airport Carbon Accreditation* program to further reduce carbon emissions jointly with airport stakeholders.





Airport Carbon Accreditation Level 3 Certificate


About Airport Carbon Accreditation


◆ Airports Council International (ACI) awards accreditation through four levels of certification to the world's airports according to their achievements in managing and reducing CO₂ emissions.

Four Levels of Accreditation

- 

Level 1 Mapping
Carbon footprint measurement
- 

Level 2 Reduction
Carbon management towards a reduced carbon footprint
- 

Level 3 Optimisation
Third party engagement in carbon footprint reduction
- 

Level 3+ Neutrality
Carbon neutrality for direct emissions by offsetting



Activity Highlights

What is ECO AIRPORT

Participation in EcoPro

We have been participating in "EcoPro" since 2004. It is the largest environmental exhibition in Japan and is held in Tokyo every December. In fiscal 2019, we set up an airport booth together with Japan Airport Terminal Co., Ltd., New Chitose Airport Terminal Building Co., Ltd., and others, and introduced our measures for the reduction of CO₂ emissions, recycling, and noise mitigation. The NAA booth attracted



EcoPro2019

some 5,000 visitors, including environment staff and students. The exhibition provided a good opportunity to acquaint people with the environmental measures conducted at Narita Airport.

Publishing Environmental Information

We proactively disseminate information to encourage a broader understanding of the environmental measures taken at Narita Airport and the results. 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. To make it easier for more people to read our reports, it is also registered on a free distribution site that features corporate publications, allowing people to browse them as e-books and/or request mailing of the printed version.

For airport customers, a digest version of the report is also available in terminals.



NAA website:
<https://www.naa.jp/en/>



Narita Airport Environmental Community:
<http://airport-community.naa.jp/>
(Japanese version only)

Eco-Photo Gallery 2020

Eco-Photo Gallery, which began as a project to increase people's engagement in sustainability while having fun, marked its eighth year.

It solicits submissions of photographs on themes such as the beauty of the nature around the airport, as well as aircraft, the airport, and ecology. This year, 276 works from 90 participants were received. Selected works including the Chairman's Prize winning photograph and the Special Jury Prize winning photograph can be viewed on the Council's website and are displayed in passenger terminals.



Photographer: yoo787
Location: Narita Sakura no Yama



Photographer: panda
Location: Shibayama Mizube no Sato



Photographer: Fred ☆ Aoki
Location: Roadside station (Sky Station Fuwari Shibayama)



web
<https://www.naa.jp/eco/>
Eco-Airport Development and Planning Council
(Japanese version only)

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)



9 Toyomi Shinonome no Oka (Hill of Dawn)



7 Sanrizuka Sakura no Oka (Cherry Blossom Hill)



8 Minami Sanrizuka Nature Trail



6 Greenport Eco-Agripark



Natural Parkland Development - Greenport Eco-Agripark

Greenport Eco-Agripark is a pristine natural adventure park on a 17 hectares tract on 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 Hokusō 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.



Eco-Airport Master Plan (FY 2016–2020) and Evaluation of FY 2019 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)

Action Items	Description	Targets (FY 2020)	Results (FY 2019)
Reduce environmental impact from aircraft noise	<ul style="list-style-type: none"> Encourage the introduction of quieter aircraft*1 Limit the use of auxiliary power units (APUs) and encourage the use of ground power units (GPUs) Strengthen noise mitigation measures Enhance aircraft noise monitoring and disclosure of results 	Reduce environmental impact from aircraft noise	The introduction rate of quieter aircraft was 93.7%, a decrease of 0.9 points from FY 2018
Conserve air quality	<ul style="list-style-type: none"> Encourage the introduction of low-emission aircraft Implement measures to reduce aircraft taxiing times Limit the use of APUs and encourage the use of GPUs Promote energy saving at airport-related facilities Encourage the introduction of low-emission vehicles*2 Enhance air quality monitoring in the vicinity of the airport and disclosure of results 	Conserve air quality Reduce air pollution (NOx) per flight by 5% compared to the benchmark year (FY 2015) FY 2015: 16.6 kg/flight	Air pollution (NOx) output Reduced by 3.0% of FY 2015 levels (16.1 kg/flight)
Maintain water quality of rainwater runoff	<ul style="list-style-type: none"> Properly use, collect, and process de-icing agent Take measures to prevent release of turbid water, etc. Create retention areas and settling grit chambers in construction areas during construction to prevent release of turbid water Divide construction zones to limit the occurrence of turbid water Enhance water quality monitoring in rivers, etc., in the vicinity of the airport and disclosure of results 	Maintain water quality of rainwater runoff	Some fluctuation, but maintaining water quality of an average year for rainwater runoff Achievement of environmental standards for underground water
Conserve natural environments that nurture biodiversity	<ul style="list-style-type: none"> Ascertain the status of the natural environment and take preservation measures for rare species Preserve agricultural environments Restore the <i>satoyama</i> (countryside forest) landscape Preserve the Greenport Eco-Agripark and use it for educational programs, etc. 	Conserve natural environments that nurture biodiversity	Suitable management of greening projects in airport area Greenport Eco-Agripark preservation and use
Implement and reinforce environmental initiatives in collaboration with local communities	<ul style="list-style-type: none"> Use noise control areas tailored to local conditions Encourage environmental conservation initiatives in collaboration with local communities 	Implement and reinforce environmental initiatives in collaboration with local communities	Suitable management of land vacated by relocation and lease of agricultural land implementation

Resource Recycling Initiatives

Action Items	Description	Targets (FY 2020)	Results (FY 2019)
Recycle resources	<ul style="list-style-type: none"> Reduce general waste and encourage recycling at airport-related facilities Encourage recycling of industrial waste (packaging material, wooden skids, etc.) Encourage measures to reduce aircraft cabin waste Conduct activities to raise awareness among passengers, employees, and other airport users Recycle concrete and asphalt waste material generated by the airport Take measures for the effective use of grass clippings, cut trees, etc. Encourage green procurement 	Recycle resources Reduce general waste incinerated per airport user by 5% compared to the benchmark year (FY 2015) FY 2015: 0.45 kg/airport user	General waste incinerated Reduced by 4.4% of FY 2015 Levels (0.43 kg/airport user)
Recycle water resources	<ul style="list-style-type: none"> Implement potable water saving measures based on an analysis of water usage conditions by building and by season Encourage the installation of water-saving equipment when facilities are updated Reduce potable water usage by utilizing grey water Conduct activities to raise awareness among passengers, employees, and other airport users 	Recycle water resources Reduce potable water usage per airport user by 3% compared to the benchmark year (FY 2015) FY 2015: 30.9 L/airport user	Potable water usage Reduced by 9.1% of FY 2015 Levels (28.1 L/airport user)



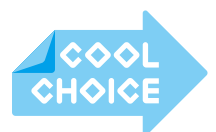
Climate Change Initiatives

* COOL BIZ and WARM BIZ: a way of living in comfort while keeping room temperature at 28°C in summer and 20°C in winter.

Action Items	Description	Targets (FY 2020)	Results (FY 2019)
Reduce CO ₂ emissions from the airport	<ul style="list-style-type: none"> ● Encourage the introduction of low-emission aircraft ● Implement measures to reduce aircraft taxiing times ● Limit the use of auxiliary power units (APUs) and encourage the use of ground power units (GPUs) ● Take measures toward the introduction of next-generation aviation fuels ● Encourage travel to the airport in low-emission vehicles (install EV charging stations, natural gas and hydrogen stations) ● Encourage the introduction of low-emission vehicles and eco-driving ● Generate electricity when incinerating waste through thermal recycling (thermal recovery) ● Select low-carbon electric power sources when purchasing electric power ● Encourage the introduction of renewable energy 	Reduce airport CO ₂ emissions per flight by 7% compared to the benchmark year (FY 2015) FY 2015: 4.30 t/flight	Airport CO ₂ emissions Reduced by 4.9% of FY 2015 levels (4.09 t/flight)
Reduce energy consumption	<ul style="list-style-type: none"> ● Increase installation of LED lights on taxiways ● Encourage energy-saving measures through energy management ● Conduct energy conservation programs (raise awareness of energy conservation, "COOL BIZ" and "WARM BIZ"*) ● Encourage installation of energy-saving equipment when constructing new facilities and renovating existing facilities 	Reduce energy consumption by NAA-managed airport facilities per flight by 5% compared to the benchmark year (FY 2015) FY 2015: 15.1 GJ/flight	Energy consumption at NAA-managed airport facilities Reduced by 11.3% of FY 2015 levels (13.4 GJ/flight)
Countermeasures to adapt to climate change in conjunction with global warming	<ul style="list-style-type: none"> ● Take appropriate preventive measures to address storms and other abnormal natural events 	Take countermeasures to adapt to climate change caused by global warming	Formulated "Narita International Airport BCP (Business Continuity Plan)" to ensure prompt and appropriate measures in the event of a major natural disaster through the collaboration of airport stakeholders

Environment Management

Action Items	Description	Targets (FY 2020)	Results (FY 2019)
Engage in dialogue with stakeholders	<ul style="list-style-type: none"> ● Promote dialogue with stakeholders ● Implement environmental conservation programs centered on the Eco-Airport Development and Planning Council ● Conduct environmental education and awareness activities for airport staff ● Publicly release environmental information such as noise, air quality, and water quality measurement results and flight routes ● Give presentations at environment-related conferences on noise, air quality, and other topics ● Conduct Eco-Kids Club programs, participate in environmental exhibitions, and conduct Touring Environmental Classrooms 	Engage in active dialogue with stakeholders	Held interactive dialogue with airport-related business entities through the Eco-Airport Development and Planning Council Conducted activities to raise awareness among passengers, employees, and other airport users through various events organized by the Council Held interactive dialogue with stakeholders through the implementation of environmental education for children and the participation in environmental exhibitions
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"> ● Encourage activities to reduce environmental impact in collaboration with stakeholders ● Encourage procurement that takes the environment into consideration 	Pursue the creation of value by taking measures with stakeholders to reduce the environmental impact of airport activities throughout society as a whole	Promoted green procurement at the Council
Reduce environmental impact in collaboration with airports in Japan and abroad	<ul style="list-style-type: none"> ● Encourage information exchanges and joint environmental conservation activities through liaison conferences with other leading airports in Japan ● Exchange information with and express opinions to the Airports Council International (ACI) ● Exchange information with and provide technology to overseas airports 	Contribute to reducing the environmental impact in cooperation with airports in Japan and abroad	Exchanged information with major airports in Japan Exchanged information through ACI activities
Environmental conservation through environmental assessments and verification	<ul style="list-style-type: none"> ● Conduct environmental assessments based on the Environmental Impact Assessment Act toward improvement of airport functionalities ● Conduct voluntary environmental assessments 	Conserve the environment by conducting environmental assessments and inspections	Prepared and published Environmental Impact Statement Conducted voluntary environmental assessment monitoring
Conduct environment management using environmental certification programs	<ul style="list-style-type: none"> ● Encourage environment management using environmental certification programs 	Conduct environment management using environmental certification programs	Renewed <i>Airport Carbon Accreditation</i> Level 3 and promoted environment management using the program's methods
In the lead up to the 2020 Tokyo Olympic and Paralympic Games, trial and introduce various measures and new technologies, and present our vision of an eco-airport to the world	<ul style="list-style-type: none"> ● Promote environmental measures to support low-carbon, good air quality, and the 3Rs (Reduce, Reuse, and Recycle) ● Take measures toward the use of hydrogen energy at Narita Airport ● Take measures toward the introduction of next-generation aviation fuels ● Disseminate information on the eco-airport 	In the lead up to the 2020 Tokyo Olympic and Paralympic Games, trial and introduce various measures and new technologies, and present our vision of an eco-airport to the world	Used low-emission vehicles such as fuel cell vehicles and electric vehicles as business vehicles for NAA



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