



Green Growth Strategy of Kitakyushu City

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Path to Becoming a Zero-Carbon City



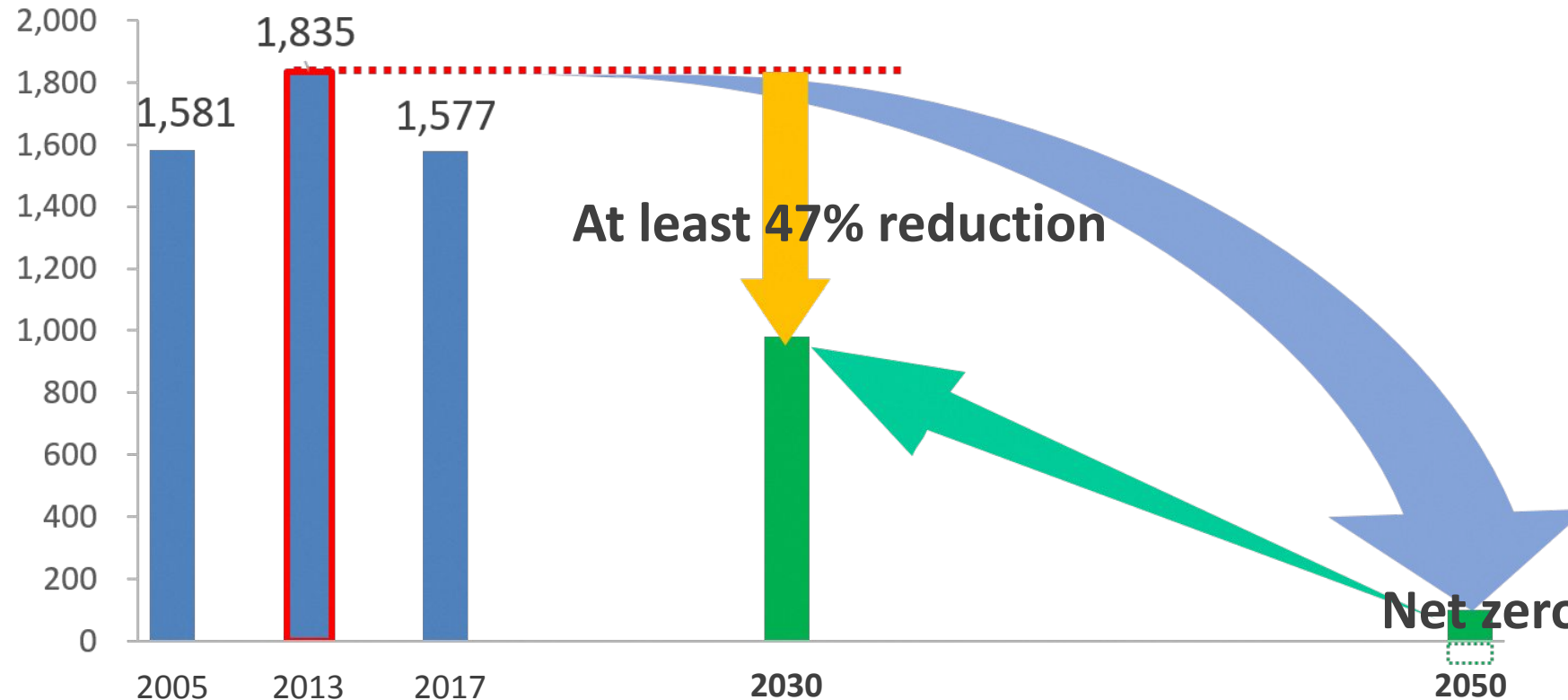
Targets as a Zero-Carbon City

Reduction Targets

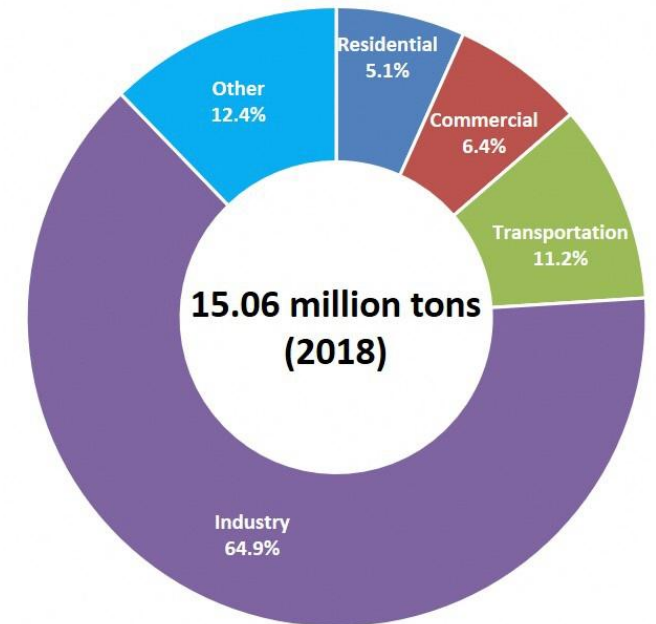
2050 target : **Net zero** greenhouse gas emissions in city

2030 target : At least **47%** reduction from FY2013

(10,000 tons)

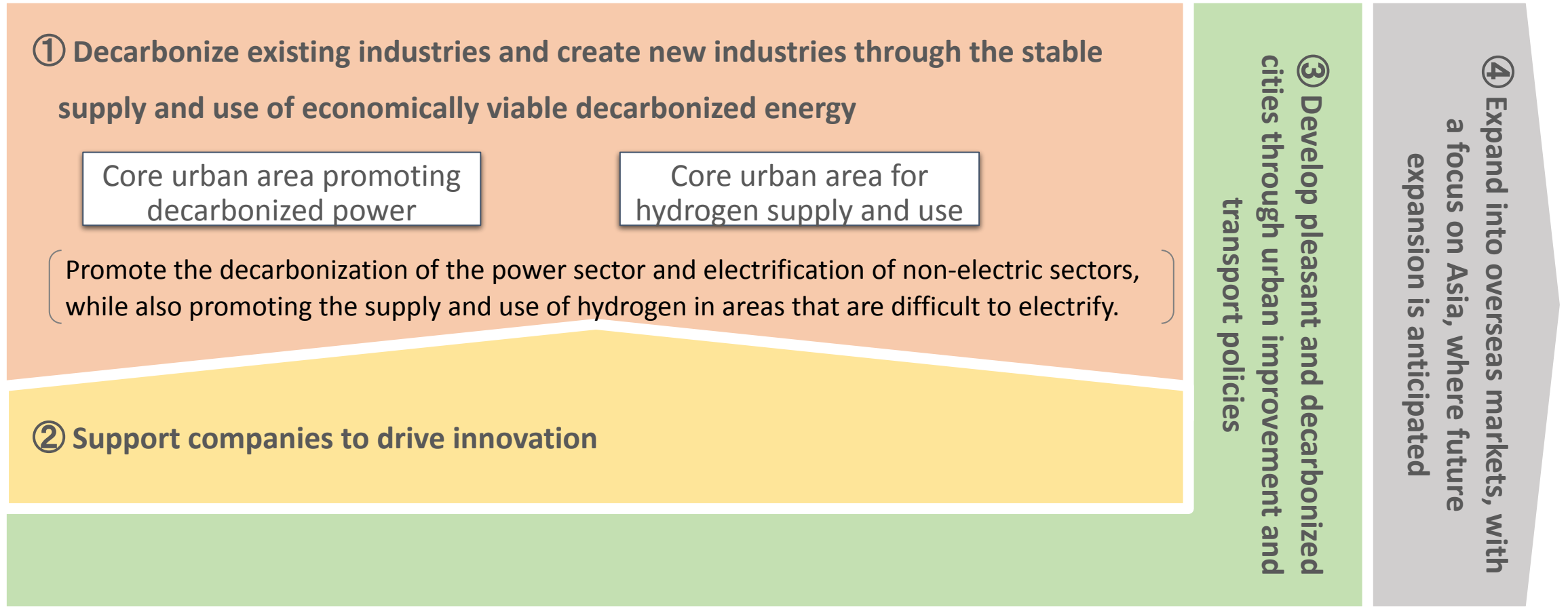


GHG emissions in FY 2018



Green Growth Strategy: Basic strategy

- Action plan for the strategic **promotion of energy decarbonization and innovation** aiming at Kitakyushu's goal of becoming a Zero-Carbon City by 2050 through a “**virtuous cycle between the environment and economy**”.



Direct investment: ¥590 to ¥680 billion CO₂ reduction effect: Approx. 930,000 tons

Green Growth Strategy: Actions to 2030

Core urban area promoting decarbonized power

- Introduce PV, EVs and storage batteries through a third-party ownership model and expand use of decarbonized power
- Create industries to reuse and recycle PV and storage batteries
- Promote the introduction of wind power and development of a comprehensive base for wind-power industries

<FY 2030 forecast>

**Installed renewable energy:
1,302 to 1,402MW**

Core urban area for hydrogen supply and use

- Develop a cooperative framework to expand the use of hydrogen
 - Create a hydrogen platform
- Conduct demonstrations and studies on establishing hydrogen supply systems
 - Inject synthetic methane that uses hydrogen as a raw material into city gas pipelines
 - Conduct studies on the potential of supplying hydrogen on a wide scale in the future
- Stimulate demand and matching using hydrogen within the city <FY 2030 forecast>

**Hydrogen demand:
5,700 tons/year**

Support for companies to drive innovation

- Develop platforms that will lead to the creation of decarbonized businesses
- Provide guided support to companies on how to effectively use public funds and obtain financing from the private sector
- Set up programs to train and acquire human resources to promote the development of a decarbonized society

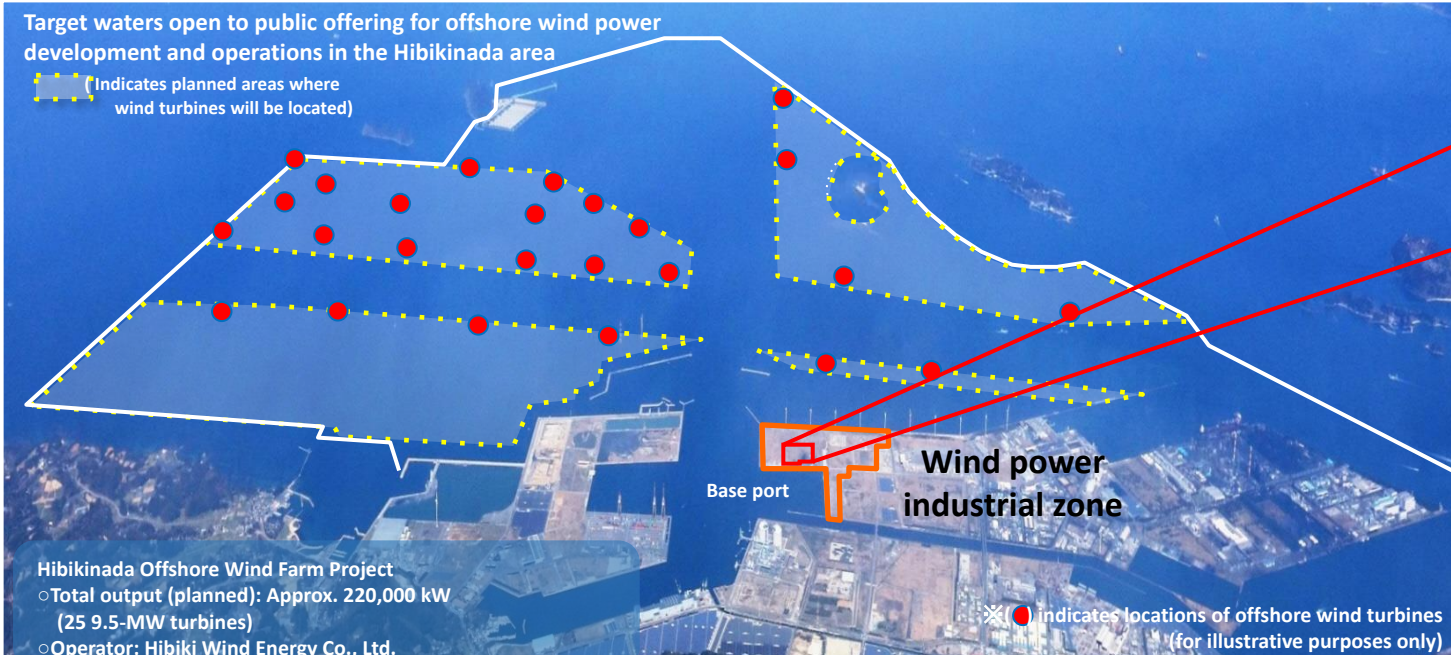
Creation of a Comprehensive Base for Wind Power Industries

Features of the Hibikinada area

- Expansive industrial site located adjacent to the port
- Well-developed port facilities
- Concentration of companies supporting the manufacturing industry
- Favorable wind conditions

Development of a comprehensive base for wind power industries

(Promotion of wind power, revitalization of industries, logistics, and economy)

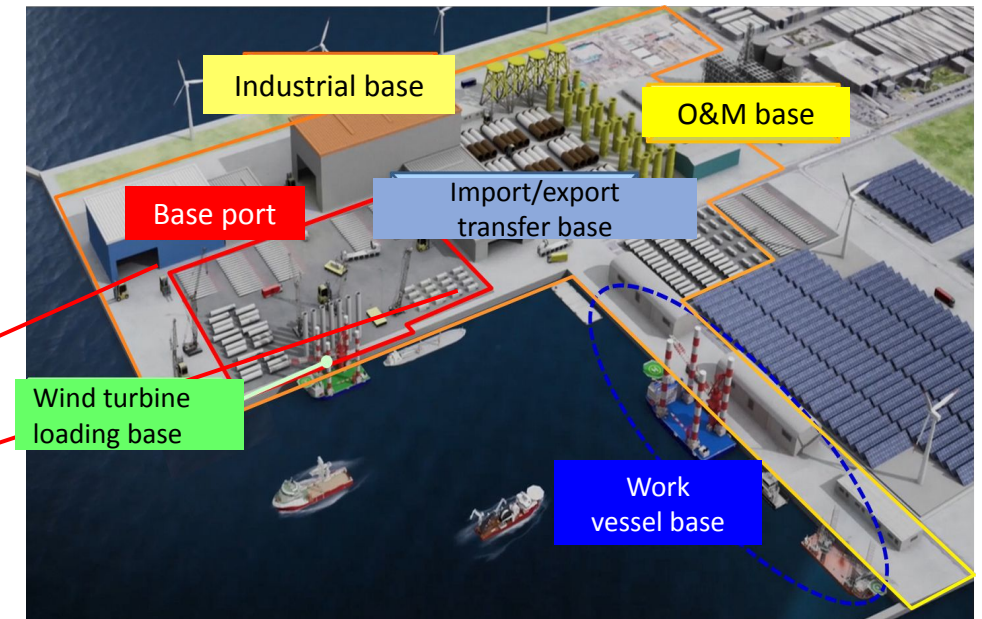


Status of specific activities

Phase 1: Attracting empirical research facilities

Phase 2: Attracting large-scale offshore wind farms

Phase 3: Improving the environment to develop the foundation for a comprehensive base and initiatives to enhance base functions



1. Wind turbine loading base

Functions as the final loading and unloading station for parts to wind turbine installation sites

2. Import/export transfer base

Functions as a base for the import, export and transfer of wind turbine parts

3. O&M base

Functions as a base for the operation and maintenance of wind turbines

4. Industrial base

Functions as an industrial base with a concentration of wind turbine-related industries in back lying areas

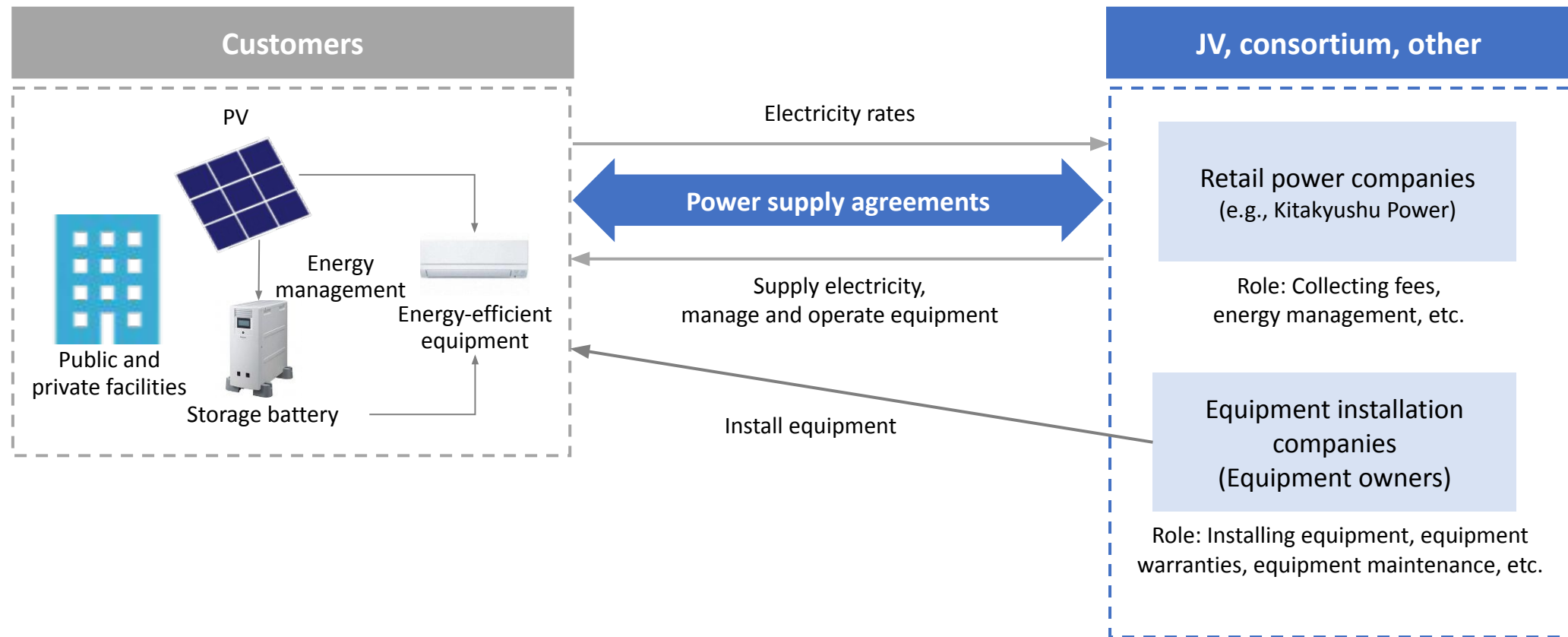
RE100 for Public Facilities (Kitakyushu Model for 100% Renewable Energy)

Solar plus storage PPA (Power Purchase Agreement)

No initial investment

Speeds up introduction

Reduces total cost by extending service life with IoT



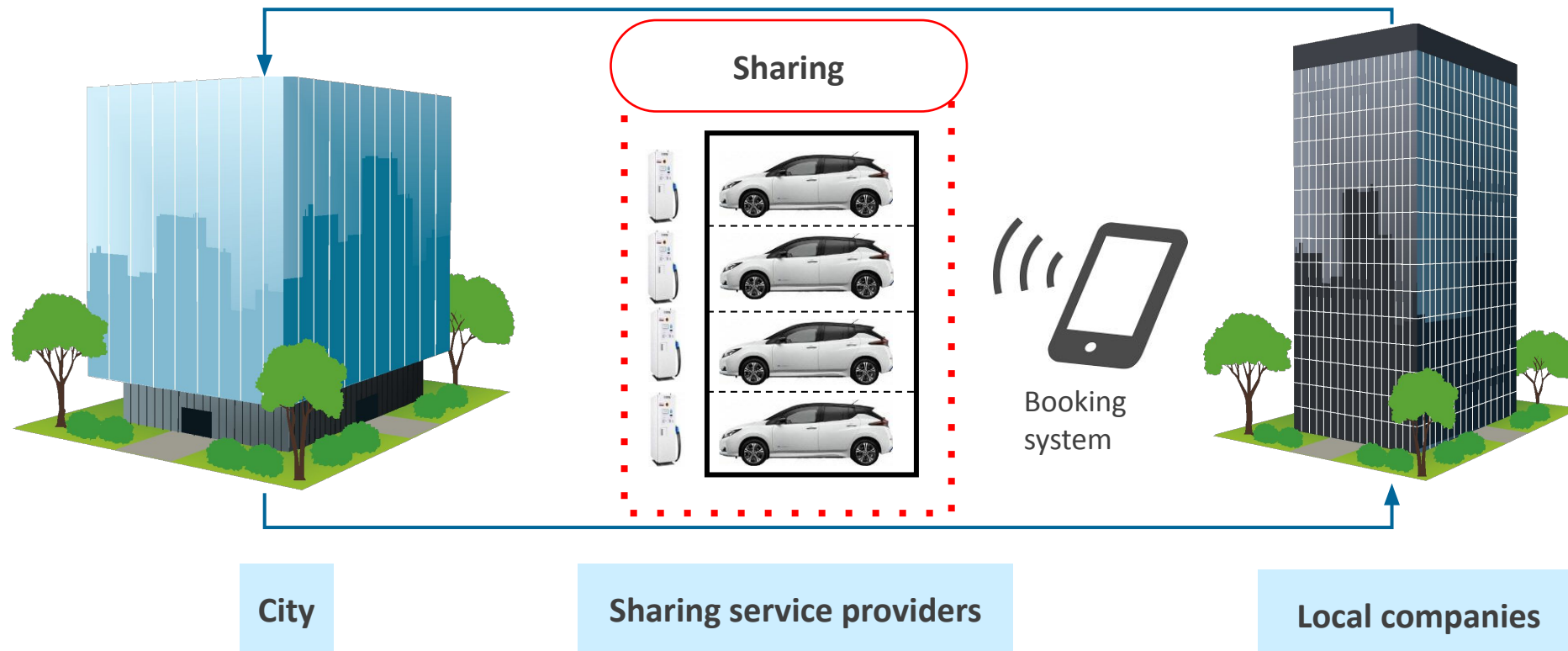
Car Sharing Initiative for EV Public Vehicles with Local Companies (under consideration)

Reduce waste through the use of idle assets

Optimize number of vehicles with the introduction of a vehicle management system

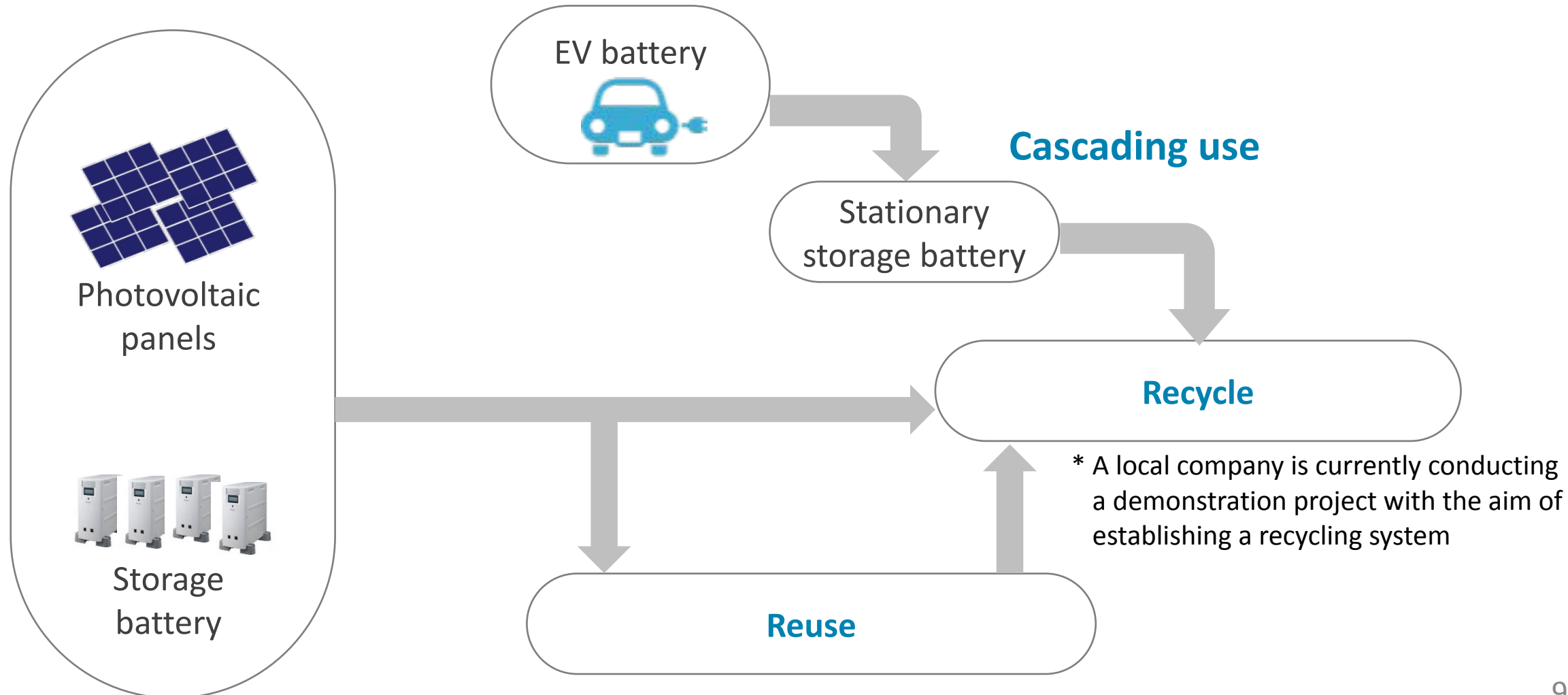
Improve operation rates through sharing

Create opportunities to ride in EVs



Reuse & Recycling of PV Panels and Storage Batteries

Establishment of reuse market Promotion of recycling with focus on Eco-Town



Actions in becoming a hydrogen-based society

Higashida District Hydrogen Town Projects・PR

Striving to develop demonstration and PR bases in Hydrogen Town through regional cooperation by utilizing infrastructure, such as hydrogen pipelines and fuel cells.

- ✓ Number of projects: 9
- ✓ Number of participating companies: 10

Hibiki District Forming a Hydrogen Supply Base

Aiming to form a hydrogen import/supply base that will supply hydrogen to other regions in Japan by leveraging Kitakyushu's strengths, such as the concentration of energy-related facilities and abundant port infrastructure.

- ✓ Implementation of the Ministry of the Environment demonstration project in Hibikinada (2020-2022). CO₂-free hydrogen production and supply business that makes effective use of local renewable energy

Other Actions Expanding the application of FCVs and hydrogen stations

Promoting the spread of FCVs and the development of hydrogen stations in order to expand the use of hydrogen and improve the understanding of its usage.

- ✓ Hydrogen stations in the city: 2 locations
- ✓ Number of FCVs for public use: 4

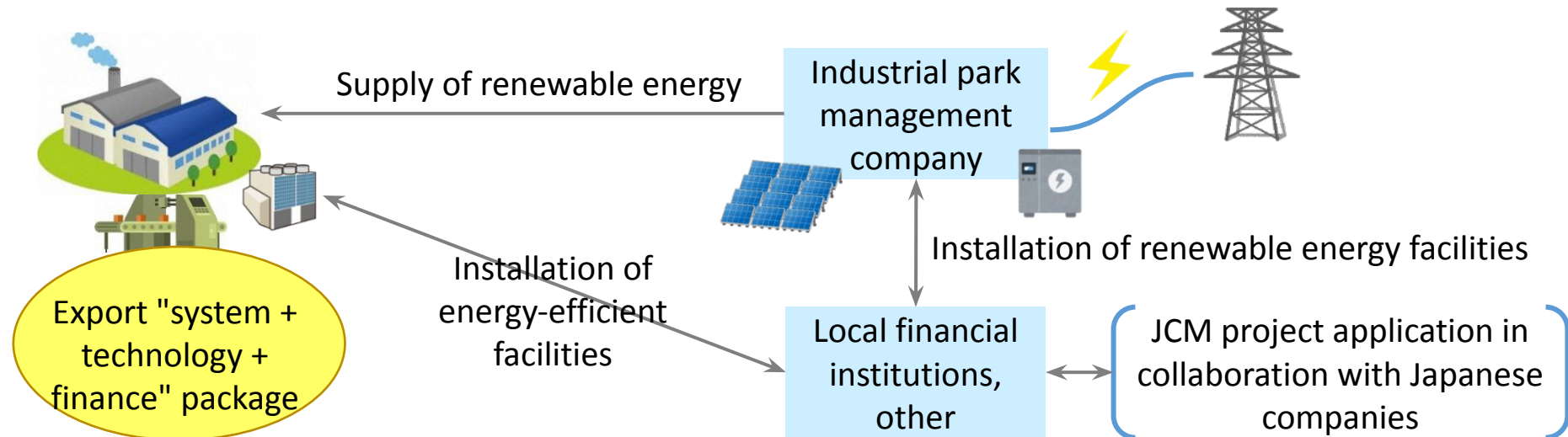


Partnerships with Asian countries for mutual prosperity

- Status of projects for low-carbon development in Asia:
16 countries and regions, **84** cities (**238** projects)
Over JPY **25 billion**
- Trainees accepted: **9,956 people** from 166 countries
- Experts dispatched : **215 people** to 25 countries

Project on the formation of an eco-industrial park in Haiphong City, Vietnam

(Supported by the Ministry of the Environment, Japan)



Kitakyushu's environmental technologies

