



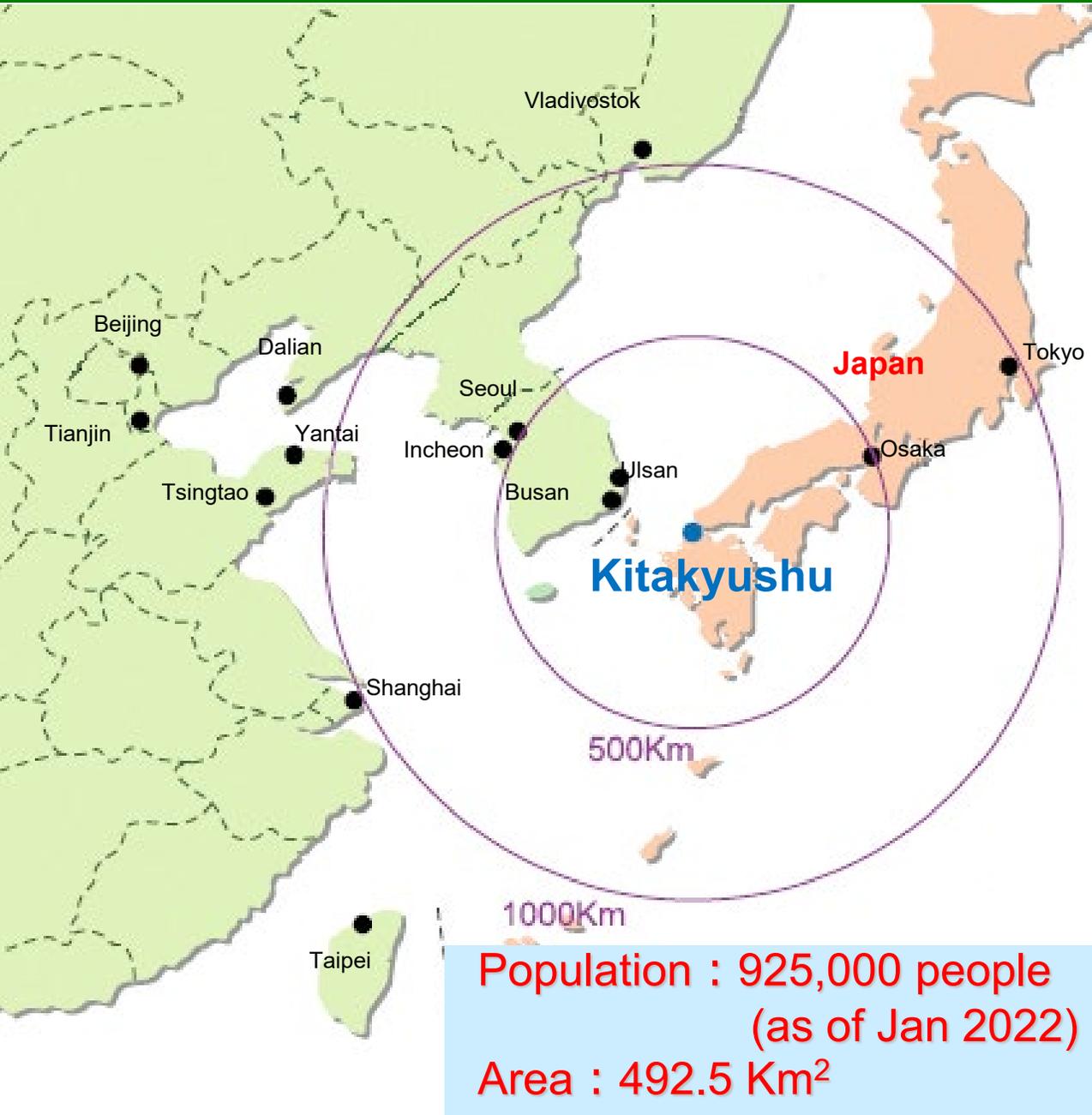
Kitakyushu City Initiatives for Decarbonization and Digitalization



March, 2023
City of Kitakyushu, Japan



About Kitakyushu City



Abundant nature and special local agricultural and marine products



Karst plateau and Hiraodai



Northern shore of Wakamatsu



Kokura Beef



Buzen sea oyster



Wakamatsu specialty tomato

Representative Enterprises of Kitakyushu



Nippon Steel



Yaskawa Electric Corporation



TOTO

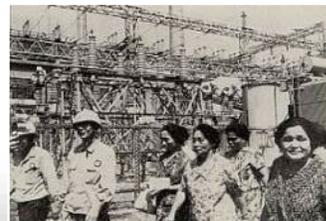
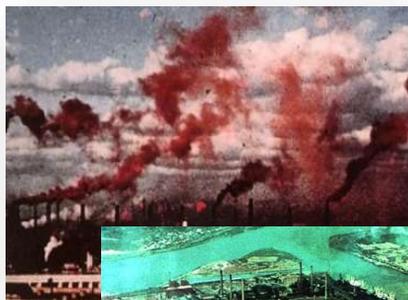
Experience in Overcoming Pollution & Environmental Policies

The government-run Yawata Steel Works began operation.

1960s



Anti-pollution movement by women's groups



1985

“Grey city” to a “Green city” :
“marvelous metamorphosis”
according to OECD



Serious industrial pollution



1901



2018



Selected by the OECD as a Model City for Promoting the SDGs. Kitakyushu's Mayor attended the High-Level Political Forum at the UN.

Kitakyushu's Ambitions as a Zero Carbon City

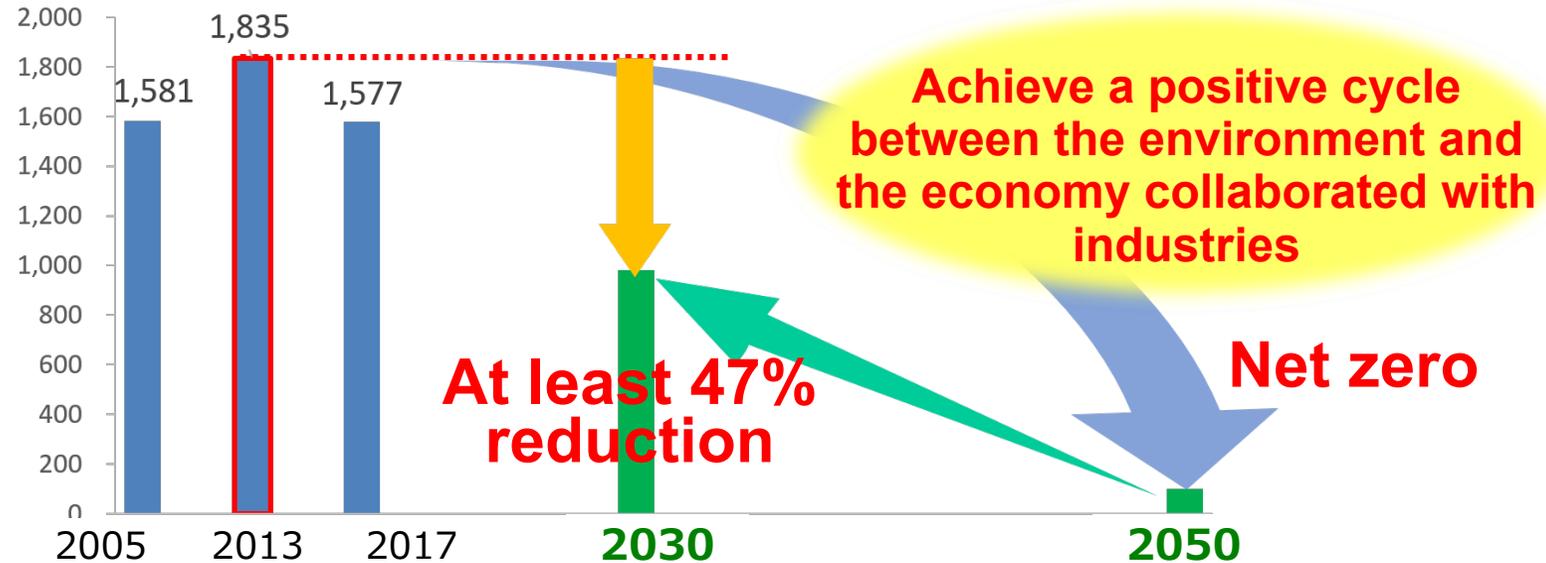
FY 2030 (Target)

2050 (Goal)

At least 47% reduction from FY 2013 levels

Aim for net zero greenhouse gas emissions in city

Image of reduction target



Five Pillars to Achieve Zero-Carbon Status

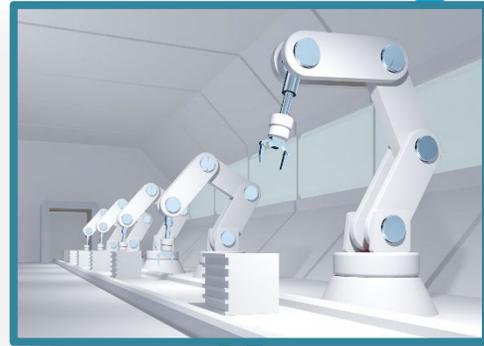
- I Use low carbon energy
- II Advance innovation

- III Change our lifestyle
- IV Become a resilient city that tackles climate change
- V Contribute to the international community

“Kitakyushu Green Growth Strategy”

- i) Strategically secure low carbon energy sources
 - ① Wind Power
 - ② Storage Batteries
 - ③ Hydrogen
- ii) Encourage innovation for early realization

Leading & Target Industries



Robotics Industry



Environmental Industry



Digital Industry



**Semiconductor Industry
Automobile Industry**

Kitakyushu Science & Research Park

Opened in 2001 as a one-of-a-kind experiment bringing together national, municipal, and private universities and research institutes focusing on science and technology in a single campus.

4 universities

10 research institutes

44 research & development companies

825 international students (28 countries)



Waseda University



Kyushu Institute of
Technology



The University of
Kitakyushu



Fukuoka University

Digital Garden City Nation

POLICY & DIPLOMACY

VISION FOR A DIGITAL GARDEN CITY NATION

ACHIEVING RURAL-URBAN DIGITAL INTEGRATION AND TRANSFORMATION

DECEMBER 28, 2021

To maintain future prosperity in the outlying regions of Japan and to encourage many people around the world to gain a deeper understanding of and connection with the country's rural areas, Prime Minister Kishida has put forward his Vision for a Digital Garden City Nation, which aims to achieve rural-urban digital integration and transformation.

The vision focuses on four broad initiatives, as follows:

* * * * *

I Building digital infrastructure

90%
5G coverage



The first is the building of digital infrastructure that stretches to every corner of the country, comprising the following four goals: 1. The completion, in roughly three years, of a digital superhighway using submarine cables surrounding the islands of Japan; 2. The building of more than a dozen regional data centers in about five years; 3. Making optical fiber a universal service by 2030, with 99.9% coverage of households, and; 4. Achieving 5G coverage for 90% of the Japanese population by the end of fiscal 2023 (March 31, 2024). With those objectives completed, it will be possible to use high-speed, large-capacity digital services anywhere in Japan.

II Developing and securing human resources with digital skills

2.3 million
human resources



The second initiative is the development and securing of tech-savvy human resources. Aiming at the acquisition of powerful digital skills on the part of university students and those receiving vocational training, etc., the initiative will establish a program to annually train 450,000 personnel to be responsible for the promotion of digitalization in local regions, by the end of fiscal 2024 (March 31, 2025), reaching a total of 2.3 million by 2026.

The Tsuzuki Science Park, located among the beautiful rural scenery surrounding Tsuzuki City in Yamagata Prefecture in northern Honshu, is home to research institutes and venture companies that continue to create innovative technologies.



III Implementing digital services to solve rural issues

NEW
digital services



The third initiative builds on the first two initiatives to provide new digital services. For example, the following goals will be being worked towards: 1. Realizing an agriculture sector by 2025 in which almost all farmers in the country will practice "smart agriculture" with advanced technology—including AI, robots, and IoT—for improved efficiency and productivity in the face of labor shortages due to an aging population; 2. Implementing new mobility service initiatives across about 40% of local governments nationwide, such as setting up mobile clinics to eliminate medical disparities among regions; 3. Achieving digital transformation at approximately 70% of all logistics companies, including the use of drones and automated delivery robots, by fiscal 2025 (ending March 31, 2026); 4. Providing an educational ICT environment that is fair and optimized individually for each child, by distributing a digital device to each student attending school. The aim is to let children from diverse backgrounds further develop their qualities and abilities without anyone being left behind; 5. Working on revitalizing the country's outlying regions through digital technologies, by carrying out such actions as promoting remote work at some 60% of all local public organizations so as to create a flow of people and work, and; 6. Utilizing digital tools to connect local small and medium-sized enterprises with overseas businesses, so as to introduce the advantages of Japanese products more widely and deeply.



Top: In November 2021, Prime Minister Kishida visited Ehime Prefectural Matuyama Higashi High School to inspect a class making use of ICT. Left: Digital technology is being introduced into Japanese agriculture to improve the efficiency of farm work and the quality of products. Right: The imminent use of drones to deliver packages to depopulated areas is highly anticipated.

IV Initiatives to leave no one behind

10,000
digitalization supporters



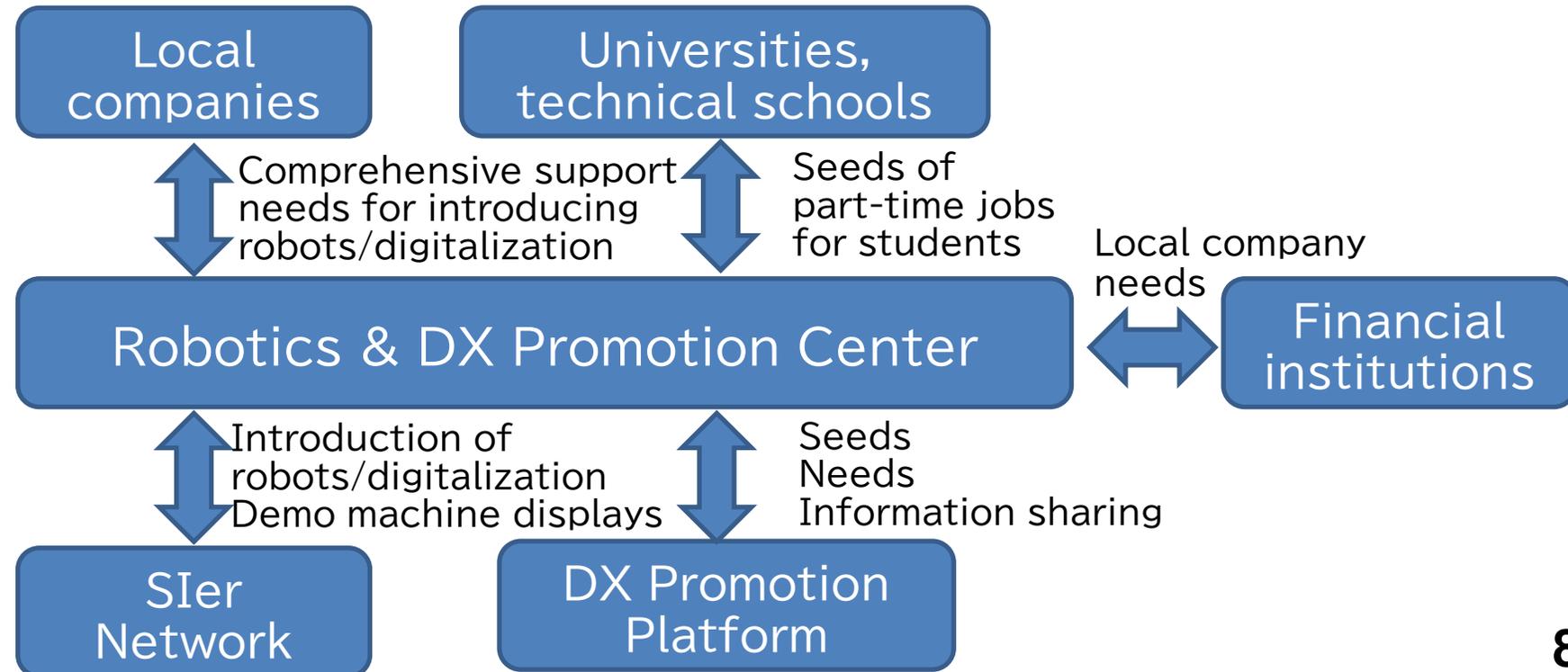
The fourth initiative will, in addition to the previous three initiatives, establish a human-resource support system to promote and realize a digital society where no one is left behind and where everyone can enjoy the benefits of digital technologies regardless of his or her age, gender, or geographical location, among other characteristics. The system will begin in fiscal 2022 (i.e., from April 2022), with more than 10,000 digitalization supporters nationwide, and will be enlarged as time goes on.

Kitakyushu Robotics & DX Promotion Center

The center opened in the Kitakyushu Science and Research Park in 2022 to serve as a meeting space for local companies, SIers, universities and financial institutions.

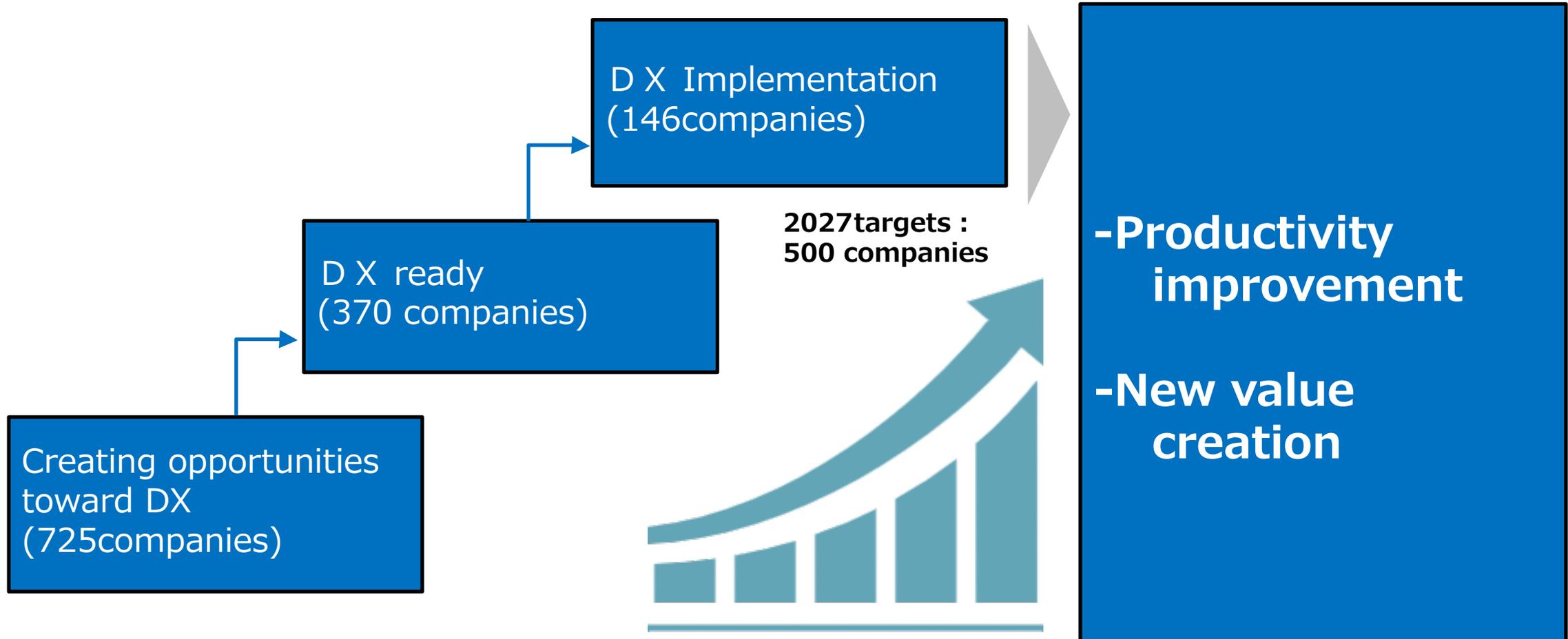
Functions: - Support for introducing robots/digitalization, hands-on experiences, human resources development, networking

Work content: - Awareness raising, consultation and advisory services on improving productivity
- Support for introducing robots, IoT, digitalization and other advanced technologies (subsidies, etc.)
- Support for human resources development
- Promotion of collaboration between local companies, vendors and local universities



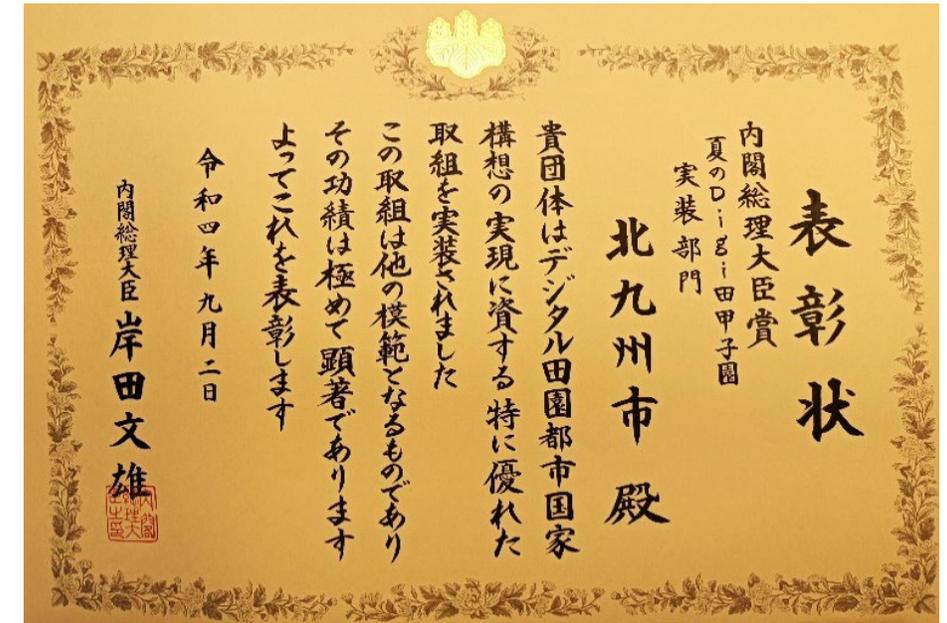
Seamless accompaniment supports

Starting with **creating opportunities toward DX**, we build **seamless accompaniment support scheme** such as advises and diagnostics of DX specialists, H/R developments, implementation subsidies. We make 500 local SMEs realize **productivity improvement** and **new value creation**.



DX Prime Minister Award in 2022

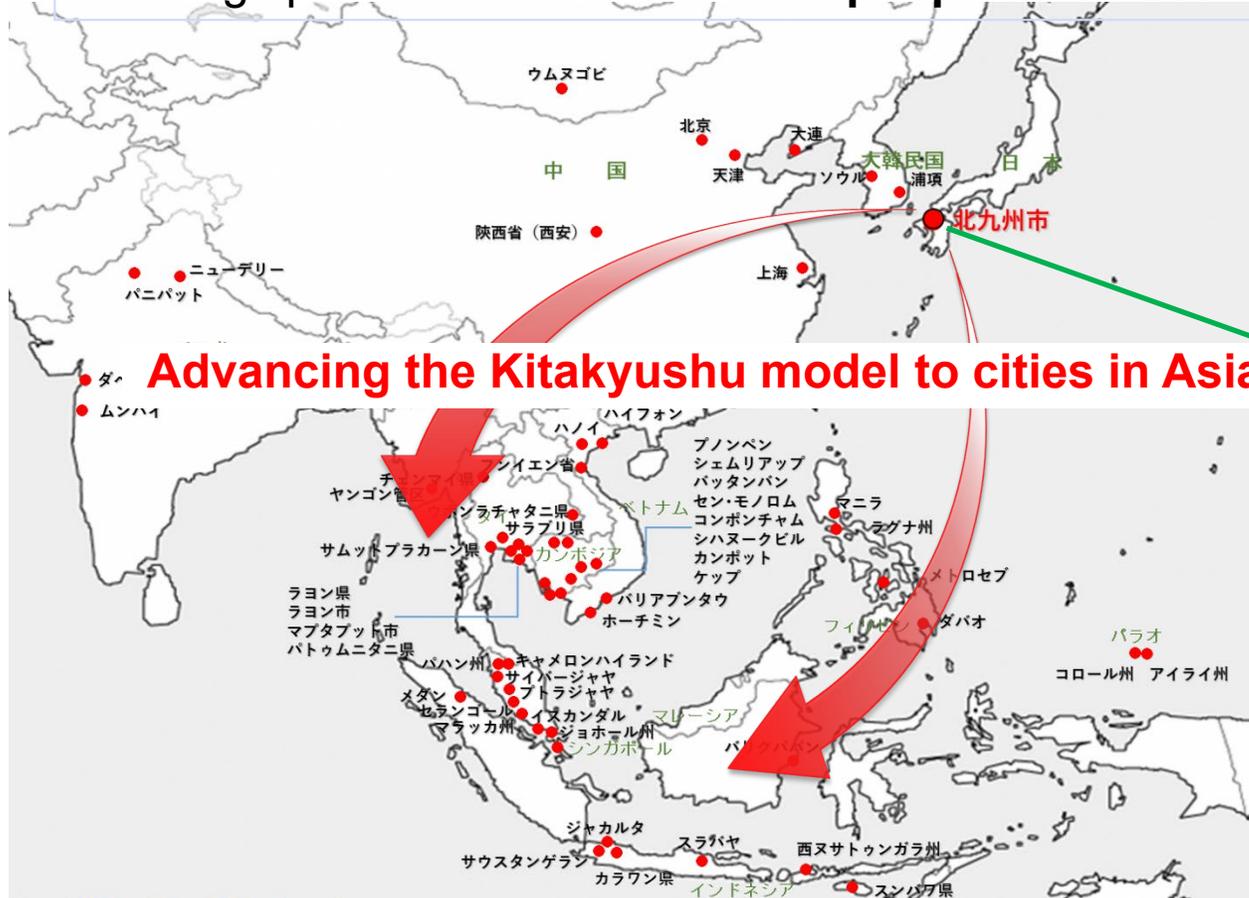
“Kitakyushu city’s DX acceleration initiatives” got **“DX Prime Minister Award”** held by the cabinet office of Japan in 2022 summer. They admired it as the ideal case which should be referred by local governments across Japan.



Initiatives for decarbonization of the world

Partnerships with Asian countries for mutual prosperity

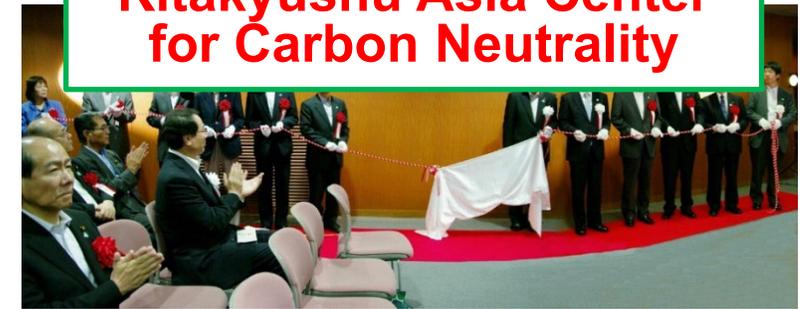
Progress of low carbon project in Asia: 16 countries and areas, 87 cities, 251 cases, over JPY 32 billion
Trainees accepted: more than **10,000** people from **180** countries
Sending specialists: more than **240** people to **30** countries



Advancing the Kitakyushu model to cities in Asia

To develop together with cities through mutual connection

Export base of city infrastructures
Kitakyushu Asia Center for Carbon Neutrality



Joint operation through mutual connection

Overall capability of leading environmental city (Kitakyushu City)

Experience of overcoming pollution

Advanced social system (Kitakyushu Eco Town and more)

Outstanding environmental technologies

Promoting Decarbonization in Asia through an environmental business technique

Creating an eco-friendly city to meet varying needs

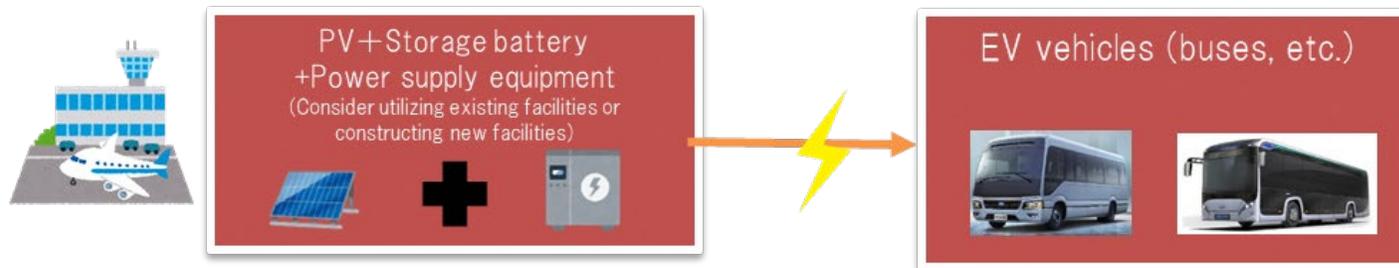
Feasibility Survey of the implementation of EV vehicles in the state of Koror, Republic of Palau

Koror and Kitakyushu have been cooperating for a long time to establish a comprehensive resource recycling system.

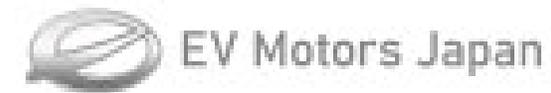
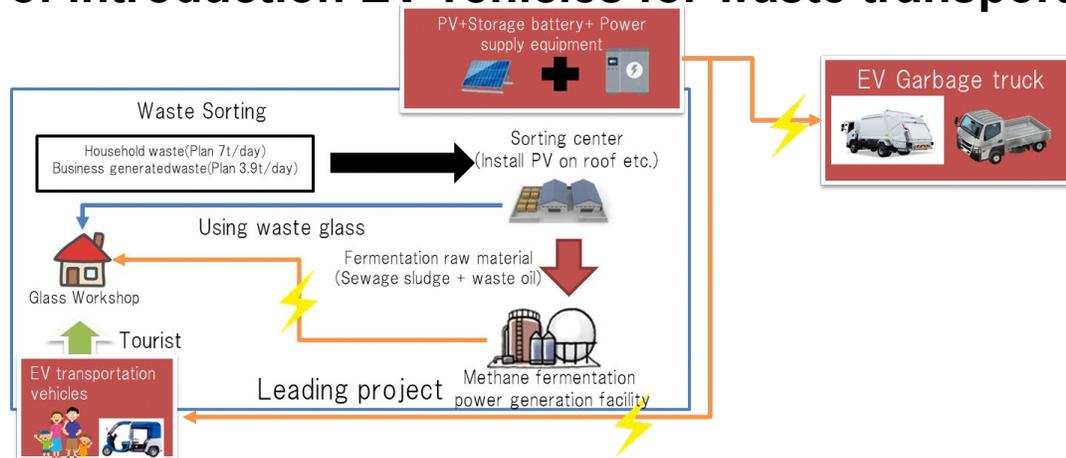


Since FY2020, City of Kitakyushu has been conducting a feasibility study for the introduction of EV buses and EV Garbage trucks.

① Project of introduction EV vehicles for tourism sector



② Project of introduction EV vehicles for waste transportation sector



Project on the formation of an eco-industrial park to promote decarbonization in Haiphong, Vietnam



Kitakyushu's know-how regarding the dissemination of renewable energy

Locally produced energy

Utilization and recycling of storage batteries

Formulation of an action plan for green growth

Installation of energy-efficient facilities

TRANSFER

Haiphong

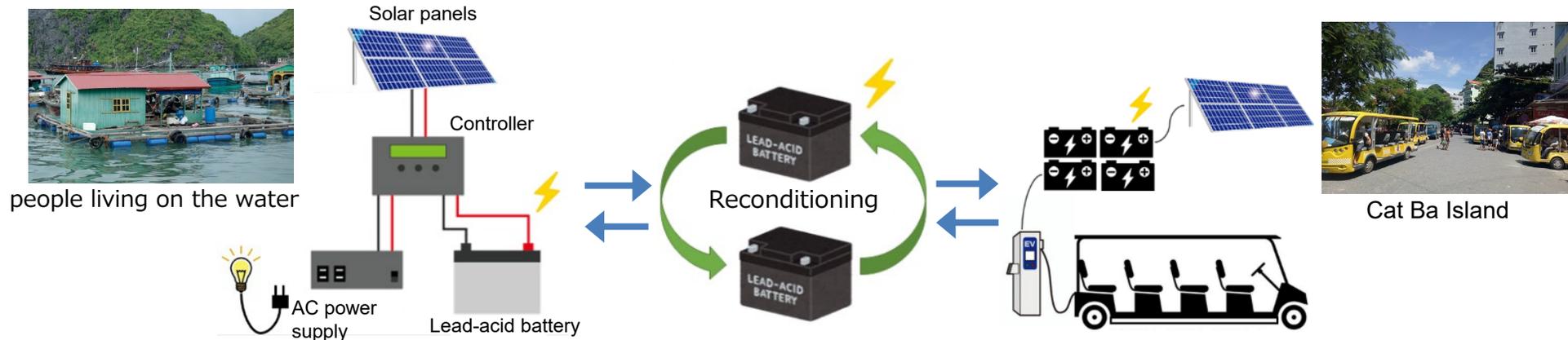
Installation of solar power generation

Using of energy from waste

Installation of energy-efficient facilities

Sharing know-how on decarbonization

For example, converting the energy used on Cat Ba Island to renewable energy



Spread out all over Vietnam

Resource Recycling of Marine Plastic Waste in Thailand



Utilizing

- Using produced oil, charcoal, water and salt within the island aiming to develop closed island plastic recycling system
- Promoting tourism as a Zero Plastic Island

Hotel owners / Ferry companies

Synergy

SEA Circular Initiative (existing activities)

- Reducing plastic brought onto the island
- PET to PET recycling by Coca Cola



Collection system

- Collecting waste plastics and marine plastics and improve the solid waste management system on the island



Rayong Province

Established Recycling System

- Recycling system using superheated steam to convert plastic and organic compounds into oil and charcoal



One World Corporation

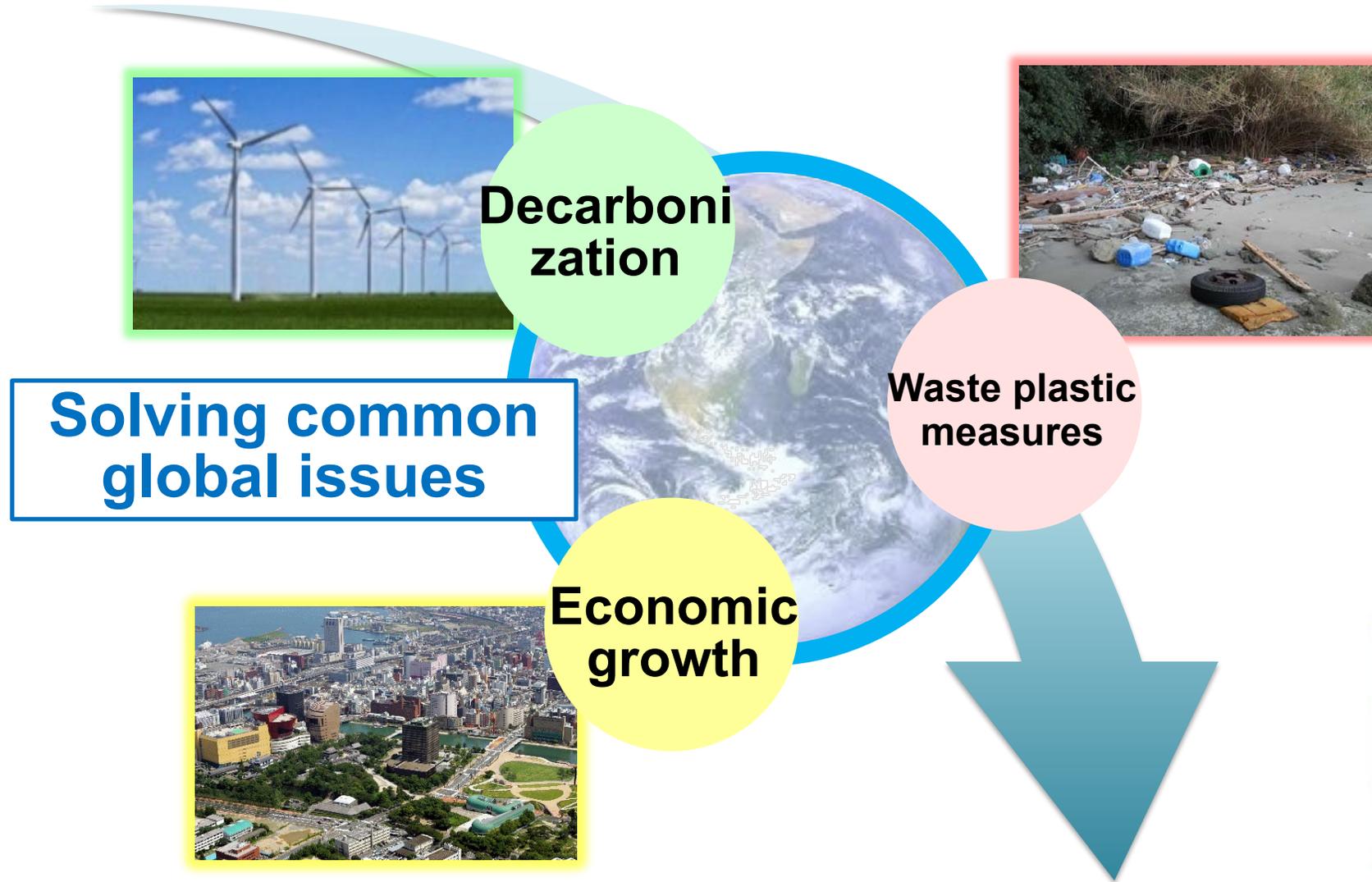


Verification for Zero Plastic Island



- Measuring and verifying the plastic neutrality of the island to offset activities through recycling

Kitakyushu's environmental technologies



SUSTAINABLE DEVELOPMENT GOALS



and helping the world achieve the SDGs!!