



# Environmental Report 2024





# Company Profile

<b>Name</b>	Kansai Airports
<b>Date of incorporation</b>	December 1, 2015
<b>Location</b>	1-banchi, Senshu-Kuko Kita, Izumisano-shi, Osaka 549-8501, Japan
<b>Company representatives</b>	Yoshiyuki YAMAYA Representative Director CEO Benoit RULLEAU Representative Director Co-CEO
<b>Business scope</b>	<ul style="list-style-type: none"> <li>● Operation and management services, etc. of Kansai International Airport and Osaka International Airport</li> <li>● Operation of Kobe Airport by Kansai Airports Kobe</li> </ul>
<b>Capital</b>	25 billion yen
<b>Shareholders</b>	ORIX Corporation 40% VINCI Airports 40% Other investors 20%

\* On April 1, 2018, Kansai Airports Kobe commenced its business as an operator of Kobe Airport (KOBE).



Passenger traffic	Landings / takeoffs
3.44 M people	35,000 times



Passenger traffic	Landings / takeoffs
25.89 M people	170,000 times

**KOBE**

**Kobe Airport**

**ITAMI**

**Osaka International Airport**



Passenger traffic	Landings / takeoffs
14.79 M people	139,000 times

**KIX**

**Kansai International Airport**

\* Figures for passenger traffic and landing/takeoffs are based on FY2023 results.

## Kansai Airports

Website: <https://www.kansai-airports.co.jp/>

- Kansai International Airport (KIX)  
Website: [www.kansai-airport.or.jp](http://www.kansai-airport.or.jp)
- Osaka International Airport (ITAMI)  
Website: [www.osaka-airport.co.jp](http://www.osaka-airport.co.jp)
- Kobe Airport (KOBE)  
Website: [www.kairport.co.jp](http://www.kairport.co.jp)

## Introduction

• Company Profile	01
• Kansai Airports Group Environmental Policy	03
• FY2023 Initiatives Highlight	04

<b>Top Message</b>	<b>05</b>
--------------------	-----------

<b>Kansai Airports Group's Environmental Promotion System</b>	<b>07</b>
---	-----------

<b>Addressing Environmental Impact at Airports</b>	<b>09</b>
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## Environmental Plan

• Environmental Vision 2050 and Environmental Goals 2030	11
• Roadmap for achieving the Environmental Goals 2030 and Environmental Vision 2050	13

## Our Initiatives

• <b>Decarbonization</b>	
[ Reduction of greenhouse gas emissions ]	
• CO <sub>2</sub> emissions from airports	15
• Promote energy conservation	16
• Energy consumption by Kansai Airports Group	17
• Utilize Renewable Energy and Hydrogen	19
• Promote Zero-Emission Vehicle (ZEV)	22
• Reducing CO <sub>2</sub> emissions around aircraft	23
• <b>Circular economy</b>	
[ Waste reduction, sorting and recycling ]	
• Waste from the airports	25
• Promotion of waste reduction and waste recycling	25
[ Reducing the amount of single-use plastic ]	
• The amount of single-use plastic by Kansai Airports Group	27
• Promotion of reducing single-use plastic and its recycling	27

## Environmental symbiosis

[ Monitor the local environment ]	
• KIX	29
• ITAMI	31
• KOBE	34
• Expanding airport capacity and strengthening the environmental monitoring system	34
[ Efficient use of water resources ]	
• Water usage of the entire airports	35
• Utilizing rainwater/reclaimed water	35
• Efforts to save water	36
[ Biodiversity conservation ]	
• Creation of a rich seaweed bed environment	37
• Development of seaweed bed creation activities	40
• Conservation of marine environment	41
• Island greening and scenic improvement	42

## Communications & Collaborations

• In-house communications	43
• Communication with local communities	44
• Communication with stakeholders	45

<b>Reference Data</b>	<b>46</b>
-----------------------	-----------

<b>Airport Summary</b>	<b>47</b>
------------------------	-----------

<b>Environmental Chronology</b>	<b>51</b>
---------------------------------	-----------

## Editorial Policy

### Purpose of this report

This report is published to convey to stakeholders in an easy-to-understand manner initiatives, including data, for reducing environmental impacts being carried out by Kansai International Airport, Osaka International Airport and Kobe Airport to help realize sustainable society, which are managed by Kansai Airports.

### Reporting boundary

This report focuses on the activities of Kansai Airports and also covers the activities of certain Group companies and businesses operating at the airports its manages.

### Reporting period

Activities carried out up to the end of September 2024, focusing mainly on FY2023 (April 2023 to March 2024).

# Contents

## Shaping a New Journey Kansai Airports Group Environmental Policy



### Environmental Philosophy

We, Kansai Airports Group, recognize the importance of solving environmental problems on a global scale and contribute to the realization of a sustainable society through the operation of airports, which are public infrastructure.

### Basic Environmental Policy

- Each employee of the group will diligently preserve the global environment in their daily work.
- We will clarify the environmental impact of our business activities, set goals to reduce it, and take proactive measures.
- We will regularly check on the progress of initiatives and work to improve the content.
- We will play a pioneering role in the airport field. Furthermore, we will contribute to reducing the environmental burden by overall airports, including the aviation sector.
- We will communicate with all stakeholders involved in airports and communities.

Based on the “Environmental Philosophy” and the “Basic Environmental Policy”, we have set the targets for FY2030 to realize our long-term vision with three pillars.

#### Decarbonization

- By FY2050, we will achieve net zero greenhouse gas emissions in business activities of Kansai Airports Group.
- As well as promoting energy conservation including operational optimization, we propel decarbonization by using renewable energy and hydrogen to contribute to a decarbonized society.

#### Circular economy

- We aim to become a Zero Waste Airport by FY2050. In addition to further reducing, sorting and recycling combustible waste, we will further reduce the amount of single-use plastic and work on conversion of materials and closed-loop recycling to contribute to a circular society.

#### Environmental symbiosis

- We ensure a healthy living environment around the airports and aim to realize symbiosis with nature.
- We continue to monitor aircraft noise and surrounding environment. We also use water resources efficiently through utilization of grey water and enhanced water conservation operations and conserve biodiversity to contribute to an environmentally symbiotic society that is in harmony with nature and local communities.

### Environmental Goals (Target: FY2030)

- **Decarbonization**
  - Reduce greenhouse gas emissions by Kansai Airports Group by 50% from the FY2016 level
- **Circular economy**
  - Not to increase the amount of incinerated waste of the entire airports from the FY2016 level
  - Reduce the amount of single-use plastic by Kansai Airports Group by 30% from the FY2016 level
- **Environmental symbiosis**
  - Continue appropriate and steady monitoring of noise and the surrounding environment
  - Not to increase the total water use of the entire airports from the FY2016 level
  - Reduce the clean water use by Kansai Airports Group by 15% from the FY2016 level
  - Conservation of biodiversity

山崎 佳之

**Yoshiyuki YAMAYA**  
Representative Director CEO

Rulleau

**Benoit RULLEAU**  
Representative Director Co-CEO

## FY2023 Initiatives Highlight



### Expand self-consumption by solar power generation

>> p 19

Solar power generation facility  
"KIX-ITAMI Sora x Solar" to be born!



To reduce greenhouse gas (GHG) emissions, we decided to start a new solar power generation project in KIX and ITAMI (KIX-ITAMI Sora x Solar\*). The project will employ an on-site PPA scheme, and the power generated will be consumed within each airport, making this one of the largest onsite PPA projects in Japan.

Solar panels will be installed on a land on the north side of Island 2 and rooftop of the international cargo warehouse in KIX while in the rooftop of the terminal building in ITAMI. With support by the "FY2023 Subsidy for Airport Decarbonization Promotion Project (Equipment Installation Support)" the Ministry of Land, Infrastructure, Transport and Tourism, solar power generation will start both at KIX and ITAMI in spring 2025.

Going forward, we will promote the further introduction of solar power generation, with a view to expanding self-consumption through the introduction of storage batteries and employing an off-site PPA scheme.

\* Trademark registered in April 2024.



### Reconsideration of flight paths in Kansai airspace

>> p 34

Expand the airport capacity and strengthen  
the environmental monitoring system



With regard to airline demand in the Kansai region, the number of passengers is expected to increase significantly due to the increase in the number of foreign visitors to Japan and other factors.

In July 2024, based on the basic philosophy of a 'pollution-free airport' for an offshore airport, and on the premise of sincerely listening to local opinions and requests and giving them the utmost consideration, KIX agreed to introduce a new flight path plan that is necessary for the growth of the Kansai region.

After introducing new flight paths, we will strengthen our environmental monitoring system including the extension of noise measurement points.



### Bottle-to-Bottle initiative

>> p 28

Contributing to the promotion of a circular  
economy through "bottle-to-bottle" recycling



We promote closed-loop recycling of PET bottles (Bottle-to-Bottle) that collects PET bottles from the airports and use them as raw materials to manufacture new PET bottles.

While PET bottles are widely used for their convenience, they are made from fossil fuels such as petroleum, and they emit CO<sub>2</sub> when burnt. Accordingly, it is necessary to reduce their environmental impact by using them in a more sustainable and cyclical way.

The mainstream recycling of used products into different types of products is ultimately incinerated, but horizontal recycling produces the same type of product, thereby reducing CO<sub>2</sub> emissions and enabling sustainable resource recycling.

At KIX and ITAMI, garbage boxes are installed in the terminal building to foster awareness of the need to properly separate PET bottles and sort waste.



### Certified as a natural symbiosis site

>> p 37,  
p 40

KIX certified for its seaweed beds on the  
seawalls by the Ministry of the Environment  
as a "natural symbiosis site"



At KIX, we have worked to create seaweed beds that will provide habitats for marine life since the airport construction to achieve harmony with the marine environment. Today, a rich ecosystem has been created around the airport island, with seaweed communities at its heart.

In October 2023, KIX certified for its seaweed beds on the seawalls by the Ministry of the Environment as a "natural symbiosis site", recognizing that KIX plays an important role in conserving biodiversity in Osaka Bay.



# Top Message

**Benoit RULLEAU**  
Representative Director  
Co-CEO



**Yoshiyuki YAMAYA**  
Representative Director  
CEO

Continue to be an airport that contributes to the realization of a sustainable society through active cooperation with the local communities

## History of the airport

Yamaya CEO :

On September 4, 2024, Kansai International Airport celebrated its 30-year anniversary. 1994, the year the airport opened, was after Japan's bubble economy had burst. Two years before the bubble burst, sustainable development was being discussed at the United Nations Conference on Environment and Development in Rio De Janeiro in 1992. Kansai International Airport has been addressing economic and environmental issues during the 30 years.

And now, we are facing new challenges. We must not only restore and further develop the Japanese economy as a player in the tourism business, but also address environmental challenges such as reducing greenhouse gas emissions. Now that 30 years have passed since its opening, we are expected to take serious actions with a clear vision of where we want to be in the next 30 years.

## Environmental issues facing airports

Benoit Co-CEO :

From an airport operational perspective, addressing climate change is a major challenge. The aviation industry is required to reduce greenhouse gas emissions, and the pressure on airports and airlines is increasing every day. In parallel, adverse weather is on the rise due to climate change, with larger typhoons, more thunderstorms with stronger rains, more severe heat, and sea level rise. For those reasons, Kansai Airports Group is taking various measures for both mitigation and adaptation.

We also believe that we need to address biodiversity issues. Human society relies on nature for many things, and the essential resources such as food and pharmaceutical materials must be protected.

## The Kansai Airports Group's vision



Yamaya CEO :

Environmental issues tend to focus on protecting the global environment. However, the essence of environmental issues is that if we do not maintain our living environment, it will gradually become difficult to live and finally humans will not be able to survive. I would like to deliver messages that help everyone understand this essence. I believe that each employee of the Kansai Airports Group must take the environment seriously as their own matter, therefore, we have incorporated this idea into our environmental policy.

## Medium- and long-term targets

Benoit Co-CEO :

Kansai Airports Group's environmental strategy consists of three pillars. The reduction of greenhouse gas emissions that I mentioned earlier, the circular economy, and environmental symbiosis. These include waste reduction, recycling, water conservation, and biodiversity. Based on these three pillars, we formulated our vision for 2050, and we have set targets for 2030 to think and act towards achieving our vision.



## Becoming a world class environmentally advanced airport

Benoit Co-CEO :

The environmental challenges we face are extremely complex and we have a lot of work in front of us. We have already taken actions on projects such as obtaining the Airport Carbon Accreditation (ACA), monitoring and reducing our energy and water consumption, studying the deployment of SAF and hydrogen fuel, and introducing electric GSE vehicles. Now, KIX and ITAMI are working on the introduction of large-scale solar electric generation systems.

In order for the Kansai Airports Group to continue to move ahead on these challenges, we need a bottom-up approach as well as a top-down approach. I want our employees to stay attuned to best practices not only in Japan but also around the world, to think and share ideas, and to work voluntarily to be part of the change. I believe this is the most important process to become a world-class environmentally advanced airport.

## The Kansai Airports Group's future

Yamaya CEO :

I believe that thinking about the environment has become a common practice in our company, but I want to take it one step further. With that in mind, I hope that the Osaka/Kansai Expo, which will be held next year, will give young generations opportunities to think deeply about how to design a future society, including the environment, and how to create the next era.

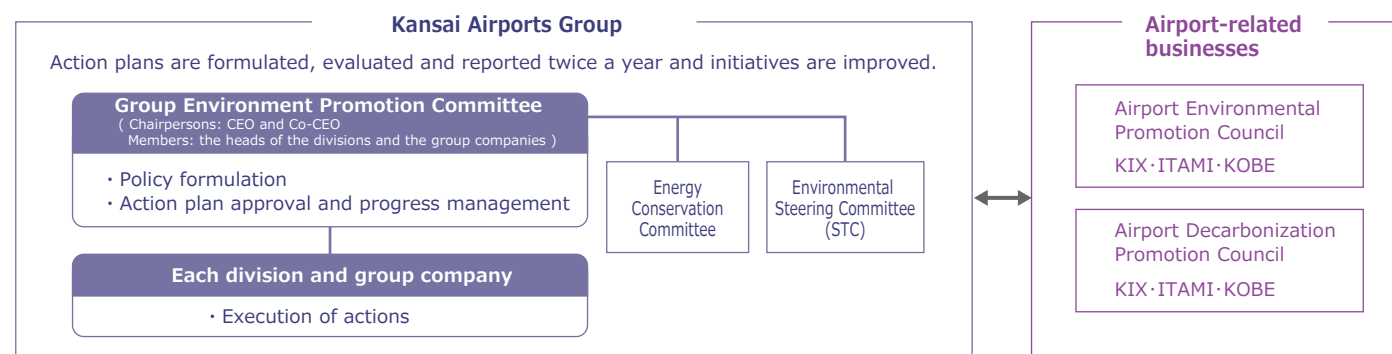
Going forward, it is of utmost importance for each employee to have an awareness of taking the environment seriously, to share their views with the local community and the company who have the same mindset, to take actions while expanding their network, and to realize the ideas generated through communication. I want to embed and nurture this spirit within the Kansai Airports Group, and if we can do so, we can become a company with a wonderful culture.

We hope to continue to be a company where everyone thinks and acts voluntarily, continuously expand their influence, and most importantly, a company that values such mindset.



# Kansai Airports Group's Environmental Promotion System

Kansai Airports Group has established an environmental promotion system to promote group-wide environmental activities under the Group Environmental Promotion Committee (chaired by the CEO and Co-CEO), which consists of the heads of divisions and group companies.



## Group Environmental Promotion Committee

To implement the action plans formulated by the divisions and group companies, evaluate and report on them regularly, and reflect improvements in their initiatives, we strengthened our promotion system in October 2022 to advance the initiatives across the Group. During the Group Environmental Promotion Committee organized in February 2024, goals and action plans formulated by each division and group companies were shared. The Committee will continue reviewing the progress and implementing the PDCA cycle to achieve our Environmental Goal in 2030.



## Energy Conservation Committee

The Energy Conservation Committee is dedicated to promoting decarbonization, with a focus on energy conservation. The Committee steadily advances its initiatives via the three working groups, including automation of air-conditioning settings and energy conservation operations. The Committee reviews and report progress twice a year to share and align awareness of current issues among the committee members.



## Environmental Steering Committee (STC)

The Environmental Steering Committee was established to promote environmental initiatives that need to be addressed across Kansai Airports Group.

The Committee is held regularly to review and report progress and advance initiatives.

## Airport Environmental Promotion Council

We have set up councils comprising of representatives from airport-related businesses at each of our airports to share best business practices and collectively engage in various efforts with business to help mitigate the environmental impacts. These include initiatives for energy conservation, reducing CO<sub>2</sub> emissions, reducing and recycling waste and encouraging the use of eco-friendly vehicles. Going forward, we will continue our efforts to reduce environmental impact in cooperation with New Kansai International Airport Co., Ltd., which is an airport provider, and the Airport Decarbonization Promotion Council set up by the City of Kobe. Since cooperation with airport-related businesses is key to helping decarbonize the airport, we will promote our efforts via the Council activities.



## Airport Decarbonization Promotion Council

As efforts to achieve a carbon-neutral status accelerate in various sectors globally, the Basic Policy for the Airport Decarbonization Promotion has been established by the Japanese government in December 2022. Based on this policy, the airport provider\*1 have established Airport Decarbonization Promotion Councils at KIX, ITAMI and KOBE, and an airport decarbonization promotion plan\*2 was formulated for each air port. The Minister of Land, Infrastructure, Transport and Tourism recognized the plan for KIX and ITAMI on December 1, 2023, and for Kobe on July 31, 2024.

\*1 KIX and ITAMI: New Kansai International Airport Co., Ltd. / KOBE: Kobe City  
\*2 Reduction target set by the airport decarbonization promotion plan  
KIX: 50% reduction compared to FY2013 level in FY2030 / ITAMI and KOBE: 46% reduction compared to the FY2013 level in FY2030

## Utilization of environmental certification systems

### Airport Carbon Accreditation (ACA)\*

At Kansai Airports, we implement environmental management utilizing an environmental certification system that is evaluated and certified by a third-party specialist organization.

Since KIX and ITAMI received Level 2 Airport Carbon Accreditation (ACA) in FY2016 for the first time in Japan, KIX, ITAMI and KOBE have worked to reduce CO<sub>2</sub> emissions by making continuous use of the ACA, while upgrading their level.

In November 2021, the three airports received Level 4, being praised for the long-term goal of achieving net zero greenhouse gas emissions by 2050, the CO<sub>2</sub> emission management including Scope 3 emissions, and their collaboration with airport-related businesses.

We will continue striving to work with airport-related businesses to reduce CO<sub>2</sub> emissions from the airports by thoroughly managing achievements to the goal.

\* Airport Carbon Accreditation is an international evaluation and accreditation program/system to manage and reduce CO<sub>2</sub> emissions from airports. As of September 2022, 411 airports are accredited. It is the only environmental accreditation program designed specifically for airports. ACA has four levels for carbon management as shown below to the left.

### [ Outline of each level ]



**Level 5**  
Of Scopes 1 and 2, more than 90% is reduced by its own efforts, and the remainder is offset.  
For Scope 3, a roadmap toward net zero is developed. Environmental Standards Regulations



**Level 4+ (Transition)**  
Conforming to the Level 4 requirement to offset CO<sub>2</sub> emitted by airport businesses.



**Level 4 (Transformation)**  
To reduce overall CO<sub>2</sub> emissions, transform airport operations and consolidate the involvement of airport-related businesses.



**Level 3+ (Neutrality)**  
Conforming to the Level 3 requirement to offset CO<sub>2</sub> emitted by airport businesses.



**Level 3 (Optimisation)**  
Reducing CO<sub>2</sub> emissions, some of which come from airport-related businesses.



**Level 2 (Reduction)**  
Implementing carbon management to reduce the CO<sub>2</sub> emitted by airport businesses.



**Level 1 (Mapping)**  
Calculation of CO<sub>2</sub> emitted by airport businesses.



KIX: Level 4



ITAMI: Level 4



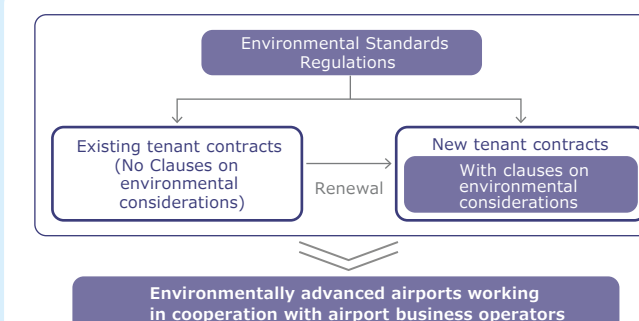
KOBE: Level 4



## Environmental Standards Regulations

In April 2022, Kansai Airports enacted Environmental Standard Regulations for its business partners to promote environmentally friendly business practices across its airports. The Regulations set out matters to be observed in reducing environmental burdens and clearly reaffirmed the group's commitment to social responsibility as an airport operator.

We will also renew contracts with tenants in phase to include clauses on environmental standards.





# Addressing Environmental Impact at Airports

Causal relations between our operations at airports and environmental impact

## CO<sub>2</sub> emissions

- Airport facilities
- Airport vehicles
- Aircrafts

## Reduce GHG Emissions

[ Efforts ]

- Promote energy conservation
- Utilize renewable energy and hydrogen
- Promote zero-emission vehicles (ZEVs)
- Reduce CO<sub>2</sub> emissions around the aircrafts

The environmental impacts of airport activities are many and varied, and measures must be taken by each activity to reduce their impact.

At Kansai Airports, we have clarified our environmental loads and issues to set various targets and examine our approach.

By regularly confirming and evaluating the progress of activity and striving to improve our initiatives and address new challenges, we are proceeding proactively with our activities to reduce the environmental impact.



## Waste generation

- General waste
- Industrial waste

## Waste reduction

[ Efforts ]

- Reduce, sort and recycle waste
- Reduce single-use plastics



## Impact on living environment

- Aircraft noise
- Air and Water

## Environmental monitoring

[ Efforts ]

- Measure, monitor and take measures for aircraft noise
- Treat general wastewater
- Control exhaust gas from waste incineration



## Water use

- Use of clean water and reclaimed water in airports

## Reduce clean water consumption

[ Efforts ]

- Utilize rainwater and reclaimed water
- Water conservation operation



## Impact on natural environment

- Marine environment
- Airport greening

## Biodiversity conservation

[ Efforts ]

- Seaweed environment creation
- Rooftop greening





# Environmental Vision 2050 and Environmental Goals 2030



Kansai Airports Group has initiated various efforts to reduce the environmental impact at the three airports it operates (KIX, ITAMI, KOBE). As global environmental issues, including decarbonization, have become a common social awareness that urgently needs to be addressed, it is also Kansai Airports Group's responsibility to tackle these issues as we, as the operator of the three airports, the gateways of Asia and Kansai region, connect to the rest of the world while playing an important role in the regional transportation infrastructure.

Given this background, in April 2023, we launched our new environmental plans, "Environmental Vision 2050" and "Environmental Goals 2030." To take over and further develop the One Eco-Airport Plan (2016 to 2022) and previous initiatives, we have set the long-term vision toward 2050 and specific milestone targets for 2030.

## Environmental Vision

# 2050

## Realization of a sustainable society

Greenhouse gas emissions

## Zero

- Net zero greenhouse gas emissions in business activities of Kansai Airports Group
- Contribution to the reduction of greenhouse gas emissions for the entire airports, including airport-related businesses

## Zero Waste Airport

- Thorough reduction, sorting and recycling
- Recycling rate: 100%

## Ensuring a healthy living environment around the airports

- Monitoring aircraft noise and the surrounding environment

## Symbiosis with nature

- Efficient use of water resources
- Conservation of water and soil environments
- Contributing to ensuring a healthy ecosystem

### Initiatives under the One Eco-Airport Plan and SDGs



Our new environmental plans, the "Environmental Vision 2050" and "Environmental Goals 2030," were formulated to help address environmental issues in collaboration with local communities and society whereby the three airports collectively promote various initiatives. Amid growing efforts to achieve the Sustainable Development Goals (SDGs) for addressing issues in the environmental, economic and social spheres in a global scale, efforts to build a sustainable society are becoming even more important at Kansai Airports Group. Taking these global goals into account, we are deliberating on our policies of various activities.

We, at Kansai Airports Group, will keep striving to help achieve a sound global environment and sustainable society through our business operations.

## Three pillars and the activities

Climate change on a global scale, resource depletion due to economic activities of mass production, mass consumption and mass disposal, destruction of biodiversity caused by large-scale resource extraction, and other issues have become apparent.

These issues are interrelated and complex and need to be addressed through a multifaceted approach to contribute to the integrated environmental, economic and social improvement.

With the three pillars of "Decarbonization," "Circular Economy" and "Environmental Symbiosis" to address these issues, Kansai Airports Group has been promoting all activities of climate change measures (Decarbonization), sustainable resource use (Circular Economy) and harmonious symbiosis between nature and humans (Environmental Symbiosis) in a comprehensive manner.

## Decarbonization

## Circular economy

## Environmental symbiosis

Environmental Goals

# 2030

CO<sub>2</sub>

Greenhouse gas emissions

## 50% reduction

Greenhouse gas emissions by Kansai Airports Group from the FY2016 level

Incinerated waste

## Not to increase the amount

Incinerated waste of the entire airports not to increase the amount from the FY2016 level

Single-use plastics

## 30% reduction

The amount of single-use plastic by Kansai Airports Group from the FY2016 level

Monitor the Local Environment

## Continue

Continue appropriate and steady monitoring of the surrounding environment

Total water use

## Not to increase

Total water use of the entire airports not to increase from the FY2016 level

Clean water use

## 15% reduction

Clean water use by Kansai Airports Group from the FY2016 level

Biodiversity

## Conservation



# Roadmap

## for achieving the Environmental Goals 2030 and Environmental Vision 2050

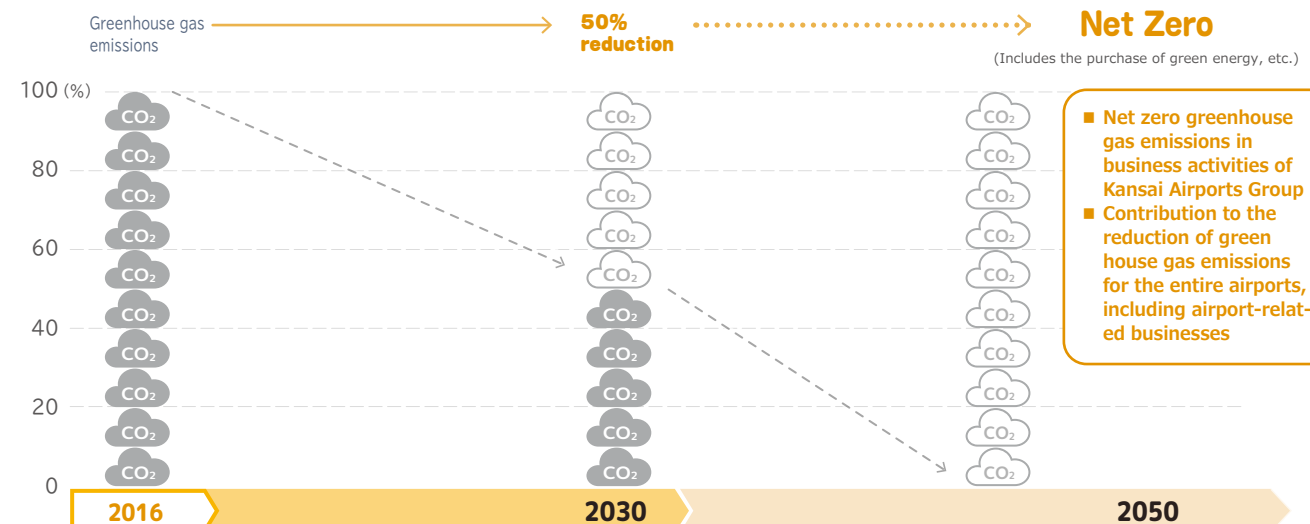
CO<sub>2</sub>

### Decarbonization

#### Net zero greenhouse gas emissions

We set a long-term goal to achieve net zero greenhouse gas emissions in business activities by FY2050.

At Kansai Airports Group, various steps have been taken to reduce the environmental footprint of the three airports it operates. We will continue to work on a medium- to long-term plan and promote the measures for achieving zero net greenhouse gas emission by further reducing energy consumption and using renewable energy.

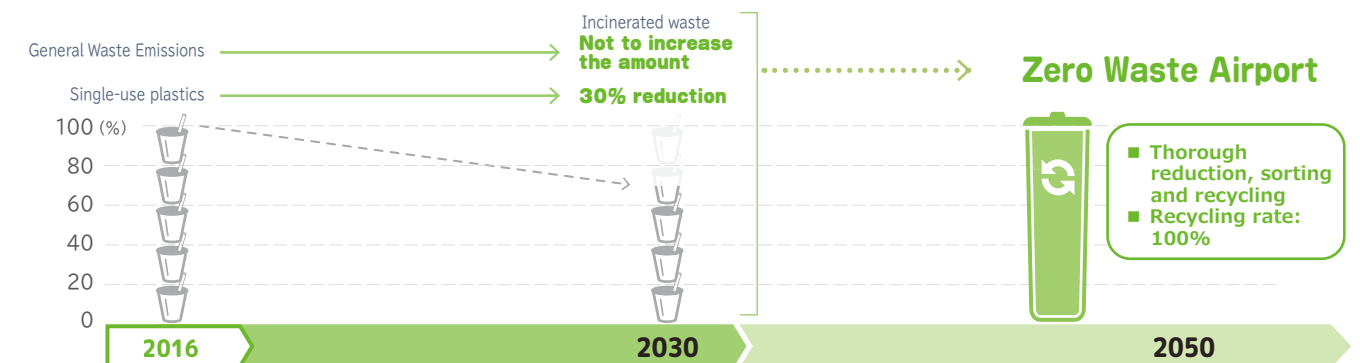


### Circular economy

#### To become Zero Waste Airport

We aim to become a Zero Waste Airport with a 100% recycling rate by 2050 through thorough waste reduction, sorting and recycling.

As well as steadily continuing efforts to achieve the mid-term goal in 2030, new recycling methods will also be considered.

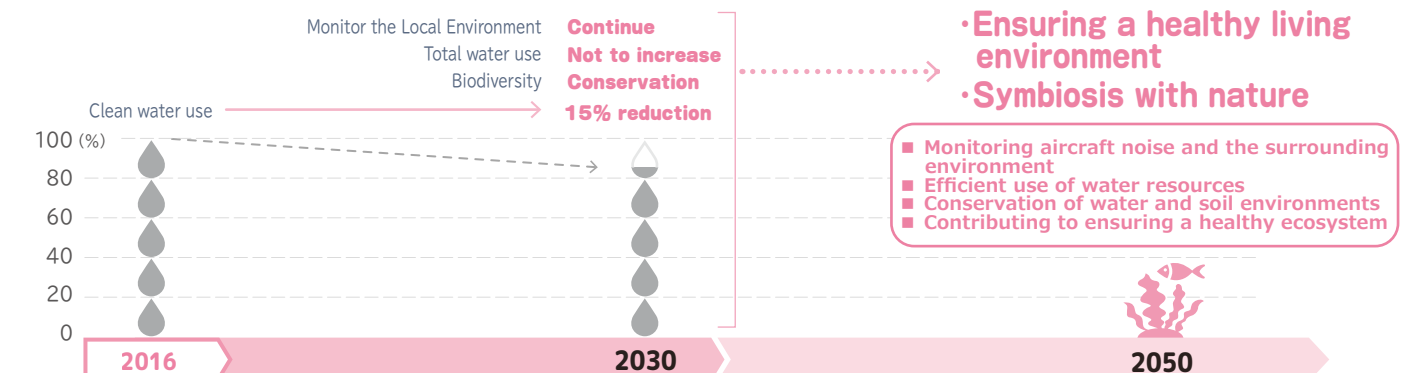


### Environmental symbiosis

#### Ensuring a healthy living environment around the airports / symbiosis with nature

We promote our initiatives to realize "harmony with the vicinity" and "symbiosis with nature."

Quantitative reduction targets have been set for total water use by 2030. In addition, we will sincerely address all aspects of the environment around the airports to continue to monitor the surrounding environment and promote initiatives such as the seaweed bed creation to conserve the ecosystem.





# Decarbonization

## Reduction of greenhouse gas emissions

At Kansai Airports Group, we have been proactively working to clarify and reduce CO<sub>2</sub> emissions by setting goals to reduce greenhouse gas (GHG) emissions by 50% compared to the FY2016 level by 2030 with a view to achieving net zero GHG emissions by 2050.

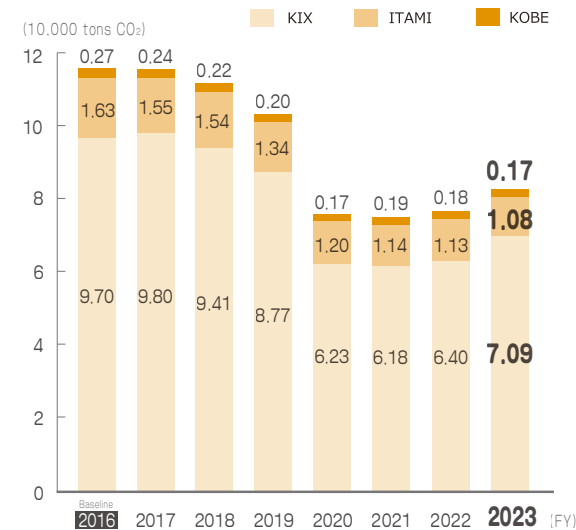
### CO<sub>2</sub> emissions from airports

Thanks to energy-saving efforts and scope to reduce the proportion of electricity emissions, the Kansai Airports Group reduced overall CO<sub>2</sub> emissions by 11.0% in FY2019, before the COVID-19 crises emerged, compared to the level in FY2016.

Since FY2022, the flight and passenger numbers have been gradually recovering, and the total passenger number at the three airports in FY2023 have recovered to 92% of the FY2019 level. In this context, in FY2023, we have promoted the reduction of CO<sub>2</sub> emissions by 28% and 19% from the FY2016 and FY2019 levels, respectively, making use of our insight into energy management during the spread of COVID-19 to promote the reduction of CO<sub>2</sub> emissions.

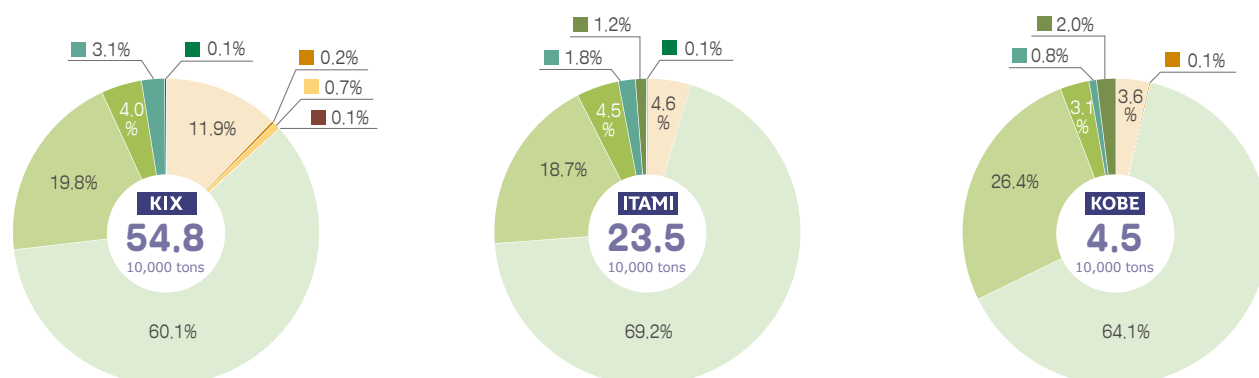
The overall CO<sub>2</sub> emissions of the airports are approximately 548,000 t-CO<sub>2</sub> at KIX, 235,000 t-CO<sub>2</sub> at Itami and 45,000 t-CO<sub>2</sub> at Kobe, with the majority of CO<sub>2</sub> emitted from aircraft.

### CO<sub>2</sub> emissions of the Kansai Airports Group



Note: • The CO<sub>2</sub> emission factor for electricity is based on the data from FY2022.  
• Calculated based on the Airport Carbon Accreditation (ACA) Level 4 emission calculation conditions.  
• CO<sub>2</sub> emissions are calculated by categorizing them into Scopes 1 to 3 in line with the GHG protocol (universal standards for calculating and reporting on GHG emissions) concept.

### CO<sub>2</sub> emissions from all the three airports (in FY2023)



Note1: Since component percentages are rounded to two decimal places, their sum does not necessarily add up to 100%.

Note2: Calculation Conditions

- Vehicles refer to passenger vehicles and ground support equipment (GSE) vehicles.
- Incineration of grass clippings, food residue, sludge and other biological waste is calculated based on carbon neutrality.
- Emissions from accessing the airport and aircraft are based on estimates.
- Emissions from aircraft are based on the LTO (Landings and Takeoffs: aircraft activity at altitude of 3,000ft and under) cycle stipulated by ICAO.

- **Scope1**: CO<sub>2</sub> directly emitted by incinerating fuels used in vehicles, emergency generators and other machinery.
- **Scope2**: CO<sub>2</sub> indirectly emitted when electricity is purchased and used.

- Facilities managed by Kansai Airports
- Vehicles managed by Kansai Airports
- Waste/wastewater
- Others

- **Scope3**: CO<sub>2</sub> emitted by other businesses involved in airport business activities.

- Aircraft
- Accessing the airport, etc.
- Business facilities
- Vehicles managed by businesses
- Waste/wastewater
- Others

### Promote energy conservation

At Kansai Airports Group, we have formulated a medium- and long-term plan to achieve our target of reducing CO<sub>2</sub> emissions and promoted energy conservation measures that reduce emissions. In airport operations, energy consumption in terminal buildings and other facilities is high, with a particular focus on energy conservation measures for air-conditioning and lighting systems, which account for the majority of energy consumption.

To achieve decarbonization at the airports, it will be important to efficiently use and optimize energy. The Kansai Airports Group will promote its basic energy conservation measures as planned, while aiming to collaborate with universities; pursuing advanced AI-centric solutions and further optimizing energy conservation and efficient operations.

### Seeking advanced solutions !

Energy-efficient equipment

Further energy saving

Optimizing automatic operation

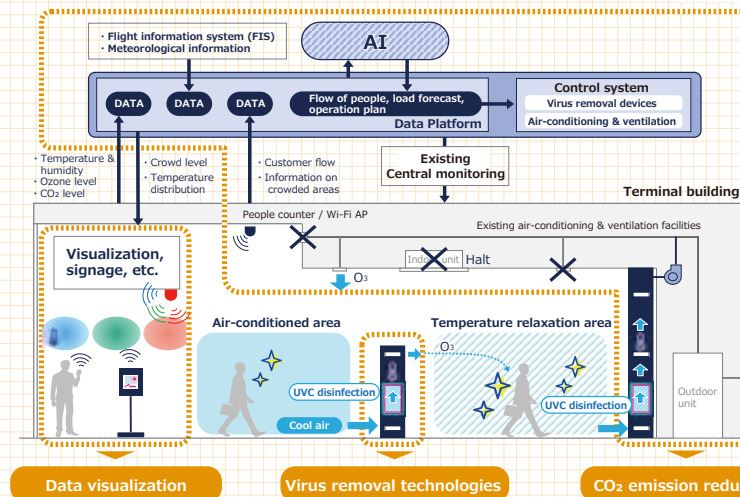
### Introduction of advanced technologies in cooperation with universities

#### Optimizing air conditioning

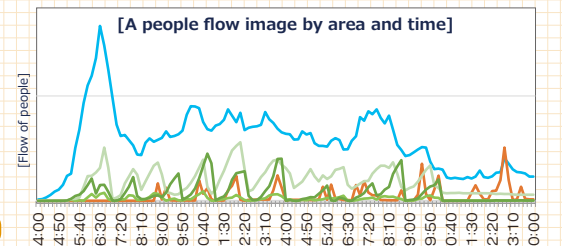
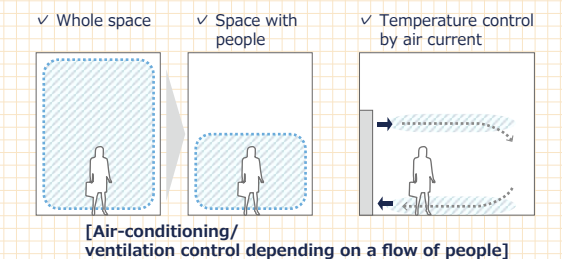
\* A joint demonstration experiment with Kobe University

#### KIX T2 Smart Air Conditioning Demonstration Experiment

\* A project commissioned by the Ministry of the Environment between FYs 2021 and 2022



#### Save energy by optimizing air conditioning

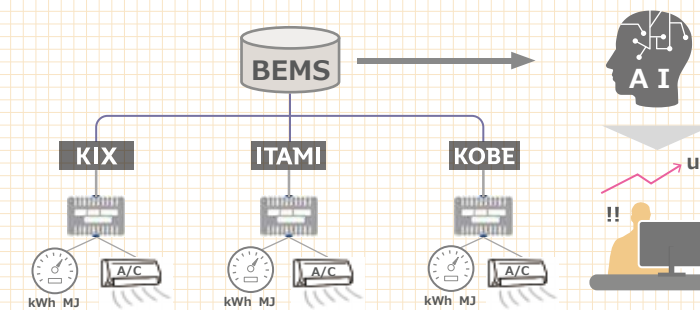


#### Optimizing energy consumption

\* A joint research with the University of Tokyo

#### Energy efficiency with BEMS×AI

A huge amount of data → Auto-detection of wasteful energy use



#### Optimizing renewable energy use

Expanding the use of renewable energy and optimizing the use by minimizing costs and other energy management methods.

### Toward Zero Emissions



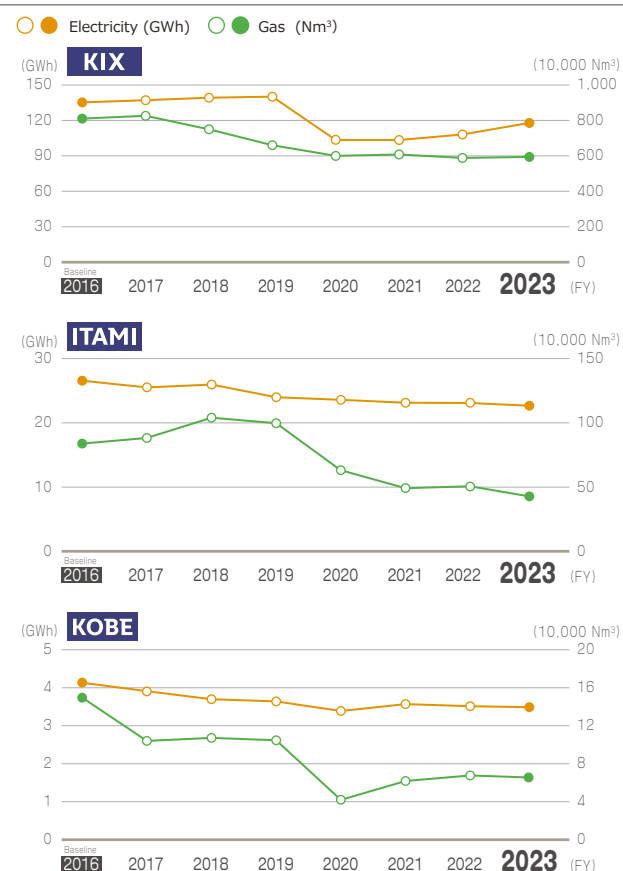


## Energy consumption by Kansai Airports Group

At KIX, we limited the scope of terminal building operations before FY2022 due to the spread of COVID-19 while the scope of operations is being expanded in 2023 as demand for international flights recovers. As a result, electricity consumption at KIX in FY2023 is higher than in the previous year.

In ITAMI and KOBE, consumption of electricity and gas has continuously decreased, although their mode of operation has not been different compared to the previous year. In ITAMI and KOBE airports, throughout the 2016 to 2023 period, electricity and gas consumption declined by 16% and 49%, respectively in ITAMI, and 19% and 57% in KOBE. Electricity consumption was reduced following ongoing efforts to save power, such as upgrading to LED lighting. A lower gas consumption was achieved by upgrading to energy-efficient inverter-controlled electric turbo chillers in ITAMI airport and improving the operation of heat source equipment in KOBE. We also promote the operational improvement of air-conditioning systems by introducing BEMS.

## Energy consumption of the Kansai Airports Group



## Energy-Efficient Air-Conditioning System

## KIX

KIX Terminal 1 building and other major facilities are heated and cooled by Kansai International Airport Heating & Cooling Supply Co., Ltd., a Kansai Airports' group company. We also work hard to ensure only energy-efficient heat source equipment is used for heating.



Inverter-controlled turbo chiller

Thanks to an energy-efficient inverter-controlled turbo chiller introduced from 2018 over 2019 and other initiatives, we were able to reduce annual emissions by approximately 2,450 t-CO<sub>2</sub>.

## [Community heating and cooling system]

A community heating and cooling system centrally produces cold water, steam and other heat sources at the heat supply plant and supplies them to multiple buildings via local pipelines. Air pollution can be prevented and greenhouse gases can be reduced by taking advantage of economies of scale and using efficient large heat-source system. KIX Terminal 1 building and other major facilities are heated and cooled by Kansai International Airport Heating & Cooling Supply Co., Ltd. (KHC), a Kansai Airports' group company.



※ KHC Environmental Report : <https://www.kiahc.co.jp/environment.php>

## ITAMI

In renovating the terminal building, we have also upgraded heat-source equipment for air-conditioning from 2019 over 2020. With this upgrading, including centralizing multiple heat-source equipment and introducing an energy-efficient inverter-controlled turbo chiller, we were able to reduce annual emissions by approximately 1,100 t-CO<sub>2</sub>.

Cold- and hot-water pumps for air-conditioning in the terminal building were upgraded in FY2021.

Promoting energy efficiency by consolidating pumps and introducing inverter-controlled equipment will reduce annual CO<sub>2</sub> consumption by approximately 150 tons of CO<sub>2</sub>.

We plan to continue updating the system in the future.



Inverter-controlled turbo chiller



Cold- and hot-water pumps for air-conditioning

## Insulation and Anti-sunlight Measures

## ITAMI

When renovating the terminal building, we introduced double low-e glass and applied heat-shielding paint to the windows.



Light-blocking panels on the exterior wall of the terminal building

## KOBE

We installed automatic curtains and applied heat-shielding paint to the waiting room of the terminal building.



KOBE Terminal Building

## Energy-Efficient Electrical Equipment

## KIX

When upgrading electrical equipment in the terminal and annex buildings at KIX between FY2019 and FY2020, we introduced a new high efficiency transformer, which reduces power loss by 50% and annual emissions by approximately 150 t-CO<sub>2</sub>.



Energy-efficient transformer

## KIX T1 Renovation New International Departure area opened

We have advanced the renovation of the KIX Terminal 1 building for its opening in spring 2025. In December 2023, a new International Departure area (the central area of the main terminal) opened.

Work-through duty-free shops, Plaza Area in the central area and four Mood areas are expanded in the new International Departure area. The four Mood areas with different atmosphere create space for customers to enjoy themselves according to their mood.

In addition, the immigration, which used to be located in the north and south, have been consolidated in the center to make the immigration process smoother.

Energy conservation measures have also been taken in this area, including energy-efficient air conditioners (energy-efficient fans, airflow control by inverters and CO<sub>2</sub> control to optimize ventilation) and LED lighting.



Interior view of the new International Departure area at KIX T1

## Introducing BEMS

## KIX ITAMI KOBE

The introduction of a Building Energy Management System (BEMS) was completed in the KIX terminal building in FY2018, in ITAMI terminal building in FY2021, and in the KOBE terminal building in FY2022. We have promoted the analysis and use of energy data to improve operations at the three airports.

Based on the data analyzed, the three airports have reduced a total of around 1,200 tons of CO<sub>2</sub> by improving the pump operation in air-conditioning systems.

## Upgrading to LED lighting

## KIX ITAMI KOBE

Following the upgrade of the apron and offices to LED lighting in FYs 2018 and 2019, we upgraded introduced LED lighting in the ITAMI terminal building, which is renovated and reopened in August 2020, the ceiling of the terminal building in KOBE renovated in FY2021 and the new T1 International Domestic area in KIX which started its operation between FYs 2022 and 2023.

We will fully convert LEDs for facility lightings and aviation lightings by FY2030.



Apron LED lighting (ITAMI)



LED lighting in the terminal building (ITAMI)



## Utilize Renewable Energy and Hydrogen

We are encouraging the use of renewable energy and new forms of energy to lower our GHG emissions.

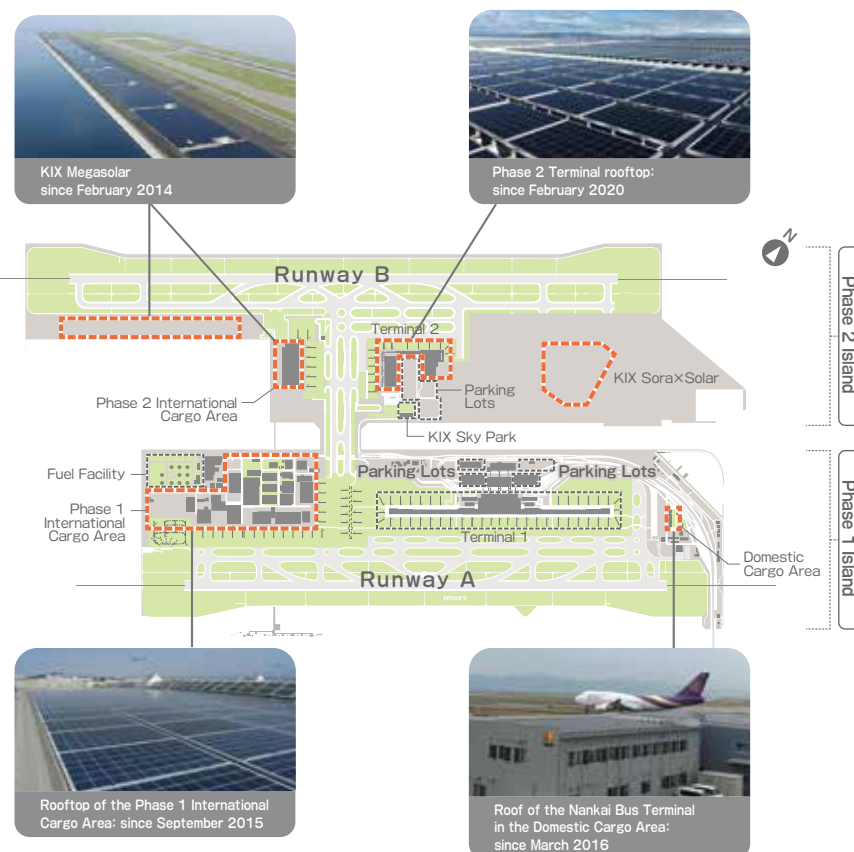
## Installation of self-consumption solar power generation systems

## KIX

In February 2014, KIX Megasolar commenced operations using solar panels installed at a site on the south side of the phase 2 airport island and on the Phase 2 International Cargo Area rooftop.

The airport began operating a solar power system installed on the rooftop of the Phase 1 International Cargo Area in September 2015, later extending the scope to the roof of the Nankai Bus Terminal in the Domestic Cargo Area in March 2016. Further expanding the initiative,

Further expanding the initiative, February 2020 saw a solar power system come into operation on the rooftop of the Terminal 2 building to promote the spread of solar power onsite.



## Expanding the introduction of self-consumption solar power generation system

## KIX ITAMI



KIX Sora x Solar  
(a rendering image)



ITAMI Sora x Solar  
(a rendering image)



KIX Sora x Solar  
(under construction)

We decided to start a new solar power generation project in KIX and ITAMI (KIX-ITAMI Sora x Solar\*). This project will employ an on-site PPA scheme. The PPA is a business scheme whereby a power generator installs solar power generation facilities on the premises of a customer (electricity user) at the power producer's expense, and then supplies electricity generated by the facilities to that customer. This project will be implemented with support of the "FY2023 Subsidy for Airport Decarbonization Promotion Project (Equipment Installation Support)" from the Ministry of Land, Infrastructure, Transport and Tourism. Solar panels will be installed in a land on the north side of Island 2 and rooftop of the international cargo warehouse in KIX while in the rooftop of the terminal building in ITAMI. The power generation will start in spring 2025 at both KIX and ITAMI.

In the first year, the total annual power generation at both airports will be 28.4 GWh, and all the electricity generated will be self-consumed, thereby reducing annual CO<sub>2</sub> emissions by approximately 12,270 tons. In the future, we will introduce more solar power generation systems, with a view to expanding self-consumption with storage batteries and off-site PPA. In the future, we will continue to further introduce solar power generation, with a view to expanding self-consumption through storage batteries and employing an off-site PPA scheme.

\* Trademark registration in April 2024

## Hydrogen Grid Project

## KIX ITAMI

In anticipation of the hydrogen society on the horizon, KIX is promoting the use of hydrogen in collaboration with airport businesses and working towards the full-scale introduction of hydrogen energy for airport facilities and vehicles. The airport marked the full-scale launch of the Hydrogen Grid Project in May 2014 and actively engaged in testing fuel-cell forklifts for practical applications; establishing a model case involving the use of hydrogen at airports and other activities.

Hydrogen is the ultimate form of clean energy; generating only water after combustion. It can also be stored and shipped easily, so users can use it whenever and wherever needed. To make carbon-free operation a reality in a venue like an airport, covering a large area and operating around the clock, expanding the use of hydrogen energy will become important. Given technological trends in terms of hydrogen energy innovation and the status of hydrogen energy use outside the airport, we strive to build on results already achieved and pave the way for further development.

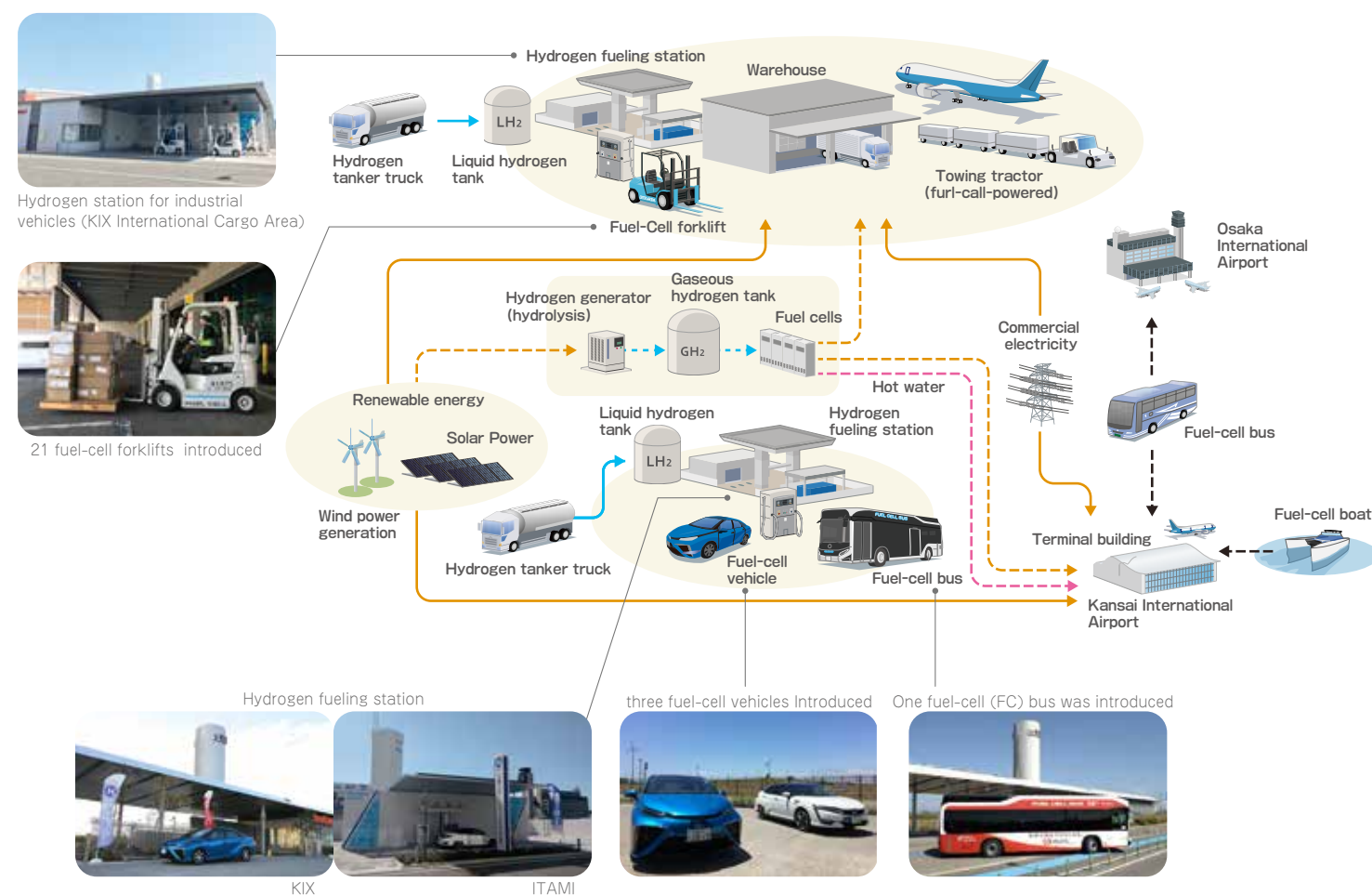
Currently, commercial hydrogen stations for fuel-cell vehicles (FCVs) and fuel-cell buses (FC buses) have been installed at both KIX and ITAMI, while a hydrogen-charging facility for fuel-cell industrial vehicles were also installed at KIX.

The Kansai Airports Group currently uses three FCVs as operational vehicles within KIX and ITAMI. In KIX, 21 fuel-cell forklifts (FCFLs) were introduced in the CKTS import cargo building and currently operate in the KIX International Cargo Area. Most forklifts, except the large type, were replaced with FCFLs at the CKTS import cargo building. Since FCFLs generate minimal noise and zero exhaust fumes, it helps mitigate the environmental impact and vastly improve the working environment.

In March 2022, we cooperated with Nankai Bus Co., Ltd. to introduce fuel-cell buses operating within KIX. This marked a first for Osaka Prefecture to introduce fuel-cell buses as airport shuttle bus on a full scale.

## KIX and ITAMI Hydrogen Grid (Image)

Heat grid Electricity grid H<sub>2</sub> Solid arrow : Introduced Dotted arrow : Unintroduced \* FC = Fuel-cell





## ● Fuel-cell Forklifts

KIX

In April 2017, the airport completed work on Japan's first hydrogen station for industrial vehicles at the International Cargo Area that includes liquid hydrogen tanks and high pressure hydrogen supply lines. The largest trial operation in Japan using hydrogen station and fuel-cell forklifts is now taking place.

Introducing fuel-cell forklifts to handle air cargo 24 hours a day can help to lower CO<sub>2</sub> emissions compared to forklifts powered by fossil fuel or electricity. In addition, fuel-cell forklifts can be refueled in around three minutes, meaning they can be operated continuously without the hassle of charging or replacing battery packs. As a result, they can offer significant improvements in both work efficiency and work environment.



Fuel-cell Forklifts

- February 2015: Begins trial operation of fuel-cell forklifts at the International Cargo Area as part of the Fuel-cell Forklift Practical Application and Development / Testing of Optimal Hydrogen Infrastructure Improvements Project, selected by the Ministry of the Environment, becoming the first airport in Asia to do so
- November 2016: Introduces first mass produced fuel-cell forklift
- April 2017: Commences operations of hydrogen station for industrial vehicles
- February 2018: With additional two FCFLs
- February 2019: With additional four FCFLs
- February 2020: With additional 15 FCFLs

## To capitalize on hydrogen in the aviation industry

KIX ITAMI KOBE

In June 2022, Airbus, an aerospace manufacturer in Europe and Kansai Airports signed a Memorandum of Understanding to partner in operating hydrogen-powered aircraft within the three airports. This initiative will contribute to decarbonization within airports as well as the wider aviation industry. It is also part of efforts to consider and develop infrastructure to facilitate the operation of hydrogen-fueled aircraft in future.

Going forward, we will jointly prepare a roadmap toward policy recommendation efforts and relevant issues concerning the use of hydrogen for aircraft to spearhead infrastructural development for the use of hydrogen in aviation.



MoU between Airbus and Kansai Airports

## ● Fuel-cell Vehicles and Fuel-cell Buses

KIX ITAMI

Infrastructure has been established at both KIX and ITAMI airports to enable hydrogen filling for FC (fuel-cell) vehicles as well as FC buses.

We also introduced a hydrogen-fueled FC bus at KIX. Aided by a subsidy program from the Ministry of the Environment of Japan and Osaka Prefecture as well as contributions from five Mitsubishi UFJ Financial Group companies\*, Nankai Bus Co., Ltd. introduced and operated the bus in KIX.



Fuel-cell Buses

- May 2007: Opens hydrogen station and introduces vehicles with a hydrogen engine into its fleet
- October 2012 to March 2014: Conducts real-life testing using an FC bus as a shuttle bus from the Aero Plaza to KIX Terminal 2
- April 2015: Introduces the Toyota Mirai, the world's first mass produced hydrogen fuel-cell vehicle, into its vehicle fleet
- January 2016: Iwatani Hydrogen Station KIX, the first commercial hydrogen station to be introduced in a Japanese airport, commences operations in the phase 2 KIX airport island
- March 2019: Introduces the first FCV in ITAMI
- April 2019: The ITAMI Iwatani Hydrogen Station is installed and goes into operation
- March 2022: FC buses are introduced in KIX, marking a first for Osaka Prefecture.

\* MURC Bank, Ltd., Mitsubishi UFJ Trust and Banking Corporation, Mitsubishi UFJ Securities Holdings Co., Ltd., Mitsubishi UFJ NICOS Co., Ltd. and ACOM CO., LTD.

## Promote Zero-Emission Vehicle (ZEV)

To become a zero-emission airport, we promote the introduction of vehicles that mitigate our impact on the environment. Within the Kansai Airports Group, we are promoting the introduction of eco-friendly vehicles\*<sup>1</sup> including EV, FCV and other types of zero-emission vehicle (ZEV) in our fleet as well as establishing a vehicle sharing system that streamlines our vehicle operation.

Our group company, Kansai International Airport Heating & Cooling Supply Co., Ltd. (KHC), introduced two EVs in FY2023 while World Air Passenger Service Co., Ltd. (WAPS) has also introduced totally two EVs (one in FY2023 and another in FY2024)



EVs introduced by KHC



EVs introduced by WAPS

As of March 2024, within the Kansai Airports Group fleet, **62.4%** of passenger vehicles and **28.0%** of GSE vehicles\*<sup>2</sup> were classed as eco-friendly. Alongside these measures, we will also keep calling on airport-based businesses to follow suit.

\*<sup>1</sup> EV, FCV, CNG, HV, PHV, CDV, and low emission vehicles (see note)

Note: Low emission vehicle refers to vehicles that satisfy the following emission and fuel economy standards.

- 1) Gasoline vehicles  
Emissions: 75% less than 2005 standards  
Fuel economy:  
At least 2015 standards or 25% above 2010 standards
- 2) Diesel vehicles  
Emissions:  
Post new long-term regulation  
Fuel economy: At least 2015 standards

\*<sup>2</sup> Ground support equipment (GSE) vehicles

## Installation of EV Charging Stations

KIX ITAMI KOBE

Our three airports have a full complement of EV charging stations to encourage the use of eco-friendly vehicles.

In FY2023, we installed totally 184 EV charging stations in the North Parking Structure 1 and South Parking Structure in ITAMI and commenced the service in March 2024. This makes ITAMI the airport

with the largest number of EV charging stations in Japan.

Given the further rise in the number of EVs as expected, we plan to roll out additional stations over time, to meet demand.



KIX



KOBE



ITAMI

EV charging stations







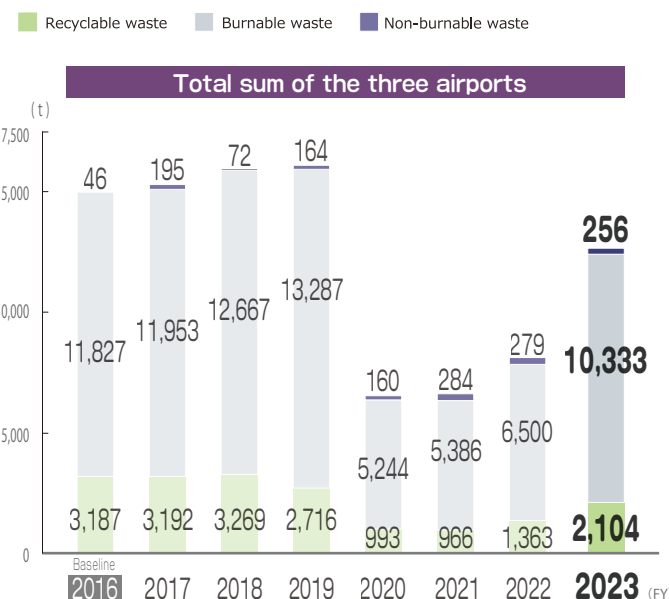
# Circular economy

## Waste reduction, sorting and recycling

Kansai Airports Group has set a goal of becoming a zero-waste airport with a 100% recycling rate by 2050, with no increase in the amount of incinerated waste from FY2016 levels by 2030 and is working to reduce waste and increase recycling rates through thorough waste sorting and collection of recyclable waste.

### Waste from the airports

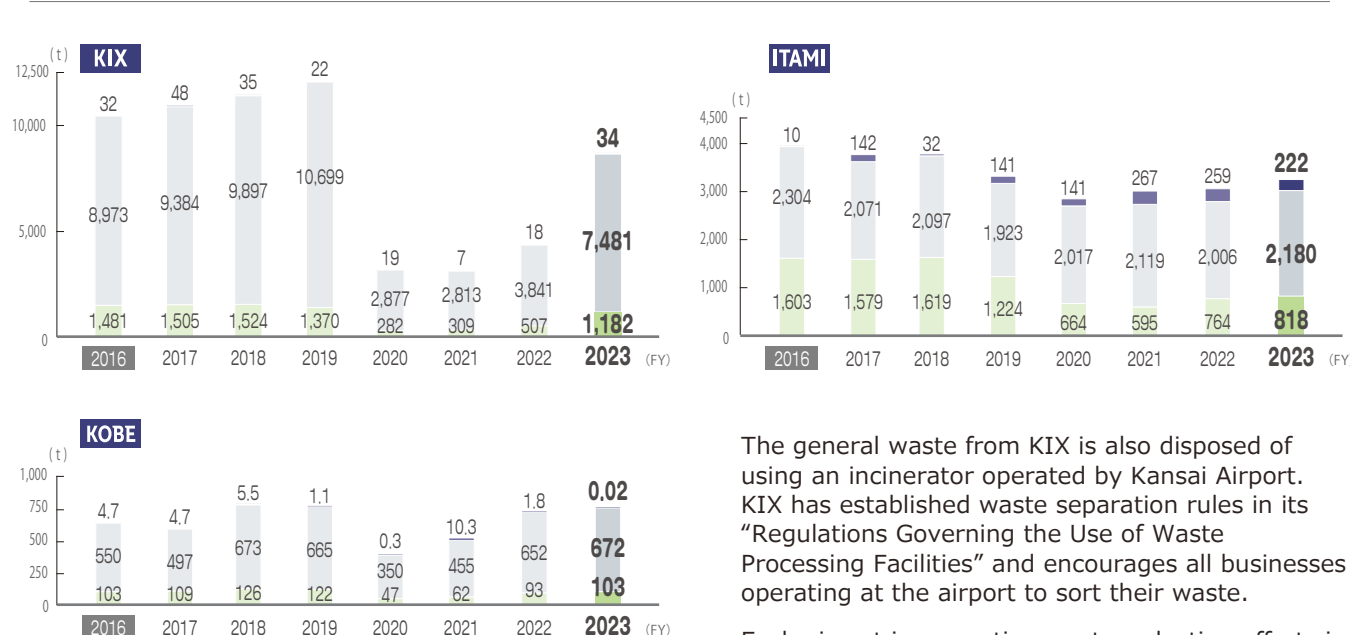
#### General waste



The amount of waste generated in an airport is largely affected by the fluctuations in the number of passengers using the airport. In fact, the amount largely decreased between FY2020 and FY2022, reflecting a significant decrease in the passenger traffic due to the spread of COVID-19. Although the passenger traffic almost recovered to the FY2016 level in FY2023, the amount of combustible waste (incinerated waste) decreased by about 1,500 tons compared to FY2016 due to paper recycling and other efforts, but also some temporary factors, such as the closure of shops due to the renovation of T1. As the amount of waste is expected to increase in the future, we need to continue to promote our efforts.

Under a working group to consider waste reduction, we will further reduce waste generation and improve the recycling rate by further accelerating the study on how to dispose of waste and recycle waste plastic and grass clippings.

#### General waste from each airport



The general waste from KIX is also disposed of using an incinerator operated by Kansai Airport. KIX has established waste separation rules in its "Regulations Governing the Use of Waste Processing Facilities" and encourages all businesses operating at the airport to sort their waste.

Each airport is promoting waste reduction efforts in collaboration with airport-related businesses via the Airport Environmental Promotion Council.

### Promotion of waste reduction and waste recycling

#### Introducing food waste disposers

##### KIX

As part of efforts to reduce and recycle waste, we introduced a food waste disposer in KIX's restaurant in June 2020 and a lounge in the terminal building in February 2024, and these disposers process daily food waste.

This disposer biodegrades food waste using microbes, which, once decomposed, is discharged into the sewage system. Eliminating transport, burning and other processing on site allows us to reduce the volume of waste to be incinerated and CO<sub>2</sub> emissions from incinerating garbage bags as well as reducing the transport demands on staff.

We will strive to roll out the disposer to as many restaurants and tenants in the terminal building as possible to reduce the amount of food waste incinerated airport-wide.



Food waste disposer

#### Drying of grass clippings

##### KIX

We bale and dry grass clippings produced by airport maintenance and management to help reduce waste.

As a result of the demonstration experiment that has been carried out since FY2023, we confirmed that it is possible to reduce the amount of waste by approximately 20% by relocating the grass clippings bales to a place that is not exposed to rainwater and drying them for a certain period of time.

We plan to start the drying from FY2024 and consider extending this effort to other airports and expanding the drying yard.



Drying of grass clippings

#### Consideration and introduction of new recycling items

##### KIX ITAMI KOBE

We are considering recycling with a focus on plastics and have already started discussions with recycling companies and local governments to achieve recycling as soon as possible by 2030.

Although newspapers, magazines and cardboard are already recycled, we have gradually expanded the scope of recycling to include shredded waste and other paper products (paper boxes, paper bags, etc.) that were not being recycled and started recycling these items at the end of last year.



Shredded papers to be recycled

#### Further waste reduction initiatives with airport-related businesses

##### KIX

Passenger waste, catering waste and containers left on aircraft are collected and processed in the airport incinerator. To reduce and sort such waste, we continue dialog with a range of stakeholders. The Airport Environmental Promotion Council is working to raise awareness of waste reduction as well as encouraging initiatives to the KIX Airline Operators Committee (KIXAOC) to help airlines mitigate their environmental impacts.

In FY2023, we held a tour of our Waste Disposal Center and Sewage Treatment Center for airline and cargo companies to deepen their understanding of our environmental initiatives. We will continue with similar initiatives in the future.



A tour of environmental facilities for airline and cargo companies



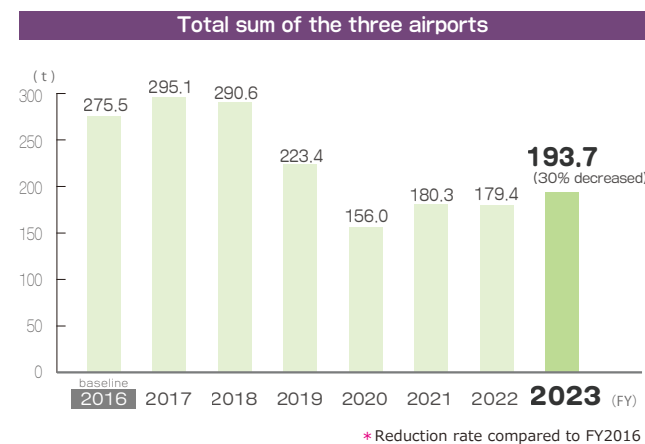
## Reducing the amount of single-use plastic



Kansai Airports Group has set a target to reduce the amount of single-use plastic we use by 30% by 2030 from the FY2016 level, and is working to replace materials and promote recycling to reduce the amount of plastic we use.

### The amount of single-use plastic by Kansai Airports Group

#### Amount of single-use plastic



The amount of single-use plastic used by Kansai Airports Group in FY2023 has increased from the previous year mainly due to an increase in international flights. Meanwhile, the amount has decreased by about 30% compared to FY2016 when the number of passengers and flights was almost at the same level, thanks to our efforts to reduce the use of plastic shopping bags and convert the materials.

As the number of flights increases in the future, the amount of single-use plastics is expected to increase. We will strive to further reduce the amount by replacing it with biomass and other products.

At the same time, we will work with airport-related businesses to promote the reduction of single-use plastic at all airports.

### Promotion of reducing single-use plastic and its recycling

#### Reduce the amount of single-use plastic

KIX ITAMI KOBE

To reduce the amount of single-use plastics at the three airports, we have also promoted initiatives in offices, terminal buildings and hotels, as listed below.

- ✓ Using paper shopping bags (FSC certified)
- ✓ Using paper straws, paper cups and wooden cocktail stirrers at the lounge
- ✓ Introducing biomass amenities in hotel guestrooms
- ✓ Using wooden cup holders
- ✓ Raising environmental awareness via original eco-bags and badges
- ✓ Reusing suitcases
- ✓ Filling up the personal bottles with free water supply machines
- ✓ "No PET Bottle Day" for employees.



Wooden cup holders



Biomass in-room amenities



Original eco-bags and badges



Reusing suitcases

#### Biomass-made amenities in Osaka Airterminal Hotel

Our Group company, World Air Passenger Service Co., Ltd. (WAPS), is working to replace the amenities in the Osaka Airterminal Hotel at ITAMI with those made from biomaterials. In FY2023, we replaced toothbrushes, hairbrushes, shower caps and cotton bags after carefully selecting items that do not cause stress to customers. We are also working to replace shampoo, conditioner and soap bottles with those made from biomaterials provided by related companies. The Hotel Nikko Kansai Airport at KIX has also taken similar measures. We will continue to consider replacing products and work to reduce the amount of plastic we use.

#### Closed-loop recycling (BtoB) of PET bottles

KIX ITAMI KOBE

Kansai Airports Group conducts horizontal recycling (BtoB) of PET bottles generated at airports to reproduce the same type of product.

While PET bottles are widely used for their convenience, they are made from fossil fuels such as petroleum, and they emit CO<sub>2</sub> when burnt. Accordingly, it is necessary to reduce their environmental impact by using them in a more sustainable and cyclical way.

The mainstream recycling of used products into different types of products is ultimately incinerated, but horizontal recycling produces the same type of product, thereby reducing CO<sub>2</sub> emissions and enabling sustainable resource recycling. Moreover, garbage boxes are installed at KIX terminals to foster awareness of proper separation of PET bottles and the need to sort waste.

In February 2024, we jointly held the "7-Second Bottle-to-Bottle Challenge" with Coca-Cola Bottlers Japan Inc. and Kadiac Co.,Ltd. to promote closed-loop recycling and sorting of PET bottles. It was an awareness-raising event for passengers in which participants could take on a challenge of completing three sorting steps of the bottle-to-bottle recycling in seven seconds.



#### Recycling of cargo packing materials

KIX

Used cargo packing film, Styrofoam and wood waste generated in the air cargo unloading operations conducted by Kansai Airports Group had been disposed of as industrial waste and accounted for a large portion of its disposable plastic volume.

In June 2023, we contracted with a recycling company to recycle cargo packing film and established its recycling system to reduce the amount of such industrial waste. In August 2023, we also purchased a Styrofoam melting machine and established a system to recycle it after volume reduction. Since August 2024, we have established a wood waste recycling system to reduce the volume. We will also consider recycling other materials in the future.



#### Conversion of shopping bag materials

KIX ITAMI KOBE

From April 2020, we have switched from using vinyl shopping bags to environmentally friendly paper bags (FSC certified) and shopping bags made from biomaterials in duty-free shops and retail stores directly operated by Kansai Airports Group, significantly reducing the use of plastic.

Since October 2023, we have also started charging for shopping bags at stores in the domestic area to encourage the use of eco-bags.







# Environmental symbiosis

## Monitor the local environment



Kansai Airports Group has continued the monitoring of aircraft noise and other local environments in an appropriate and steady manner to maintain healthy living environment around the airports and promote airport operations in harmony with the community.

### KIX

#### Measuring and monitoring aircraft noise

Environmental assessments based on flight paths and flight procedures established to minimize aircraft noise found that only areas over water were affected by noise levels exceeding environmental quality standards.

KIX conducts both continuous and periodic monitoring of aircraft noise, and publishes the findings. For FY2023, as in the prior year, noise levels complied with environmental standards (below Lden 57 dB) at all land-based continuous monitoring stations and periodic monitoring sites.

KIX was built on an artificial island in Senshu Bay 5km from the coast to enable 24-hour-a-day operations as an airport that is pollution free and co-exists with surrounding communities. Since the new overland flight path was established in December 1998, the airport measures aircraft flight path and altitude as part of its noise monitoring efforts. Currently, KIX examines flight path and altitude data for ten observational cross-sections and publishes the results.



#### Reducing aircraft noise

To reduce aircraft noise, we encourage airlines to switch to quieter aircraft and closely monitor established flight paths and altitude. We ask the KIX Airline Operators Committee to take steps to ensure compliance with flight paths and to find ways to reduce aircraft noise.

#### Measures at noise sources

- Aircraft are expected to fly over land only after gaining sufficient altitude over Osaka Bay after takeoff from the runway.
- Aircraft arriving or departing late at night or in early morning are restricted to flight paths in airspace over Akashi Strait and Kitan Strait.
- Noise Abatement Operating Procedures\*1 and continuous descent flight procedures\*2 have been adopted to minimize noise from aircraft approaching the airport from Kitan Strait.

\*1 Noise Abatement Operating Procedures  
Noise-reducing flight procedures for aircraft, including delayed use of flaps and delayed deployment of landing gear on approach to the runway.

\*2 Continuous descent operations (CDO)  
A method of aircraft flight during descent, maintaining the minimum engine thrust for optimal descent (not horizontal flight) until the aircraft reaches the starting point for instrument landing. KIX uses CDO during certain hours. Benefits of the method include reduced fuel consumption and reduced CO<sub>2</sub> emissions.

#### Inquiries from residents and responses

The annual number of inquiries from local residents peaked at 263 in FY1998 when new flight paths were introduced in airspace over the Osaka Prefecture region, and since then have been on a declining trend. In FY2023, the airport received a total of 29 inquiries.

In response to the inquiries, we study these issues in cooperation with the Civil Aviation Bureau (under the Japanese Ministry of Land, Infrastructure, Transport and Tourism) and publish our findings.

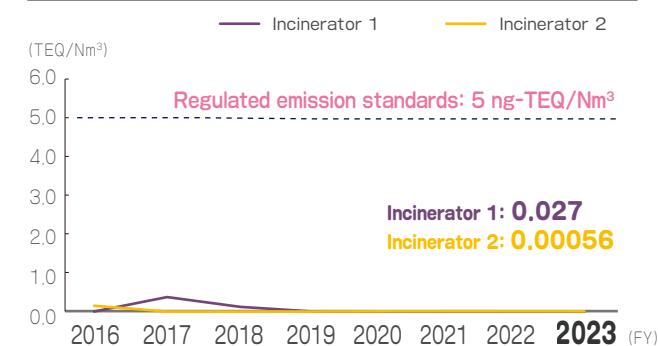
### KIX

#### Measures to reduce emissions from Incineration

We separate general waste from the airport island into combustibles and recyclables, with combustible waste incinerated at the airport's Waste Disposal Center.

Emissions from incineration go through a filter-type precipitator. As a result, air pollutant levels such as nitrogen oxides are fully below regulated emission standards. Dioxin emissions are also well below regulated standards. Waste heat from incineration is being used as a source of heat for the incinerator, and for hot water and air-conditioning at the Waste Disposal Center.

#### Emission gas measurements (dioxins)



#### [ Waste Disposal Center ]

This plant features a fluidized bed furnace. It also uses a filter-type precipitator that utilizes catalysts to remove nitrogen oxides, as well as humidity-regulated fly ash stabilizing equipment. The plant was designed with careful consideration of the local environment.

Emissions at about 850°C from the incinerator's furnace are directed into a cooling chamber, through heat exchangers designed with heaters to prevent white smoke, and then to a reactor. Dust and hazardous gases are then removed by a filter-type precipitator, and exhaust gases are released into the atmosphere via an induced-draft fan and an exhaust stack. We operate with strict voluntary standards at the stack outlets for dust, sulfur oxides, hydrogen chlorides, and nitrogen oxides, with maximums of 0.02 g/Nm<sup>3</sup>, 20 ppm, 30 ppm and 70 ppm, respectively.



Waste Disposal Center

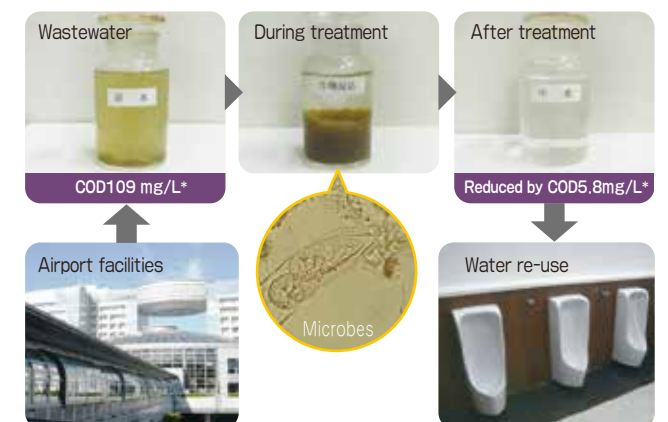


Advanced treatment of general wastewater

#### Advanced treatment of general wastewater

General wastewater generated from each facility undergoes sophisticated treatment at the airport's Sewage Treatment Center.

Water quality is carefully managed during each treatment process and water is discharged only after fully meeting regulated water quality standards. We also strive to maximize the effective use of water resources and to consider the local environment, such as by using some of the treated water for flushing toilets and watering plants.



\* Monthly average in August 2023

#### [ Sewage Treatment Center ]

Wastewater from the passenger terminal buildings and other airport facilities is considered to be general wastewater, and undergoes advanced treatment such as activated-sludge circulation nitrification/denitrification, chemical clarification, and rapid sand filtration. Wastewater from industrial sources first undergoes on-site pre-processing to remove hazardous substances, and then undergoes advanced treatment at the Sewage Treatment Center, through chemical coagulation/sedimentation and rapid sand filtration processes and other processes.

#### Processing capacity in FY2023 (daily average)

General wastewater 1,679 m<sup>3</sup> Industrial wastewater 127 m<sup>3</sup>



Sewage Treatment Center



Sand filtration



ITAMI

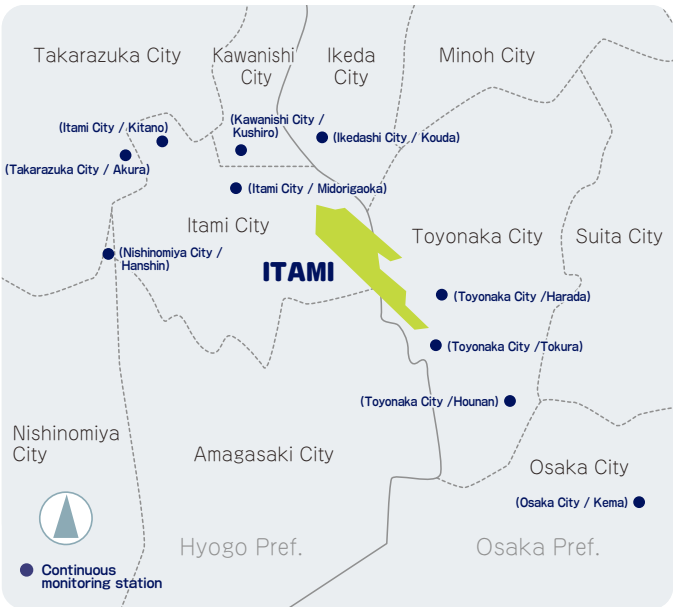
Measuring and monitoring aircraft noise

To monitor aircraft noise, ITAMI conducts continuous monitoring of noise levels at 10 locations in the airport region, and releases the results publicly.

The noise level exceeds the legal limit (below Lden 57 or 62 dB) in certain communities around the airport. To reduce the impacts of aircraft noise on these communities, the airport is working on measures at noise sources, improving airport layout, and measures in the vicinity of the airport.



Noise measurement and monitoring



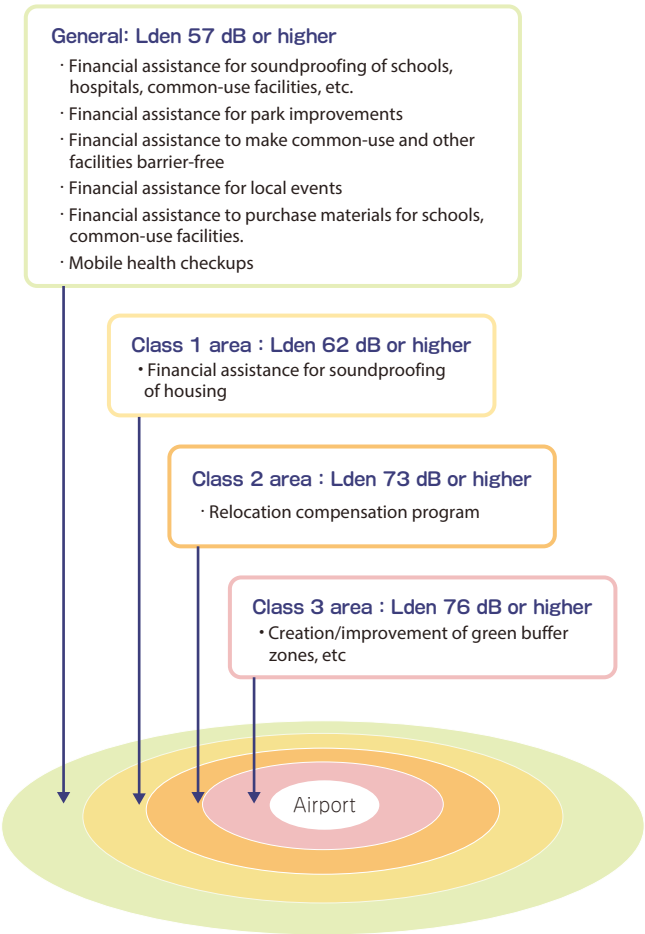
Measures in the vicinity of the airport

Measures based on the noise impacts

ITAMI carries out the measures as shown on the right in the vicinity of the airport based on the extent of noise impacts on local communities.

Relocation compensation program

In areas around the airport significantly affected by aircraft noise, the airport provides relocation compensation or purchases the land of buildings located in designated areas.



ITAMI

Utilization of land acquired through the relocation compensation program

The airport clears and plants trees on land purchased through the relocation compensation program located in the Class 3 area around the airport. As a result, a greenbelt (see photo below) that serves as a buffer zone between the airport and surrounding communities is taking shape. With the progress of the relocation compensation program in Class 2 and 3 areas, there has been an increase in vacant sites (after residents have relocated) in the area. Responding to community concerns about losing local cohesiveness, the airport has been working to develop green space integrally in a planned way, by having Class 2 and 3 areas and surrounding areas designated as green space, as defined under the nation's City Planning Act. Examples include the Itami Sky Park on the Hyogo prefecture side and Fureai Ryokuchi (public green space) on the Osaka prefecture side of the airport.

Also, the airport developed Air Front Oasis Shimogawara using land acquired in the Class 2 area as part of the relocation compensation program. This area aims to familiarize local residents with the airport through greenery and it also serves to improve the disaster prevention functions of the surrounding communities. As a result, the area improves the living environment of people in the surrounding communities along with disaster preparedness.

[ Green buffer zones ]



Green buffer zones created on sites after residents have relocated out of the Class 3 area near airport.

[ Itami Sky Park ]



This green space was developed as a place of relaxation for the local community and is also designed to serve as a refuge area in time of disaster.

[ Air Front Oasis Shimogawara and Shimogawara Green Area ]



Air Front Oasis Shimogawara is well-located with a view of ITAMI. Its main feature is an observation deck with a commanding view of the daily activities at the airport, but it also includes a monument to the wind and other items with an aeronautical motif. Together with the Shimogawara Green Area provided by Itami City, it is a place for locals to relax and enjoy the play and athletic equipment, and rest area.

[ Fureai Ryokuchi (Friendship Green Square) ]



This area was developed as a green space for local residents and, based on their feedback, it features a multipurpose open space, tennis court, heated swimming pool, grass lawn, play equipment, and biotope, among other amenities.

Soundproofing for communities surrounding the airport

In accordance with laws, ITAMI subsidizes part of the costs for soundproofing work of homes and educational facilities in communities that are significantly impacted by aircraft noise.

Table with 3 columns: Category, Soundproofing of schools, etc., and Soundproofing of housing. It details subsidies for soundproofing in various community areas.

\* Act on Prevention of Damage caused by Aircraft Noise in Areas around Public

Other programs

In addition to legally mandated programs, ITAMI provides mobile health checkups and subsidizes part of project costs (of up to 80%) of community events and park development by local governments in communities that are significantly impacted by aircraft noise.

Table with 3 columns: Category, Mobile health checkups, and Environmental improvements in surrounding areas. It describes additional support programs for the community.





## ITAMI

### Reducing aircraft noise

#### Measures at noise sources

##### ● Restricting flight movements and hours of operation

Considering the impacts of noise on local communities, the airport has established a limit on aircraft movements for regularly scheduled flights of 370 movements per day (200 for jets and 170 for quieter aircraft). In addition, airport operations are restricted to the 14 hours between 7:00 am and 9:00 pm.

##### ● Encouraging the use of quieter aircraft

ITAMI promotes the introduction of low-noise aircraft through a unique landing fee system, with discounts for low-noise aircraft and surcharges for high-noise aircraft, based on actual noise levels measured around the airport.

##### ● Noise abatement flight procedures

The airport employs the following noise abatement flight procedures in order to reduce the impacts of aircraft noise

###### Rapid ascent (take-offs/departures)

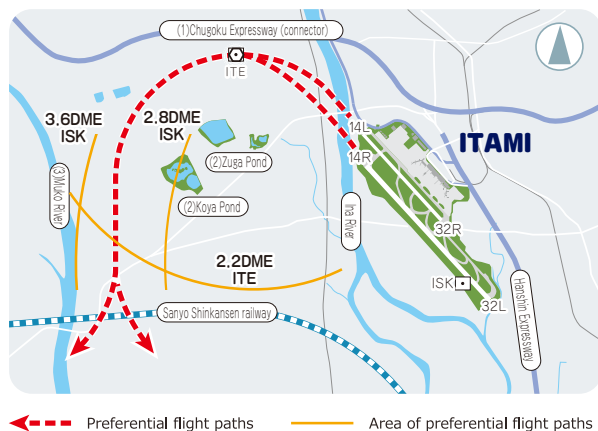
To reduce aircraft noise on communities next to the airport, the airport has established flight procedures that require departing aircraft to rapidly ascend to 3,000 feet (about 1,000 meters).

###### Delayed-flap approach and landings with low flap angle (landings)

The airport has established flight procedures that reduce engine noise and wind noise due to air resistance by controlling the necessary engine thrust and air resistance by having aircraft on approach delay the lowering of flaps and gear down, and use the lowest flap angle possible when landing.

###### Preferential flight paths

To minimize the range of aircraft noise impacts, aircraft taking off to the north are required to fly inside the area of (1) Chugoku Expressway Connector to the north, (2) Zuga Pond and Koya Pond to the south, and (3) Muko River to the west (see figure below).



Note: The figure above is a conceptual flight path diagram and does not suggest that all aircraft will fly on the red dotted lines.

##### ● Reducing aircraft noise from within the airport

###### Curtailing the use of reverse thrust at night

Jet aircraft landing on runway B between 7:00 pm and 9:00 pm are required to minimize the use of reverse thrust\* within the safe operation parameters of the aircraft, in order to reduce aircraft noise at night for communities near the runway

\* Reverse thrust is when jet engine thrust is diverted to decelerate an aircraft.

###### Noise reduction measures during aircraft engine testing

The airport has erected a large noise barrier at the engine testing site in order to reduce noise during aircraft engine testing.



###### Promoting use of GPUs and limiting use of APUs

In order to reduce noise impacts from auxiliary power units (APUs) while aircraft are parked, we are promoting the use of ground power units (GPUs).

##### ● Improving airport design

Noise barriers, noise protection embankments, and noise protection forests have been set up around the airport to reduce the impacts of noise from aircraft takeoffs and landings and use of the taxiways.



Noise barrier



Noise protection embankments

#### Inquiries from residents and responses

Inquiries usually increase at ITAMI when aircraft take off and land in a direction different to the norm (taking off towards the south and landing on the north side). The airport received 525 inquiries about aircraft noise and flight paths in FY2023.

The airport will respond to inquiries sincerely, sharing this information between relevant parties.

## KOBE

### Measuring and monitoring aircraft noise

KOBE monitors aircraft noise at four and six locations respectively on an ongoing and periodic basis and publishes the findings. For FY2023, as in the prior year, noise levels were confirmed as complying with environmental standards (below Lden 57 dB) at all land-based continuous and periodic monitoring sites.



#### Inquiries from residents and responses

KOBE received 45 inquiries about aircraft noise and flight paths in FY2023.

The airport will respond to inquiries sincerely, sharing this information between relevant parties.

### Reducing aircraft noise

#### Measures at noise sources

##### ● Restricting flight movements and hours of operation

Although the airport established a daily limit on aircraft movements for regularly scheduled flights of 60 movements considering the impacts of noise on local communities, the limit was extended to 80 movements after confirming the environmental impact, following discussions at the Kansai Airports Round Table Meeting held in May 2019.

Airport operations were also restricted to a 15-hour window between 7:00 am and 10:00 pm while operations were extended an hour from summer 2020 to include 16-hour operation until 11:00 pm.

##### ● Noise Abatement Operating Procedures

We have introduced noise-reducing flight procedures for aircraft, including delayed use of flaps and delayed deployment of landing gear on approach to the runway.

##### ● Flight path setting

At KOBE, aircraft take off and land while using a flight path over the Akashi Strait to reduce the impact of aircraft noise.

## KIX ITAMI KOBE

### Expanding airport capacity and strengthening the environmental monitoring system

During the Kansai Airports Round Table Meeting held in July 2024, based on the basic philosophy of a 'pollution-free airport' for an offshore airport, and on the premise of sincerely listening to local opinions and requests and giving them the utmost consideration, the introduction of a new flight path plan that is necessary for the growth of the Kansai region was agreed.

In preparation for the Expo 2025 Osaka, Kansai, Japan, the Kansai Airports Round Table Meeting has requested the Japanese government to take the necessary steps to expand the capacity of KIX and make use of KOBE.

As part of the environmental monitoring following the introduction of the new flight paths, we will work with the relevant local governments and airport providers to install additional noise measurement points in line with the new flight paths, maintain and open a new flight information system to the public, strengthen consultation and inquiry services and establish stakeholder meetings in each prefecture to develop a new system based on an appropriate division of roles. We will also strive to minimize the impact on local living environments as much as possible, while ensuring safety.



The 14th Kansai Airports Round Table Meeting held on July 15, 2015



Efficient use of water resources



At Kansai Airports Group, we have set goals not to increase the total water use of the entire airports from the FY2016 level and to reduce the clean water use by Kansai Airports Group by 15% from the FY2016 level, with the aim of efficient use of water resources. Under the goals, we have promoted water conservation operations and utilization of grey water.

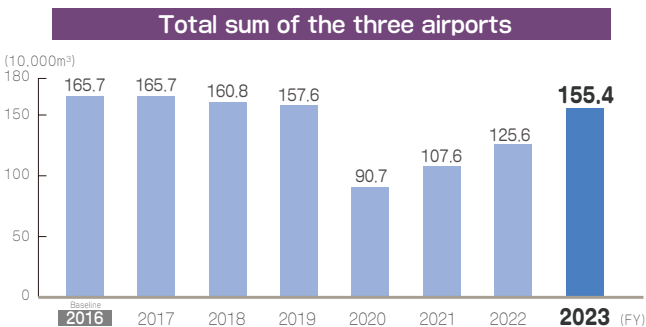
Water usage of the entire airports

Kansai Airports Group has promoted reducing total water consumption and clean water usage of the entire airports in order to reduce environmental impacts by wastewater treatment and utilize water resources effectively.

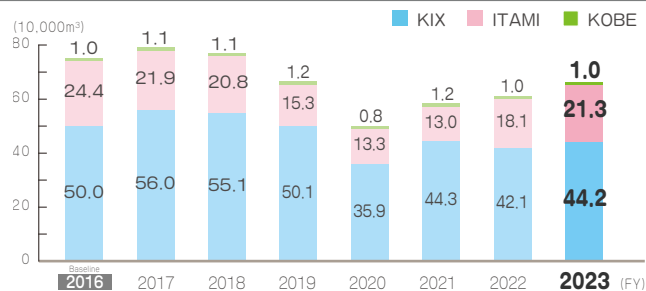
The total amount of water used at the entire airports decreased sharply in FY2020 due to the spread of COVID-19. Subsequently, it has continued to increase in line with the recovery in the number of passengers. FY2023 saw the recovery in passenger numbers to the FY2016 level, and the water usage decreased by 6% in FY2023 compared to FY2016.

At KIX and KOBE, we utilize reclaimed (recycled) water and rainwater to meet around 40% of our water needs. In FY2019, we reduced the water usage by 2% compared to FY2016 by installing low flowtoilets when remodeling terminal buildings. The water usage in FY2023 achieved almost the same level as FY2019.

Total amount of water used at the entire airports



Clean water usage by Kansai Airports Group



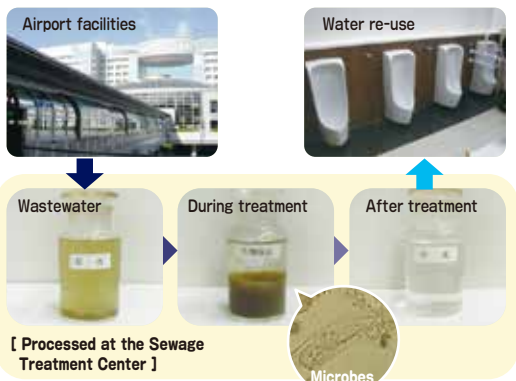
Utilizing rainwater/reclaimed water

Utilization of reclaimed water

KIX

Toilet flushing

Water resources are effectively utilized by reclaiming and reusing water treated at the Sewage Treatment Center on the airport island within public restrooms.



Utilizing water for fire drill

We have strived to reduce the use of clean water by utilizing reclaimed water for fire drill at the airports.

In FY2023, we reduced our use of clean water by 760 tons.

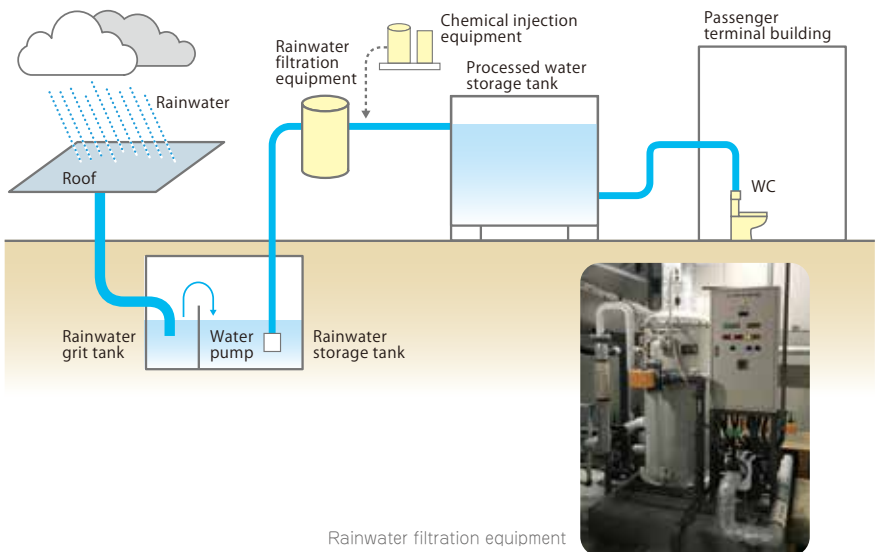


Utilization of rainwater

KOBE

KOBE utilizes resources effectively by using filtered rainwater and water that has been processed at a sewage treatment plant in restrooms and to water plants.

Rainwater utilization



ITAMI

In March 2024, we installed a rainwater storage tank on the rooftop of the terminal buildings, which is processed to water plants



Rainwater storage tank

Efforts to save water

Kansai Airports has set up a working group to consider optimal water use and reuse.

KIX ITAMI KOBE

Optimal water use in public restrooms

Kansai Airports is spearheading a number of initiatives to conserve water, including installing low flowtoilets when remodeling terminal buildings. As well as introducing systems and equipment, we applied daily awareness to further refine our operations.

Given the obvious excess usage of water over and above the required amount at many restrooms in the terminal building, we promote efforts to optimize the amount of water consumed by automatic water faucets. With customers in mind, we started the optimization process by determining the water amount management standards, confirming the flow of water on site and reconfiguring settings when the baseline was exceeded. Collectively, these efforts help reduce the environmental load in the long term with a single adjustment.



Resue of the aircraft onboard water

In October 2023, we started utilizing aircraft onboard water to be disposed of as firefighting water at KIX, in cooperation with K-Ground Service Co., Ltd. and K-Ground Expert Co., Ltd. We also effectively utilize cleaning water for onboard tanks.







## Biodiversity conservation



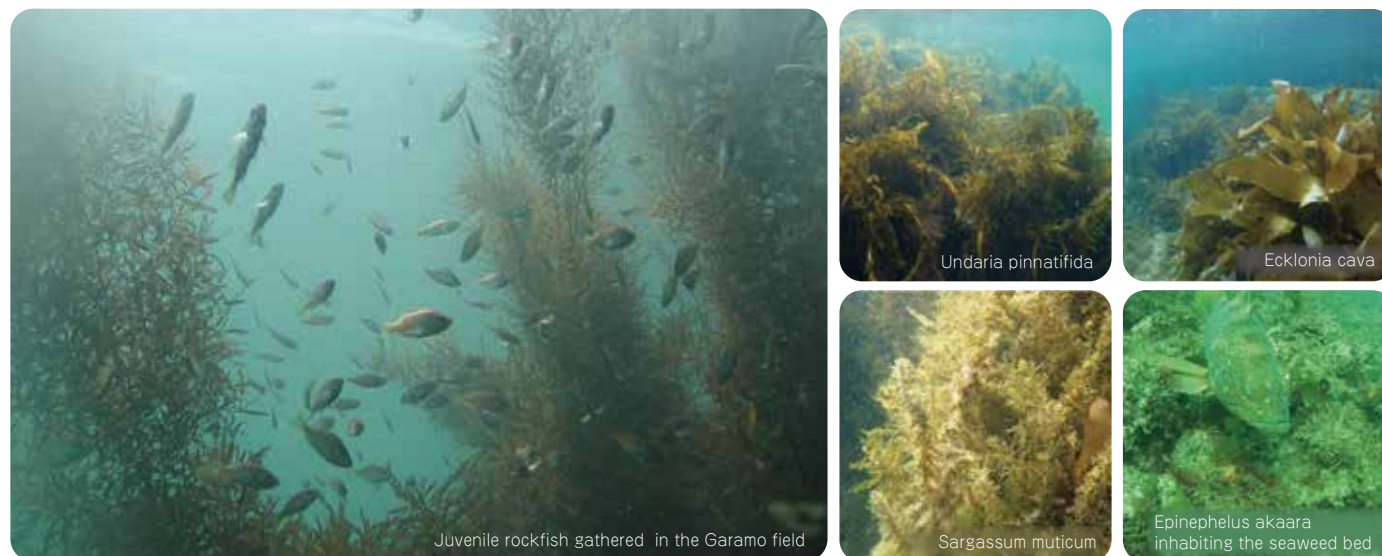
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### Creation of a rich seaweed bed environment

#### KIX

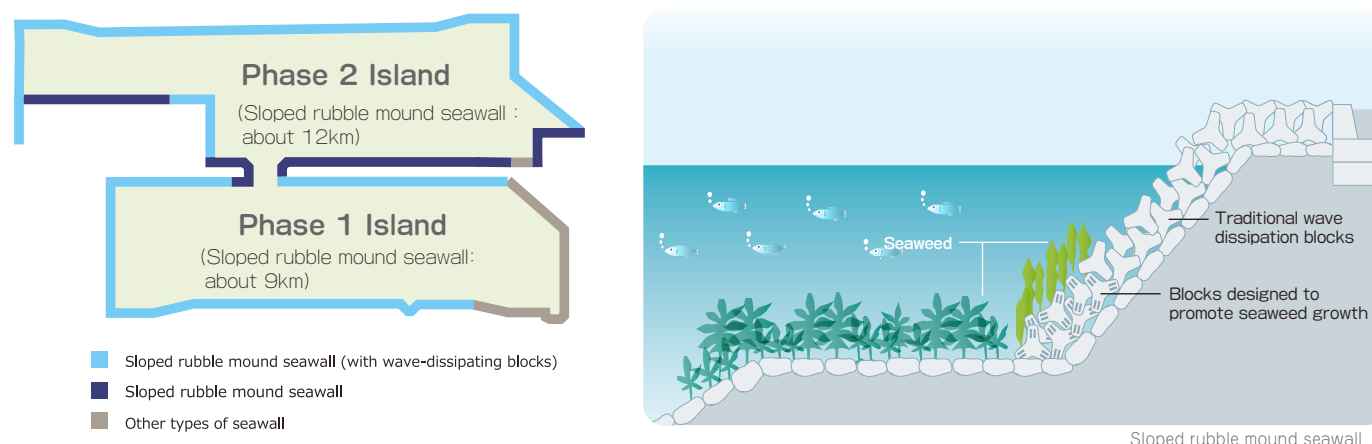
KIX is the world's first full-scale offshore airport. To prevent the impact of aircraft noise on the surrounding area, the airport was built on reclaimed land in an area approximately 5 km off coast of Senshu in Osaka Bay, with an average water depth of 18 to 20 m. From the planning stage, the airport was constructed considering the harmony with the marine environment.

To contribute to the creation of a habitat for marine life in Osaka Bay, we are actively engaged in the creation of a rich seaweed bed environment around the airport island.



### Use of sloped rubble mound seawalls

At the time of the airport island construction, sloped rubble mound seawalls were primarily used for the revetment, which allows light to reach a wide area, and the various innovations actively implemented during the construction of the airport island created a rich seaweed bed environment, which is still inhabited by a wide variety of creatures.

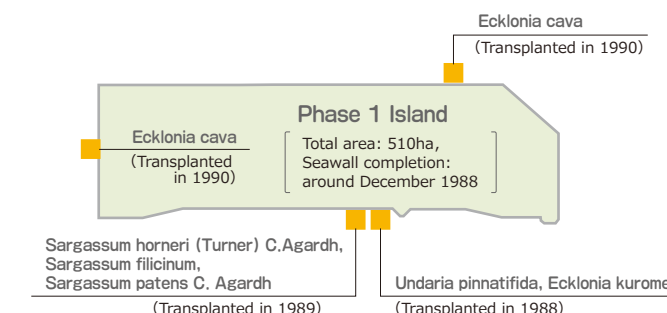


### Seaweed bed creation during the island construction

#### ● Phase 1 Island

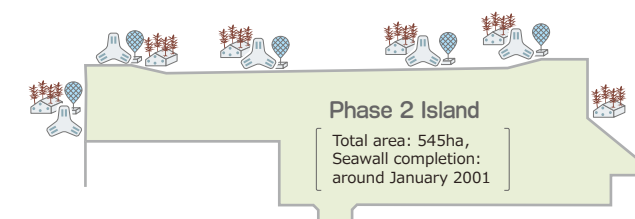
After the construction of the seawall on the 1st airport island, we actively transplanted seeds and seedlings of large seaweeds using various methods. In addition to seed ropes and seaweed nets, we devised and installed reef blocks in the roof shape to prevent mud from accumulating on the top surface of the substrate.

Active seed transplantation resulted in the gradual spread of perennial Ecklonia, which form highly stable seaweed beds as underwater forests, and spread from the areas where seeds and seedlings were supplied to almost the entire area of each seawall.



#### ● Phase 2 Island

When constructing the seawall for the 2nd Airport Island, based on the findings from the monitoring survey of the 1st Airport Island, we devised and installed wave-dissipation blocks (Blocks designed to promote seaweed growth) with enhanced seaweed-growth functions, utilized the seaweed reef blocks used on the 1st Airport Island and seeded seaweed using spore bags containing mature, large seaweeds.

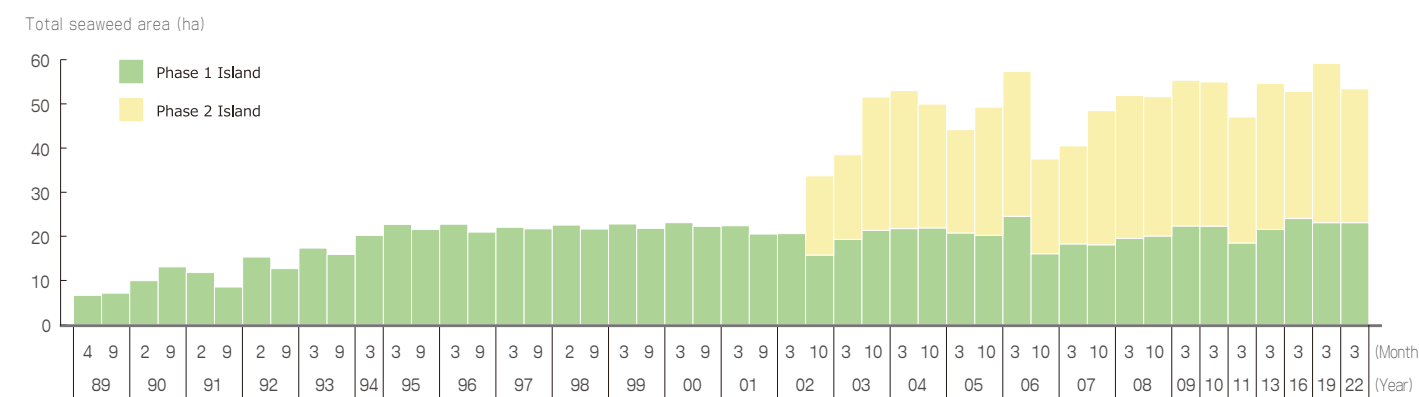


- Installation of blocks designed to promote seaweed growth (five locations)
- Division of blocks designed to promote Ecklonia cava seaweed (18 blocks)
- Spore bags (Ecklonia cava)

### Extent of seaweed bed

At KIX, we started a survey of seaweed distribution status in 1989 after we started supplying seeds and seedlings, and have conducted monitoring surveys continuously for over 30 years to date. In a monitoring survey conducted in March 2022, we observed 54 hectares of the total seaweed area (seaweed bed area), which is equivalent to about 20% of all seaweed bed areas in Osaka Bay. Today, there are 66 seaweed species including large seaweeds inhabit around the airport island seawalls, creating a rich ecosystem surrounding this seaweed community.

#### Extent of seaweed bed





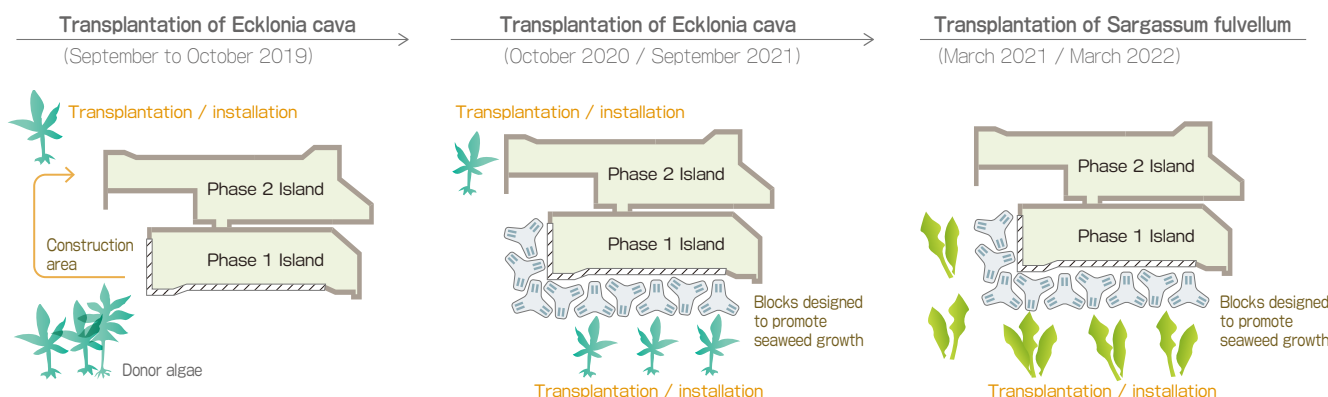


## Conservation and expansion of a rich seaweed bed environmental

To maintain and further expand a rich seaweed bed environment, we have taken seaweed bed conservation measures that adapt to the changing seaweed bed and external environment observed through monitoring surveys.

### ● Transplanting seaweed that adapts works to enhance disaster resilience of the airport island

As part of the works to enhance disaster resilience of the airport island, new wave-dissipating blocks were installed between 2019 and 2021 in the wake of Typhoon Jebi which struck the airport in September 2018. During the installation, we transplanted Ecklonia cava and other large seaweeds inhabiting in the island. In transplanting, we consider the maturation period of seaweed and make various efforts for the transplanting method.



Donor algae from Ecklonia cava



Providing seeds using biodegradable spore bags

### ● Seaweed bed conservation against environmental changes

Recently, the marine environment has been changing significantly due to global warming and accompanying the sea level rise. Damage sustained by Ecklonia cava due to Siganus fuscus and other algae-eating fish has become one of the great environmental changes. Accordingly, we initiated the protection of donor algae by using nets from August 2023 to January 2024 in line with the feeding period of fish. We have also installed new substrates to promote new juvenile growth.

Despite the seaweed bed recovery being impacted by external factors and involving repeated trial and error, we have promoted our activities utilizing the PDCA cycle. We would like to continue monitoring the status and attempt to create seaweed beds with a view of their multifaceted functions.



Installation of protection nets

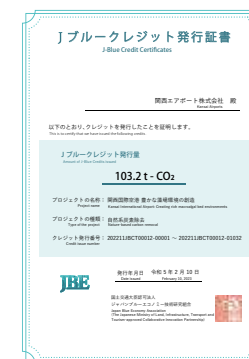


## Development of seaweed bed creation activities

### KIX

### J Blue Credit Certification and issuance

It is being recognized that "blue carbon", carbon stored in marine ecosystems such as seaweed beds and shallow water, plays a very important role as a new sink for CO<sub>2</sub>. In December 2022, we have quantified the amount of CO<sub>2</sub> absorbed by seaweed growing on the seawall around KIX islands and obtained J Blue Credit\* certification.



J Blue Credit Certification

\* J Blue Credit: a credit certified, issued and managed by Japan Blue Economy Association (JBE). The certification and issuance are made after examination and verification by a third-party committee independent of JBE.

### Community collaboration

#### ● Collaboration with Hannan City

In collaboration with Hannan City, we have jointly implemented the Osaka Bay Sea Forest (Seaweed Bed) Conservation and Restoration Project to create a rich sea.

In February 2023, this project was registered to the "TEAM EXPO 2025" Program Co-Creation of Osaka-Kansai Expo. In April, as part of the challenges, seaweeds taken from KIX were transplanted into the sea in Hannan City.



#### ● Cooperation for blue carbon creation in Osaka Bay

To advance the conservation, recover and creation of blue carbon ecosystem in Osaka Bay, Kansai Airports has participated in the Members of the Osaka Bay Blue Carbon Ecosystem Alliance (MOBA) which was established by Osaka and Hyogo Prefectures as a co-creation platform composed by industry, academia, government and private businesses.

We also collaborate with the Blue Carbon Ecosystem Creation Support Project implemented by Osaka Prefecture. In May 2024, we transplanted seaweeds collected at KIX to the sea of Sakai City. We will continue to contribute to the creation of richer Osaka Bay.

### Participation in the 30by30 Alliance for Biodiversity

The 30by30 Alliance for Biodiversity has been launched as a voluntary coalition from government, business, and NPOs to achieve the goal of halting and reversing biodiversity loss by 2030.

Since October 2022, Kansai Airports Group has participated in the Alliance. We will contribute to a global goal of 30by30\* via our seaweed bed conservation activities.

\* 30by30: goals aiming to effectively conserve at least 30% of land and sea areas as sound ecosystems by 2030.



### Certified as a natural symbiosis site

To achieve the goals of 30 by 30, the Ministry of the Environment of Japan has introduced a certification system of "an area where biodiversity is preserved through initiatives and efforts by private sector" as a "natural symbiosis site".

In October 2023, the seaweed beds at the airport island seawalls were recognized and certified as a natural symbiosis site since the seaweed beds play a vital role in the conservation of biodiversity in Osaka Bay. In August 2024, the certified areas were registered to the international database as "OECM\*", allowing us to contribute directly to the global goals of 30 by 30.

\* Other Effective area-based Conservation measures (OECM) refers to areas where biodiversity within the areas is conserved apart from protected areas.





## Conservation of marine environment

### KIX

#### Fish and shellfish survey on the seawall around the airport island

We have surveyed and released fish and shellfish every year in order to understand the habitat conditions of fish and shellfish in the waters around the Kansai Airport island and improve the environment of fisheries resources in Osaka Bay. Since this area is designated as a no-fishing zone\* for aquatic flora and fauna, we conduct surveys after completing the necessary procedures. The useful fisheries species caught (Sebastes inermis, Sebastiscus marmoratus, red seabream, Stephanolepis cirrifernd and octopus sinensis) are released into the coastal seawall area of Osaka Prefecture opposite the airport island to increase the stock. As for Epinephelus akaara, which Osaka Prefecture aims to brand as "Naniwa Aco", individuals smaller than 30 cm are offered to related organizations in Osaka Prefecture as spawning parents to increase their stocks in Osaka Bay.

\* A area designated by Osaka Prefecture to prohibit fishing/catching of all aquatic animals and plants.



Taking up the cage



Sorting and measuring catch



Release of catches

#### Activities to conserve the rich ocean

By partnering with the Osaka Prefectural government, Osaka Prefectural Federation of Fishermen's Cooperatives and other major maritime businesses, we strive daily to keep the coastal area of Osaka Prefecture beautiful and safe via the Osaka Prefecture Sea Area Beautification and Safety Association.

These activities include cleaning and collecting waste accumulating and floating within Osaka Bay and drifting to the coast. We also collaborate with relevant fishery industry parties to collect waste during daily fishery operations, which generated an annual total of around 1,300 m<sup>3</sup> in gathered waste.

Recently, given the challenge of increasing marine plastic waste, we help conserve the ecosystem in Osaka Bay via this activity.



## Island greening and scenic improvement

### KIX

Aiming to preserve landscapes and create spaces for rest and relaxation on the airport island, we are working to install plantings.

The airport has also created a large-scale green space called KIX Sky Park that allows visitors to enjoy watching aircraft taxi, take off and land.



KIX Sky Park

As part of efforts to improve the heat environment within outdoor spaces, we have installed planters for trees to form fresh areas of shade and a dry mist device at a shuttle bus station connecting Terminals 1 and 2. This project was subsidized by the Osaka Prefecture Intense Heat Countermeasure Project Utilizing Urban Greening.



Planter



Dry mist device

### ITAMI

We are committed to improving landscaping and creating a comfortable environment through rooftop greening along with a rooftop observation deck and planters within the passenger terminal building. The rooftop observation deck is a spatial wooden structure, 400 meters long with total floor space of 8,200 square meters, which allows visitors to watch aircraft up close in an open space.



Rooftop greenery



Rooftop observation deck

### KOBE

We are also working to improve landscaping and the internal environment at KOBE through wide-ranging seasonal planters set up inside the passenger terminal building. From the rooftop deck, visitors can enjoy urban panoramas on the north side as well as aircraft operating up close. A visual feast for visitors, with views and greening alike.





# Communications & Collaborations

## In-house communications

### Efforts to raise environmental awareness

#### In-house environmental education

The Kansai Airports Group conducts environmental training for all employees in order to foster a culture in which each employee strives for self-improvement and promotes environmental initiatives in their daily work. Moreover, we encourage voluntary environmental learning among employees by providing a system to assist them in taking an environmental certification test as well as raising their awareness by disseminating e-learnings and environmental information. We also provide ongoing educational opportunities, including keynote speeches by experts and other opportunities to incorporate external views.



#### Appointment of Environmental Ambassadors

The Environmental Ambassador Program has been introduced to increase the number of employees with a good understanding of environmental issues and to steadily advance environmental initiatives. In FY2023, in addition to learning the basics of the environment, we also provided opportunities to gain insight, such as visiting Kansai Airports Group's environmental initiatives on site, to promote voluntary efforts.

Even as environmental technologies advance, it is "people" who make use of them. We will continue to raise the environmental awareness of each and every employee.



Facility visiting



Lecture

#### Environmental workshop

Climate Fresk is an educational workshop on climate transition developed in France and participated by about 700,000 individuals from more than 50 countries across the world.

To enhance awareness of environmental concerns and encourage action, a two-day environmental workshop was conducted for managers, comprising a total of four sessions, and approximately 150 managers participated in the workshop. Alongside acquiring correct knowledge about climate change, the participants discussed what actions Kansai Airports Group should undertake and the challenges it confronts as an airport operator. We will promote a change in our mindset from diverse perspectives to proactively advance our environmental initiatives.



Workshop

#### Recommendation to obtain the Eco Test

To promote voluntary learning among employees, they are encouraged to obtain the Certification Test for Environmental Specialists [Eco Test] certification. By learning about environmental issues in depth, each employee's commitment to the environment has changed.

At Kansai Airports Technical Services (KTS), a company of Kansai Airports Group, many employees voluntarily took the test, and KTS was ranked the first in the ranking of the number of "ECO People" certified by the Tokyo Chamber of Commerce and Industry in 2023 (in the category of the number of employees less than 300).

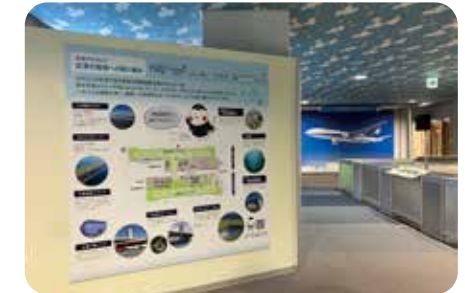
## Communication with stakeholders

### Dissemination of environmental information

We are constantly updating the environmental information on our website to make it easier to understand Kansai Airports Group's environmental initiatives. As well as our decarbonization and other efforts, we also focus on providing information to the local community, such as real-time noise levels. The ITAMI page includes information on environmental projects, such as subsidies for soundproofing work around airports implemented for residents in the surrounding areas.

In the Sky View Observation Hall on the KIX island, displays are set up to showcase our various environmental initiatives on the island.

We will continue to disseminate information on our environmental initiatives on a regular basis to make them widely known.



Exhibition panel at the Sky View Observation Hall

### Environmental learning events

#### Parent-child Environmental Tour

In August 2024, we organized an environmental tour for elementary school students and their parents to visit our environment-related facilities.

In addition to demonstrating our commitment to the environment by visiting a hydrogen station, sewage treatment center and other facilities, we also collaborated with airline companies to showcase a wide range of environmental initiatives at the airport.



Parent-child Environmental Tour

#### A tour to learn about KIX from the sea

To celebrate the 30th anniversary of the opening of KIX, Kansai Airports and the Osaka Prefecture Federation of Fishing Cooperative Associations jointly organized an environmental tour for elementary school students and their parents using a chartered boat. Through this event, the children deepened their understanding of the diversity of Osaka Bay, the fishing industry, and the environmental conservation activities at KIX.



#### Airport tour for local elementary schools

We hold an airport tour for local elementary schools every year, during which we give a lecture on the airport's environmental initiatives.

### Outreach classes for local elementary schools

Kansai Airports and Hannan City have been working together to create a rich marine environment. As part of educating the next generations to improve the marine environment, which is one of the Osaka Bay Forest (Seaweed Beds) Conservation and Restoration Project, we conducted outreach classes at local elementary schools. Through this project, we promote the importance of biodiversity by introducing our efforts to conserve seaweed beds in KIX and to create habitats for marine organisms in Osaka Bay.

In FY2023, outreach classes were held at four elementary schools for a total of approximately 200 students. We will continue our local environmental education activities in collaboration with Hannan City.



An outreach class



## Communication with local communities

### Participation in the Airports Council International (ACI)

#### Participation in the Asia-Pacific & Middle East Regional environment Committee

Kansai Airports is a member of Airports Council International, an organization representing 814 organizations that manage 2,110 airports in 169 countries and regions worldwide (as of September 2024). In May 2023, the 17th meeting of Asia-Pacific & Middle East Regional Environment Committee was held in-person in Kobe, where active discussions were held on environmental measures at airports.

The 18th Regional Committee was held in Bengaluru, India, in March 2024, and Kansai Airports presented the creating a rich seaweed bed and blue carbon project implemented by KIX. In September 2024, Kansai Airports participated in the 19th Regional Committee held in Bangkok, Thailand, and discussed on how to reduce environmental impact at airport from various perspectives.



The 19th Asia-Pacific & Middle East Regional Environment Committee

#### Platinum Award at Green Airports Recognition 2024

Our project "Creating a rich seaweed bed and blue carbon" at Kansai International Airport (KIX) received the Platinum Award, the highest award, in the ACI Green Airports Recognition 2024, an event organized by ACI Asia-Pacific & Middle East\*. The theme for 2024 was "Biodiversity and Nature-Based Solutions," KIX's has been working on to create and conserve seaweed beds since the construction of the airport, contributed to the conservation of biodiversity at the airport and in the region and to the reduction of CO<sub>2</sub> through our seaweed beds, which have been highly evaluated. On May 22, 2024, the awards ceremony was held at the ACI Asia Pacific Middle East Regional Assembly in Riyadh, Saudi Arabi.



The Awards Ceremony



Trophy

\* ACI Green Airports Recognition 2024 :  
An open call for projects related to the sustainability in the environmental field for airports in the Asia-Pacific and Middle East region, and awards are given to airports that have achieved outstanding results.

#### Exchange of views at ICAO The Industry Consultative Forum

At the ICAO\* The Industry Consultative Forum held in June 2023, the theme of alternative energy technologies in the aviation industry was discussed. Kansai Airports Group shared information about the hydrogen grid project that it has been working on.

\* ICAO : International Civil Aviation Organization

## Reference Data

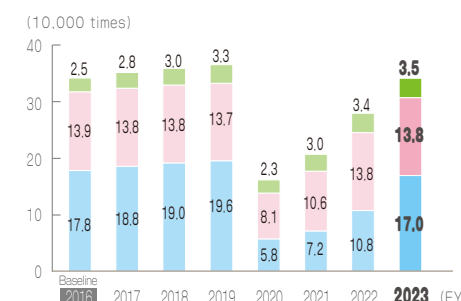
Following the spread of COVID-19 infections, the number of passengers and aircraft landings/takeoffs had significantly decreased since FY2020. In FY2023, however, the numbers recovered to the 2019 and pre-pandemic levels at the three airports. Associated with this is an increase in general waste and clean water consumption, which is affected by fluctuations in passenger numbers.

Although demand for travel is expected to continue to grow in the future, we will continue our efforts to reduce our environmental impact and make further improvements with the aim of reducing the absolute amount of CO<sub>2</sub> and other environmental impacts.

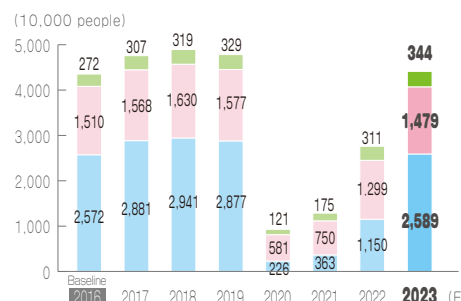
### Number of passengers and flights

■ KIX ■ ITAMI ■ KOBE Note: On April 1, 2018, Kansai Airports Kobe commenced its business as an operator of Kobe Airport (KOBE).

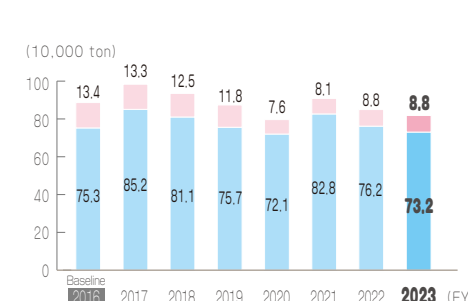
#### Aircraft landings / takeoffs



#### Passenger Traffic

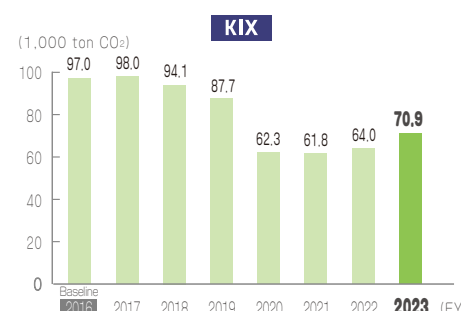


#### Cargo Volume



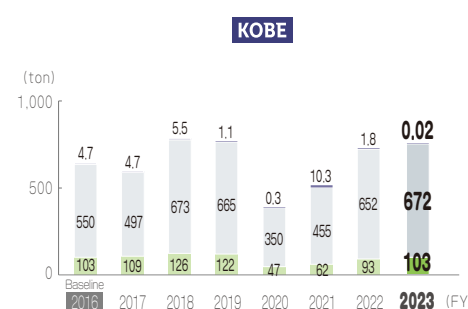
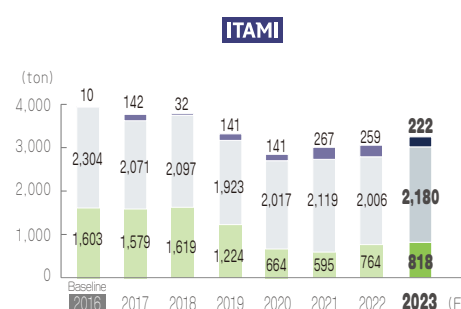
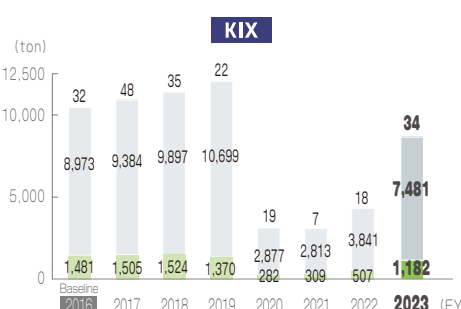
### CO<sub>2</sub> emissions of the Kansai Airports Group

Note: \* CO<sub>2</sub> emission factor for electricity is based on the data for the previous fiscal year.  
\* Calculated based on the Airport Carbon Accreditation (ACA) Level 4 emission calculation scope.

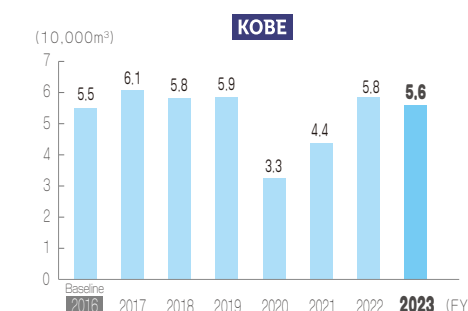
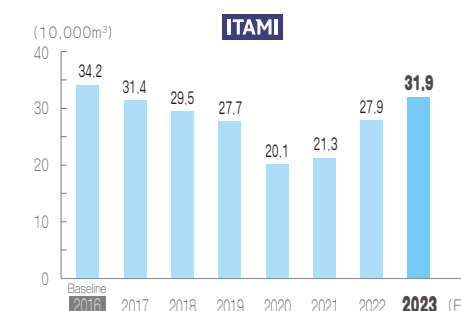
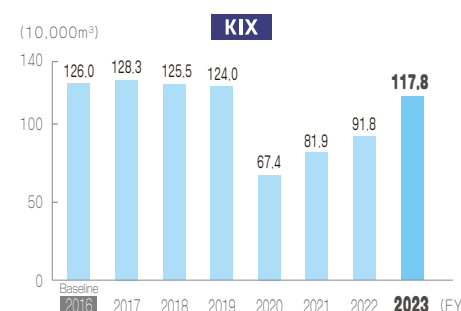


### General waste from the three airports

■ Recyclable waste (t) ■ Burnable waste (t) ■ Non-burnable waste (t)



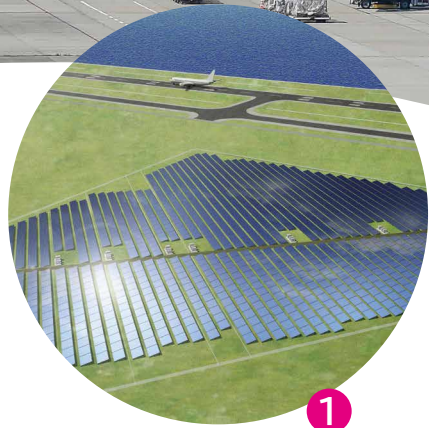
### Total water usage of the three airports







Runways	Annual aircraft landings/takeoffs
2	Approx. 170,000 times [ FY2023 track record ]
Operating Hours	Aircraft Parking Stands
24 hours	102
Annual passenger traffic	Size
Approx. 2,589 10,000 people [ FY2023 track record ]	Approx. 510 ha [ Phase 1 Island ]    Approx. 545 ha [ Phase 2 Island ]



## 1 KIX Sora x Solar

A new solar power facility will be installed in 2025. The solar power generated will be used in the airport terminals, train stations, and parking lots.



2

## Hydrogen stations

Hydrogen stations have been installed at two locations for fuel-cell vehicles and industrial vehicles such as forklift.



3

## EV charging stations

EV charging stations are available to meet the growing demand of eco-friendly vehicles.



4

## Heat supply plant

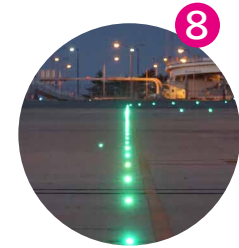
The plant serves as a community heating and cooling system that centrally supplies cold water and steam.



5

## Sewage Treatment Center

Wastewater from each facility is treated onsite and reused as reclaimed water.



8

## LED aviation lighting

The conversion of aviation lighting to LEDs is underway to a full upgrade by FY2030.



7

## Waste Disposal Center

General waste from the airport is sorted and either incinerated or recycled.



10

## Solar panels

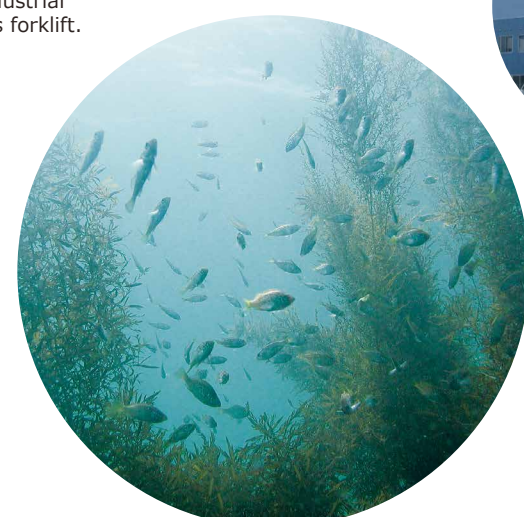
The electricity generated on the roof of the Terminal 2 building is consumed on site.



11

## Environmental Center

Introduces environmental information and initiatives at the Sky View Observation Hall.



6

## Seaweed bed

The gently sloping rubble mound seawall surrounding the airport island fosters the growth of seaweed, providing a habitat for sea life.



9

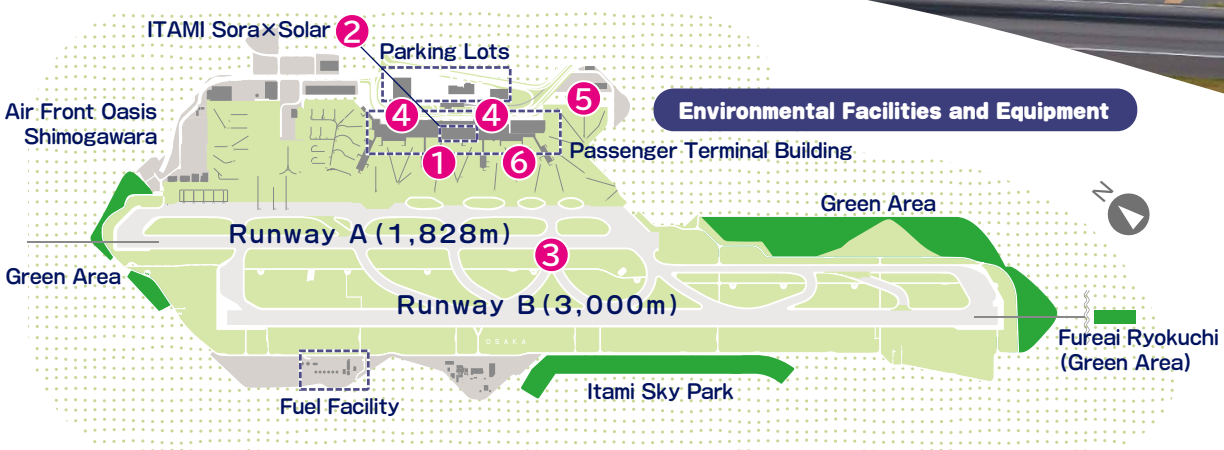
## KIX Megasolar

A mega solar power plant capable of generating 11.6 MW of power.



Environmental Facilities and Equipment





- Runways  
**2**
- Annual aircraft landings/takeoffs  
Approx. **139,000** times  
[ FY2023 track record ]
- Operating Hours  
**7-21** hours
- Aircraft Parking Stands  
**52**
- Annual passenger traffic  
Approx. **1,479** 10,000 people  
[ FY2023 track record ]
- Size  
Approx. **311** ha



**1 Light blocking panels**  
Light blocking panels are installed on the windows of the passenger terminal buildings as part of the airport's energy conservation efforts.



**2 ITAMI SoraXSolar**  
A new solar power facility will be installed in 2025.



**3 LED aviation lighting**  
The conversion of aviation lighting to LEDs is underway to a full upgrade by FY2030.



**4 EV charging stations**

EV charging stations are available to meet the growing demand of eco-friendly vehicles. We have installed 184 electric vehicle charging stations in the North and South Parking Structures.



**5 Hydrogen station**  
A station serves fuel-cell vehicles.



**6 Rainwater harvesting tank (rooftop)**  
Rainwater is collected and used to water the rooftop plants.

**Environmental Facilities and Equipment**

**1 EV charging stations**  
EV charging stations are available to meet the growing demand of eco-friendly vehicles.

**2 Rainwater filtration system**  
Rainwater is filtered and reused as recycled water.

**3 Co-generation facility**  
The facility uses heat from the generation of electricity to heat and cool the passenger terminal building.

Runways  
**1**

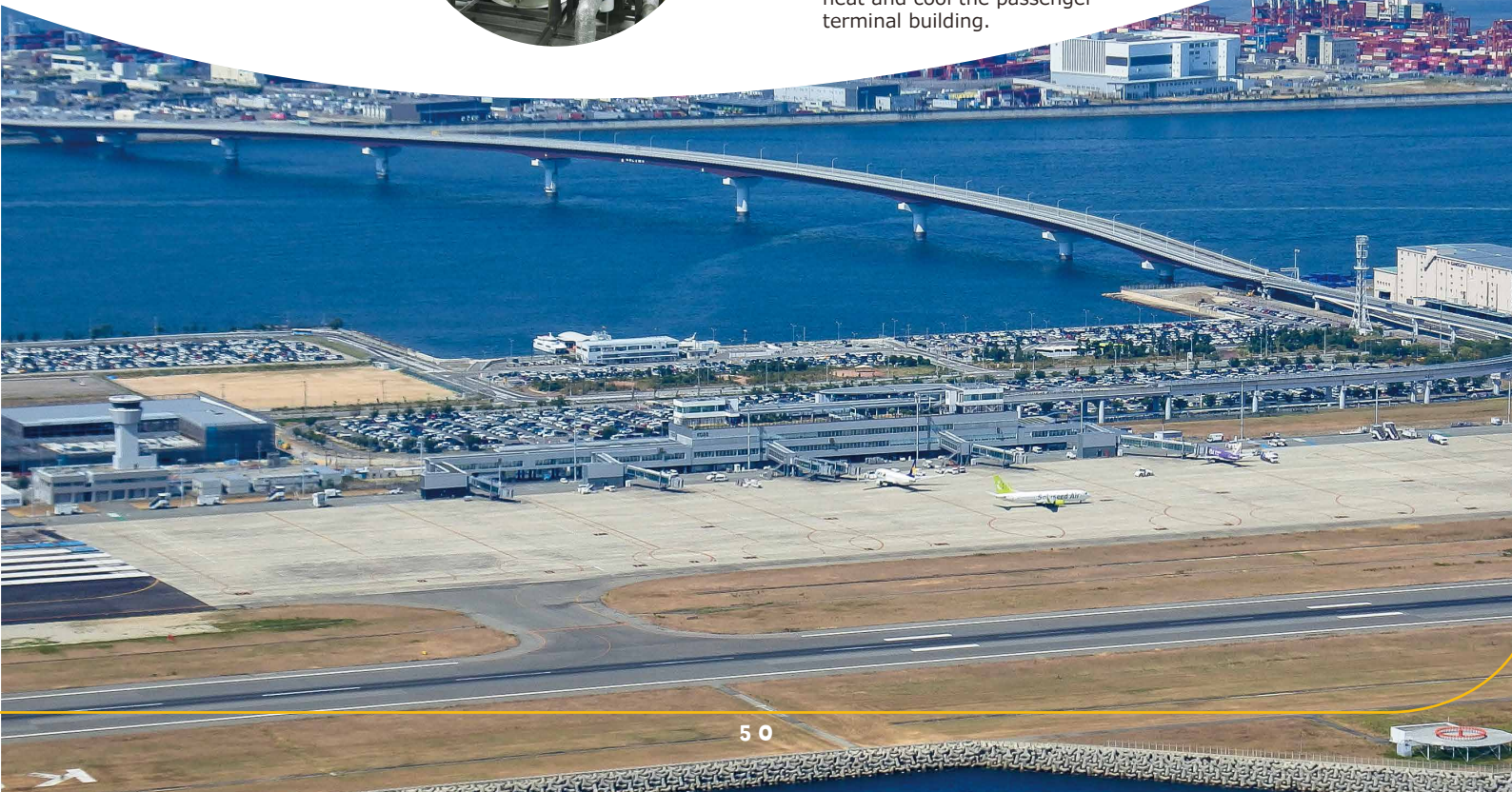
Annual aircraft landings/takeoffs  
Approx. **35,000** times  
[ FY2023 track record ]

Operating Hours  
**7-23** hours

Aircraft Parking Stands  
**10**

Annual passenger traffic  
Approx. **344** 10,000 people  
[ FY2023 track record ]

Size  
Approx. **156** ha





# Environmental Chronology

**KIX** : Kansai International Airport (1/3)

Year	Mo.	Event
1968	4	Ministry of Transport (MOT) launches basic study for airport siting
1971	10	Minister of Transport asks Council for Civil Aviation for advice on scale/siting for Kansai International Airport
	11	MOT conducts trial flights to study noise levels at 3 candidate sites (Senshu, Kobe, Akashi)
1972	8	Council for Civil Aviation (Kansai International Airport committee) conducts hearings with local communities
1973	8	MOT surveys 3 candidate sites commercial aircraft air pollution
1974	8	Council for Civil Aviation reports initial findings to Minister of Transport: Optimal airport location is off coast of Senshu
1975	9	MOT convenes series of briefings in communities
1976	9	MOT announces Survey Implementation Guidelines
1977	10	Marine observation facilities completed
1978	2	MOT announces plans for noise, vibration, and air pollution studies, starts site studies
	3	MOT begins bore studies near candidate sites
1979	5	MOT conducts flight studies with aircraft
1981	5	MOT presents three reports: Airport Proposal, Environmental Impact Assessment, and Approaches to Regional Infrastructure
1983	12	MOT begins ground improvement testing off the coast of Senshu
1984	10	Kansai International Airport Co. (KIAC) established
1986	2	Kansai Int'l Airport Env. Monitoring Org. established (Osaka Pref. Governor, mayors of 9 cities, 4 towns currently)
	6	Environmental Impact Assessment submitted to governor of Osaka Prefecture
	12	Environmental Monitoring Plan adopted environmental monitoring begins
1987	1	Permit obtained for land reclamation on public waters for Phase 1 construction. Phase 1 construction begins
	6	Construction begins on bridge linking mainland to airport begins, KIX Environmental General Center opens
1989	6	Phase 1 airport island seawall construction completed
1994	1	Phase 1 airport island construction areas completed
	3	Plan for Environmental Monitoring of KIX Construction/Operation adopted
	7	Kansai International Airport Environmental Center opens
	9	Kansai International Airport (KIX) opens for service (Sep 4). Monitoring begins: Aircraft noise, low-freq. air vibration
1995	8	Council for Civil Aviation releases Basic Approach to 7th Airport Preparatory 5-Year Plan (mid-term report)
1996	6	Kansai International Airport Land Development Co. (KALD) est., designated by Min. Transport as official land developer
1997	6	MOT releases "Comprehensive Initiatives relating to Flight Path Issues at KIX" paper
1998	10	Environmental Impact Assessment on Phase 2 Construction submitted
	12	New flight paths introduced. Environmental Monitoring Plan for aircraft noise, etc., reviewed, monitoring enhanced
1999	6	Environmental Monitoring Plan for Phase 2 Construction Project adopted
	7	Permit obtained for land reclamation on public waters, Phase 2 construction (start Jul 14. Silt protection sheets deployed
	11	KIX International Symposium marks the fifth anniversary of opening
	12	KALD acquires ISO 14001 certification for environmental management system
2001	1	KIAC establishes Environmental Management Committee
	4	KIX receives "Monument of the Millennium" award from American Society of Civil Engineers, as offshore airport
	6	KIAC adopts Environmental Management Plan (Eco-Island Plan)
	9	Placement begins for wave-dissipating blocks to support seaweed bed growth along Phase 2 seawall
	11	International Airport Symposium 2001 hosted, Phase 2 airport island seawall completed
2002	10	KIAC adopts Regulations Governing the Use of Waste Processing Facilities
	12	• KIAC establishes Energy Conservation Committee • KIAC releases first Eco-Island Report (2002 edition)
2003	12	KIAC establishes KIX Customer Satisfaction Council
2004	9	International Airport Symposium 2004 hosted
	12	KIAC, KALD mount their first exhibit at "Eco-Products 2004" exhibition
2005	7	Kansai International Airport Environmental Center relocated to Kanku Observation Hall
2006	8	Kansai International Airport & Rinku Town designated by government as CNG vehicle model project areas
2007	1	KIAC awarded MITI Award at FY2006 Nat'l Energy-Efficiency Best Practices Conf., for IT-based air con system in passenger terminal
	5	JHFC hydrogen charging station for vehicles opens at KIX
2008	3	• KIX Eco-Island Promotion Council launched • KIX Environmental Plan adopted
	4	Windbreak fence completed for KIX rail system access bridge, use of pro-beam low-location lights begins
	5	Kanku Environmental Exhibition features KIX Environmental Plan
	6	First idling-prevention awareness campaign launched



**KIX** : Kansai International Airport (2/3)

Year	Mo.	Event
2008	7	First conference held to report on KIX Eco-Island Promotion Council environmental initiatives
	10	Study tour organized by KIX Eco-Island Promotion Council
2009	7	Trial use of truck-mounted ground power units (GPUs) begins
	11	KIX Science Classes held
	12	Exhibit at Eco-Products 2009 exhibition
2010	1	Partial changes to aircraft auxiliary power unit (APU) usage restrictions (use reduced from 30 to 15 min. before departure)
	9	Photovoltaic system installed for temperature-controlled building for medical products
	12	Exhibit at Eco-Products 2010 exhibition
2011	1	IATA Environment Stand display installed at KIX
	3	Rapid charger installed at KIX for electric vehicles
	7	Japan fully adopts digital terrestrial broadcasting; measures targeting signal interference
	9	Electricity-powered commercial shuttle vehicles introduced (two vehicles by fiscal year end)
2012	12	Exhibit at Eco-Products 2011 exhibition
	4	• New Kansai International Airport Company (NKIAC) established • Professor KIXeco quiz system launches at Environmental Center
	5	KIX wins judges' special award, Airports Council Int'l (ACI) Asia-Pacific 2011 Green Airports Recognition Awards
	6	Phase 2 airport island construction almost completed, land development work by KALD is completed
	7	Kansai International Airport and Osaka International Airport are merged
	8	KIX earns runner-up award in 2012 Osaka Environmental Awards for efforts to grow seaweed beds
	10	KIX Sky Park opens adjacent to Phase 2 Terminal Building, trial begins for hydrogen fuel-cell buses
	11	Olive tree planting ceremony along walking path for Phase 2, decision made to do KIX Megasolar project
	12	Exhibit at Eco-Products 2012 exhibition. Four regular chargers for electric vehicles installed in parkade
	2	Int'l Strategy Comprehensive Special Area expanded by Kansai Innovation to include KIX (green innovation theme)
	3	• Smart Eco Logi Council holds ceremony for launch of 20 large CNG trucks in international freight zone • KIX Eco-Island Promotion Council changes name to KIX Smart Island Council
	4	KIX Smart Island Plan adopted
2013	8	Summer Vacation Family Eco Classes held
	10	East Asia Airport Alliance (EAAA) annual general meeting held. "Environmental Relay Declaration" adopted
	12	Exhibit at Eco-Products 2013 exhibition. Winter Vacation Family Eco Classes held
2014	1	KIX announces event for EAAA Environmental Relay
	2	KIX Megasolar starts generating electricity (largest photovoltaic system of any Asian airport)
	5	Hydrogen Grid Project launched
	6	Rapid charger installed for electric vehicles at open parking lot No.5, with 24-hour operations
2015	7	• "Megasolar Observatory" and "Visualization Monitor" start operating • Small wind turbine power generator installed—a first for any Japanese airport
	2	Trial operations launched for first fuel-cell forklift at any airport in Asia, plus demonstration trial of hydrogen grid
	8	Megasolar system starts operating on roof of air freight warehouse in the International Cargo Area at 1st Island
	9	Megasolar system starts operating on roof of air freight warehouse in international freight zone
	10	Exhibit at Biwako Environmental Business Exhibition 2015
2016	12	• Awarded the FY2015 Environment Minister's Award for Global Warming Prevention Activities • Exhibit at Eco-Products 2015 exhibition
	1	Largest hydrogen station at an airport in Asia opens
	3	• Awarded 2015 Kansai Eco Office Grand Prize from Union of Kansai Governments • Two new model fuel-cell forklifts added for demonstration trials
	4	• Kansai Airports begins operating Kansai International Airport • Four more regular chargers installed for electric vehicles in parkade
	6	• Environmental initiatives introduced at Fifth Fukeko Festival • Potato harvest event at KIX Sora Farm promotes environmental education • KIX Smart Island Exhibit in passenger terminal
	8	KIX Family Eco-Classes: Hydrogen/Magnesium Air Fuel Cells
	12	• Airport Carbon Accreditation (ACA) Level 2 obtained, a first for airports in Japan • Exhibit at 2016 EcoPro International Exhibition on Environment and Energy
2017	1	Terminal 2 opens (international flights)
	4	Large hydrogen filling station for industrial vehicles opens, a first in Japan
	5	Conducts trial operations of fuel-cell bus at Kanku Tabihaku 2017 and to the Terminal 2 building
	6	• Hosted Smart Island Environmental Exhibition • Held KIX Eco Class at KIX Sky Farm • Held idling stop campaign
	8	Held KIX Science Class
	12	Exhibited at 2017 EcoPro International Exhibition on Environment and Energy





## Environmental Chronology

### KIX : Kansai International Airport (3/3)

Year	Mo.	Event
2018	2	Introduces additional two fuel-cell forklifts
	4	Establishes new environmental plan called One Eco-Airport Plan
	9	Keynote and exhibit at the six World Smart Energy Week Osaka Show
	10	Hosts the tenth ACI Asia-Pacific Regional Environment Committee
	12	<ul style="list-style-type: none"><li>• Airport Carbon Accreditation (ACA) Level 3 obtained</li><li>• Exhibit at 2018 EcoPro International Exhibition on Environment and Energy</li><li>• Holds the Fuel-Cell Bus Trial Ride in KIX</li></ul>
2019	2	With additional four fuel-cell forklifts introduced, seven fuel-cell forklifts in total
	9	With additional FCV introduced, three FCV in total
2020	1	Solar panels on the rooftop of the Terminal 2 building were installed and energy generation started
	2	An additional 15 fuel-cell forklifts introduced meant 22 fuel-cell forklifts in total
	3	Trial operation of the electrical ground power unit (eGPU) got underway
	4	Plastic shopping bags used in shops directly managed by the Kansai Airports Group are replaced with paper bags
2021	3	Set a long-term goal of net-zero greenhouse gas emissions
	7	<ul style="list-style-type: none"><li>• Started T2 smart airspace demonstration experiment</li><li>• Selected as a “Priority Survey Airport” by the Civil Aviation Bureau of the Ministry of Land, Infrastructure, Transport and Tourism with the aim of making the airport carbon-neutral</li></ul>
	11	Airport Carbon Accreditation (ACA) Level 4 obtained
2022	3	Introduced a new fuel-cell bus
	4	Established Environmental Standards Regulations at KIX
	6	<ul style="list-style-type: none"><li>• A partnership agreed with Airbus to capitalize on hydrogen in the Japanese aviation industry</li><li>• Concluded the basic agreement on the mass production of International SAF (Sustainable Aviation Fuel)</li></ul>
	10	Joined the 30by30 Alliance for Biodiversity
	12	Obtained and issued J Blue Credit
2023	2	Registered the seaweed bed initiatives for Co-Creation Challenges of the TEAM EXPO 2025 program
	3	Formulated the Environmental Plan, “Environmental Vision 2050 and Environmental Goals 2030”
	4	Received the 2022 Osaka Prize for Climate Change Measures
	7	Installation of collection boxes for horizontal recycling of PET bottles
	10	Certified for seaweed beds on the seawall at KIX Island as a “Natural Symbiosis site”
2024	5	Platinum recognition awarded (for creating a rich seaweed bed and blue carbon) at the Green Airports Recognition 2024 hosted by ACI Asia Pacific & Middle East

### ITAMI : Osaka International Airport (1/2)

Year	Mo.	Event
1939	1	Opened as No. 2 Osaka Airport
1958	3	Complete return of airport from U.S. forces to Japan. Renamed “Osaka Airport” by the Ministry of Transport (runway was 1,828 m long)
1959	7	Designated a class 1 airport under Civil Airport Development Law, renamed “Osaka International Airport”
1960	4	International flights begin
1964	6	Passenger jet service begins
1969	1	Construction of terminal building completed
1970	2	Additional runway (3,000 m) opens and airport takes its present form
1975	12	Abolished domestic line operation between 9:00 pm to 7:00 am the following morning
1976	7	Abolished international line operation between 9:00 pm to 7:00 am the following morning
1977	10	Limited on aircraft movements for regularly scheduled flights of 370 movements per day (200 for jets)
1990	12	MOT concludes the agreement with local municipalities (11 cities) and local groups (mediation group) on the airport continuation
1994	9	International flights shift to newly opened Kansai International Airport
1997	4	Osaka Monorail starts operation
1999	7	Former international terminal building is renovated and opens as South Terminal
2002	6	Erected noise barrier at the engine testing site
2004	3	Established the Osaka International Airport’s Eco Airport Council
2006	4	Switched from 24-hour operations to 14-hour operations (7:00am to 9:00pm)
2010	4	Began examining ways of reducing amount of grass clippings incinerated as waste (recycling as fertilizer and feed)
2012	4	New Kansai International Airport Company established
	7	Management of Osaka International Airport and Kansai International Airport is integrated
2013	10	Successfully produces fertilizer made of grass clippings from the airport’s landing strips
	3	Introduced landing fee system based on actual noise level
2014	2	Received 7th Toyonaka Eco Citizen Award 2013 (for recycling grass clippings as fertilizer and feed)
	9	Received the Grand Prize at the 2014 Osaka Environmental Awards (for recycling grass clippings as fertilizer and feed)

### ITAMI : Osaka International Airport (2/2)

Year	Mo.	Event
2014	10	Receives the Chairman’s Prize at the 2014 Reduce, Reuse, Recycle Promotion Merit Awards (for recycling grass clippings as fertilizer and feed)
	4	Kansai Airports begins operating Osaka International Airport and Kansai International Airport
2016	12	<ul style="list-style-type: none"><li>• Airport Carbon Accreditation (ACA) Level 2 obtained, a first for airports in Japan</li><li>• Exhibit at 2016 EcoPro International Exhibition on Environment and Energy</li></ul>
	5	Constructs warehouse for storing grass clipping feed
2017	6	Holds idling stop campaign
	12	Exhibits at 2017 EcoPro International Exhibition on Environment and Energy
2018	3	<ul style="list-style-type: none"><li>• Receives Silver at ACI Asia-Pacific Green Airports Recognition 2018 (for recycling grass clippings as feed)</li><li>• AIP defines the auxiliary power unit (APU) usage restrictions</li></ul>
	4	<ul style="list-style-type: none"><li>• Installed light-blocking panels and rooftop greenery in the terminal building</li><li>• Establishes new environmental plan called One Eco-Airport Plan</li></ul>
	8	Presents ITAMI environmental action in INTER-NOISE 2018
	12	<ul style="list-style-type: none"><li>• Upgrades to Airport Carbon Accreditation (ACA) Level 3 obtained</li><li>• Exhibit at 2018 EcoPro International Exhibition on Environment and Energy</li></ul>
2019	3	Fuel-cell vehicle introduced for the first time
	4	Iwatani Hydrogen Refueling Station in Osaka International Airport opens in the airport
	6	ITAMI environmental measures are presented in INTER-NOISE 2019
	10	One rapid charger is installed
2020	4	Plastic shopping bags used in shops directly managed by the Kansai Airports Group are replaced with paper bags
2021	3	Set a long-term goal of net-zero greenhouse gas emissions
	7	Selected as a “Priority Survey Airport” by the Civil Aviation Bureau of the Ministry of Land, Infrastructure, Transport and Tourism with the aim of making the airport carbon-neutral.
	11	Airport Carbon Accreditation (ACA) Level 4 obtained
2022	4	Established Environmental Standards Regulations at ITAMI
	6	<ul style="list-style-type: none"><li>• A partnership agreed with Airbus to capitalize on hydrogen in the Japanese aviation industry</li><li>• A basic agreement on cooperation concluded to commercialize Sustainable Aviation Fuel (SAF)</li></ul>
	8	Presented ITAMI’s instantaneous display system of aircraft noise level and ITAMI environmental action in INTER-NOISE2022
2023	3	Formulated the Environmental Plan, “Environmental Vision 2050 and Environmental Goals 2030”
	8	Introduced the largest EV charging outlets in Japan (for 184 stations)
2024	3	Commenced an EV charging service, “WeCharge”

### KOBE : Kobe Airport

Year	Mo.	Event
2006	2	Open Kobe Airport
2018	4	<ul style="list-style-type: none"><li>• Kansai Airports Kobe begins operating Kobe Airport</li><li>• Establishes new environmental plan called One Eco-Airport Plan</li></ul>
	12	<ul style="list-style-type: none"><li>• Upgrades to Airport Carbon Accreditation (ACA) Level 2 obtained</li><li>• Exhibit at 2018 EcoPro International Exhibition on Environment and Energy</li></ul>
2019	2	Established the Kobe Airport Environmental Promotion Council
	4	AIP defines the auxiliary power unit (APU) usage restrictions
	5	The limit on aircraft movements for regularly scheduled flights is expanded to 80 movements per day
2020	3	Operating hours extended to 16 hours between 7:00 am and 11:00 pm
	4	Plastic shopping bags used in shops directly managed by the Kansai Airports Group are replaced with paper bags
2021	3	Set a long-term goal of net-zero greenhouse gas emissions
	7	Selected as a “Priority Survey Airport” by the Civil Aviation Bureau of the Ministry of Land, Infrastructure, Transport and Tourism with the aim of making the airport carbon-neutral.
	11	Airport Carbon Accreditation (ACA) Level 4 obtained
2022	4	Established Environmental Standards Regulations at KOBE
	6	<ul style="list-style-type: none"><li>• A partnership agreed with Airbus to capitalize on hydrogen in the Japanese aviation industry</li><li>• A basic agreement on cooperation concluded to commercialize Sustainable Aviation Fuel (SAF)</li></ul>
2023	3	Formulated the Environmental Plan, “Environmental Vision 2050 and Environmental Goals 2030”
2024	6	Signed an agreement to promote cooking oil collection in Kobe City towards a sustainable society