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## City to City Collaboration for Zero-Carbon Society between Quang Ninh Province, Vietnam and Shiga Prefecture

Project to support the achievement of green growth and the realization of a decarbonized society through  
city-to-city collaboration between Quang Ninh Province and Shiga Prefecture

滋賀県











# General Information

**Represents 1.0% of Japan in terms of land and population**

**Population: 1.414 million**

26th highest  
among 47 prefectures

**Land area: 4,017 km<sup>2</sup>**

38th largest  
among 47 prefectures

**Gross prefectural product :  
6.7397 trillion yen**

23rd highest  
among 47 prefectures

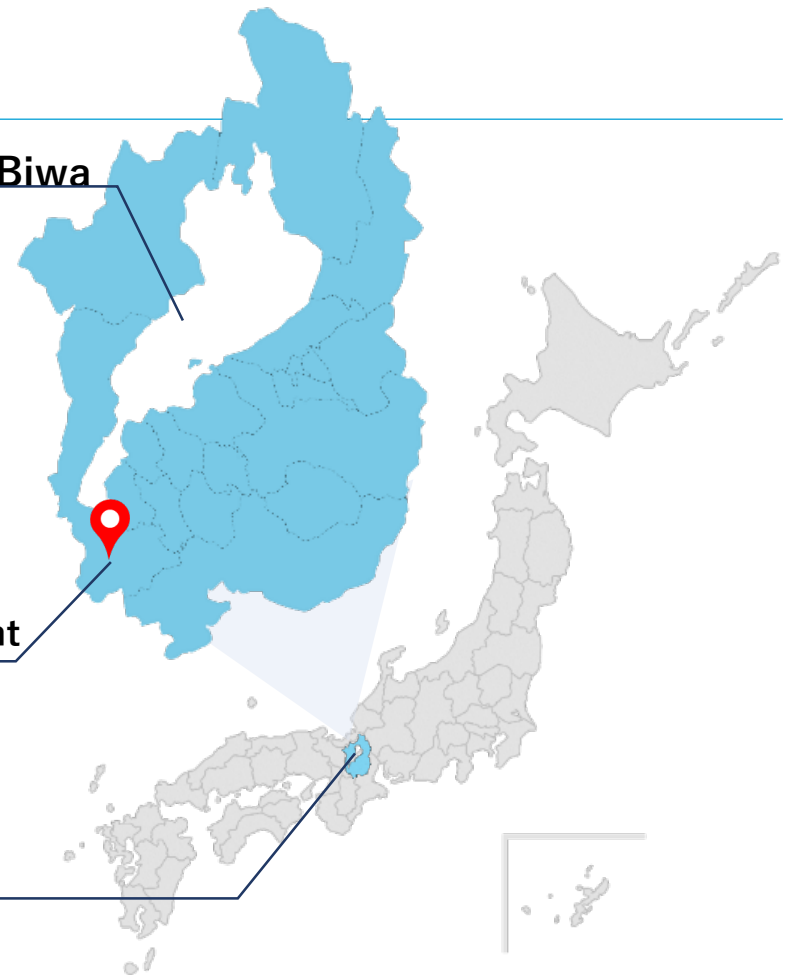
\*1 = 150 yen to the dollar.

Approximately \$44.9 billion

Otsu:  
Prefectural government

Located in the  
center of the  
Japanese  
Archipelago

Lake Biwa



**Shiga has high accumulation of Manufacturing Industry**

The percentage of secondary industry is the highest in Japan



**Many Mother factories and R&D centers are located**

Shiga is selected as an important industrial location by global companies

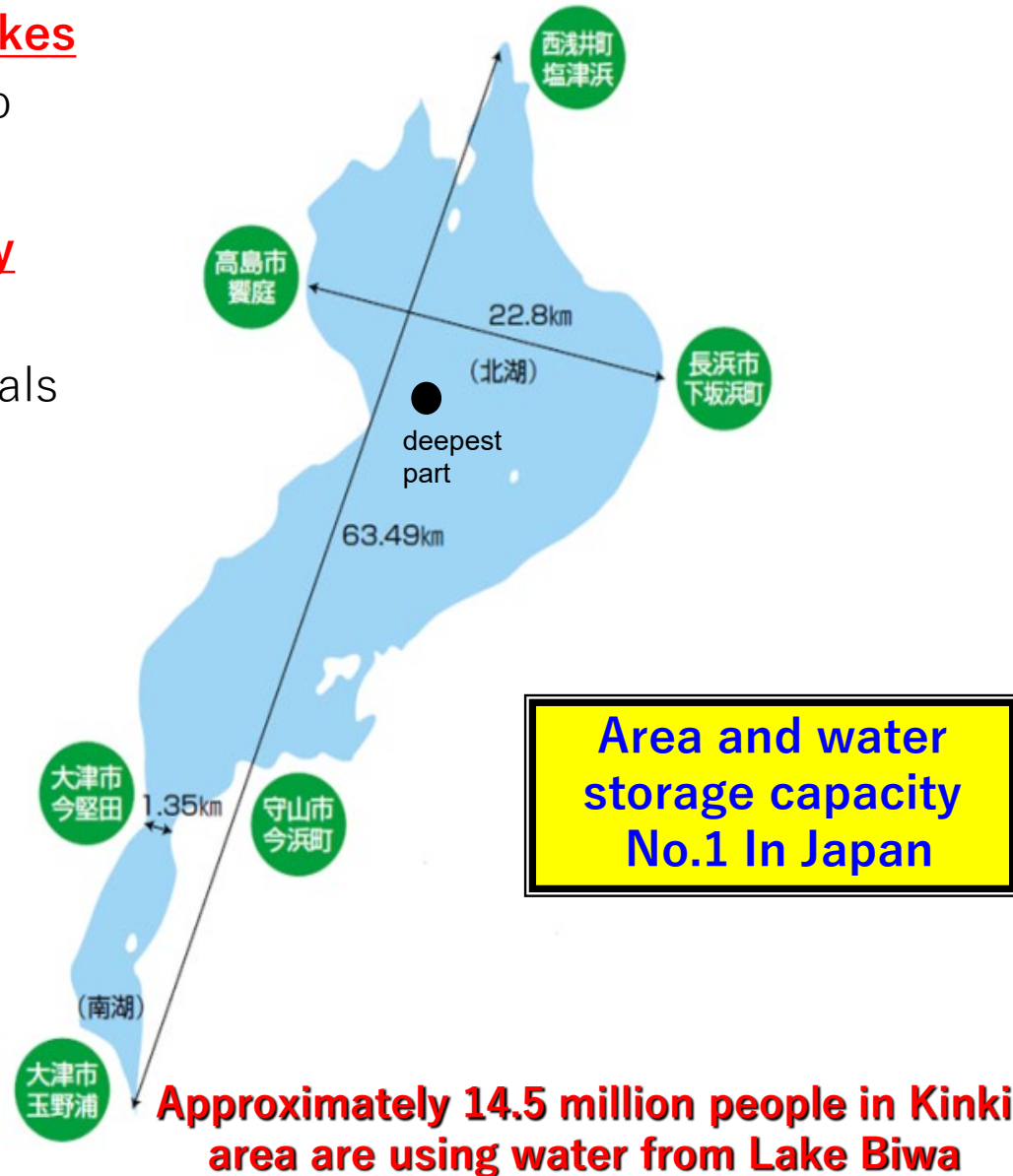
# Shiga Prefecture, Lake Biwa Overview

## One of the world's most ancient lakes

- Created about 4 million years ago
  - \*The third oldest in the world.

## The lake has very rich bio-diversity

- More than 60 endemic species
  - 1,700 species of plants and animals
  - Nearly 100,000 migratory birds
- Ramsar Convention Wetlands*



# 1 Environmental Conservation Efforts

**The Lake Biwa Model** is an effort by four entities: residents, the local governments, companies (factories, etc.) , and research institutions(universities etc.) and water environment-related businesses.

This model promotes **the conservation and utilization of the water environment** while simultaneously **enabling economic development** and **contributing to solving global water environment issues**.

## Contribution to solving problems with the water environment around the world

Conservation of the water environment and its proper utilization

Development of the regional economy

### 1 Activities by Residents (Citizens)

- Environmental learning
- Soap Movement
- Conservation of reed colonies
- Lake Biwa cleanup activities
- Conservation activities for the river basin

### 2 Activities by the Local Government

- Regulations and institutional design through ordinances
- Supervising wastewater treatment companies
- Environmental White Paper
- Improving Sewerage system
- Development of water service and agricultural water supply
- Environmental Education

### 3 Activities by companies (Factories)

- Legal compliance
- Environmental management according to ISO
- Self-inspection and comprehensive management
- Efforts to improve the environment by constructing a network among local governments and companies

### 4 Activities by Research Institutes, Universities and Water Environment - related Companies

- Scientific Research
- Technological development
- Creating, accumulating and providing knowledge, information, technologies and knowhow
- Developing products and services related to the water environment



# Environmental degradation around Ha Long Bay



Environmental degradation due to development in the surrounding area

## JICA Technical Cooperation Projects

### Green Growth Promotion Project in Ha Long Bay Area, Quang Ninh Province

Client: JICA Contractor: Nippon Koei Co., Ltd., International Lake Environment Committee  
(Detailed plan to be developed in FY 2015 - FY 2016)

(The following pilot activities were conducted based on the plan in FY 2016 - FY 2019)



#### Project Objectives

Green growth in the Ha Long Bay area  
will be promoted

#### Five pilot activities

Financial  
mechanism

**Awareness  
raising and  
education**

Sustainabl  
e Tourism

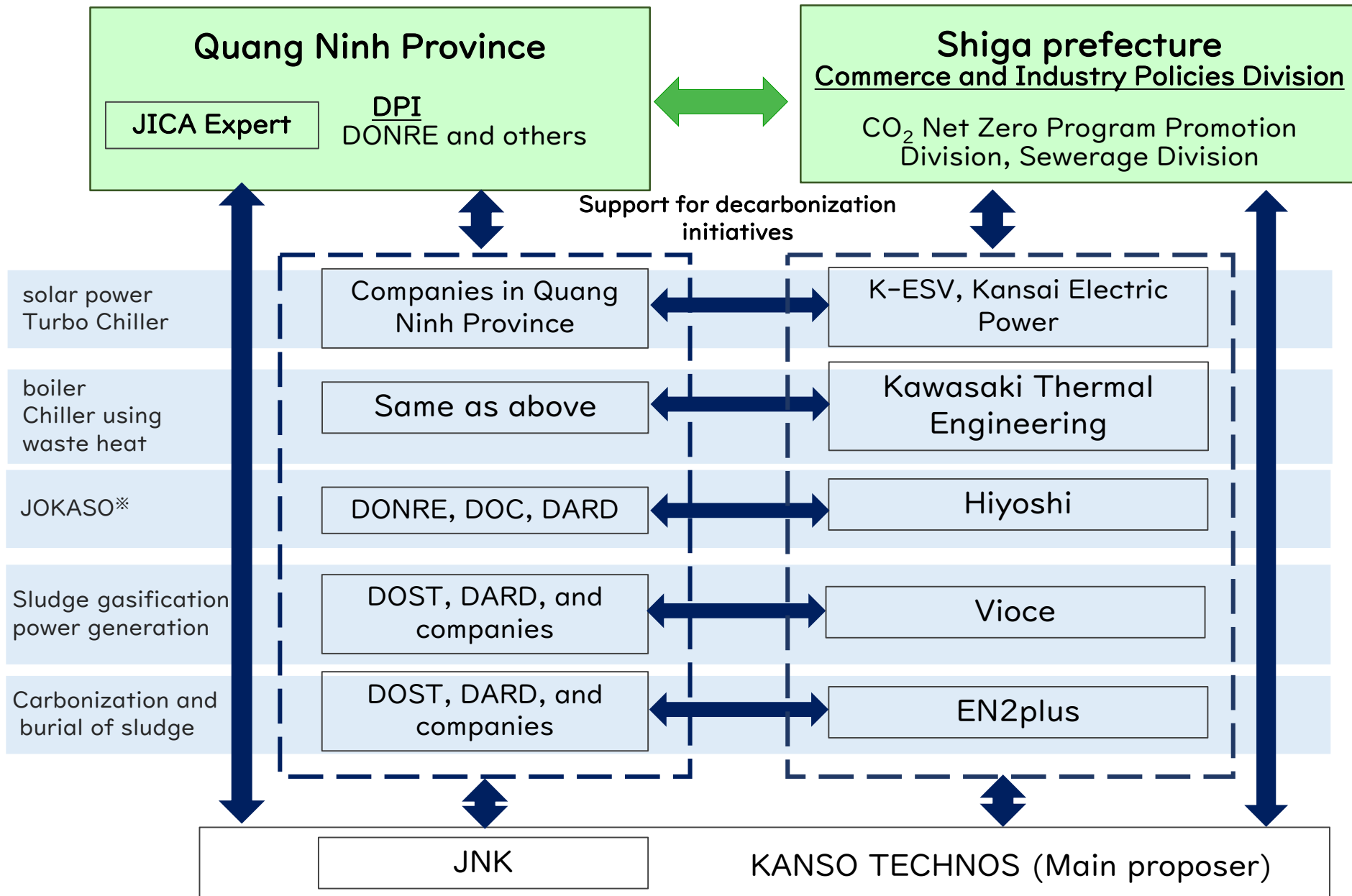
**Reducing  
pollution load**

Energy  
saving and  
management





# Implementation Structure Chart



※JOKASO is decentralized wastewater treatment technology unique to Japan for purifying wastewater discharged from general households using the properties of microorganisms to degrade organic containments.

# Contribution to Quang Ninh Province's Green Growth

## Specific issues of the "Plan on the Implementation of the Results of the Green Growth Promotion Project in Quang Ninh Province from 2020 to 2025" (No. 73/KH-UBND).

- 2.1 Strengthen environmental management activities
  - ✓ Improved management of waste sources
- 2.2 Promote policies that encourage energy management and conservation
  - ✓ Dissemination of Solar Energy Utilization Facilities
  - ✓ Reduction of economic consumption (water, electricity, paper), wastewater and waste
- 2.3 Promotion of Sustainable Tourism
  - ✓ Research and improvement of waste collection and disposal systems  
(Improving the value of ecotourism in Quan Lan island)
- 2.4 Green Growth in Agriculture
  - ✓ Development and implementation of projects related to the development of organic agriculture

### Projects in the City to City Collaboration Project

JOKASO  
Sludge gasification  
facility

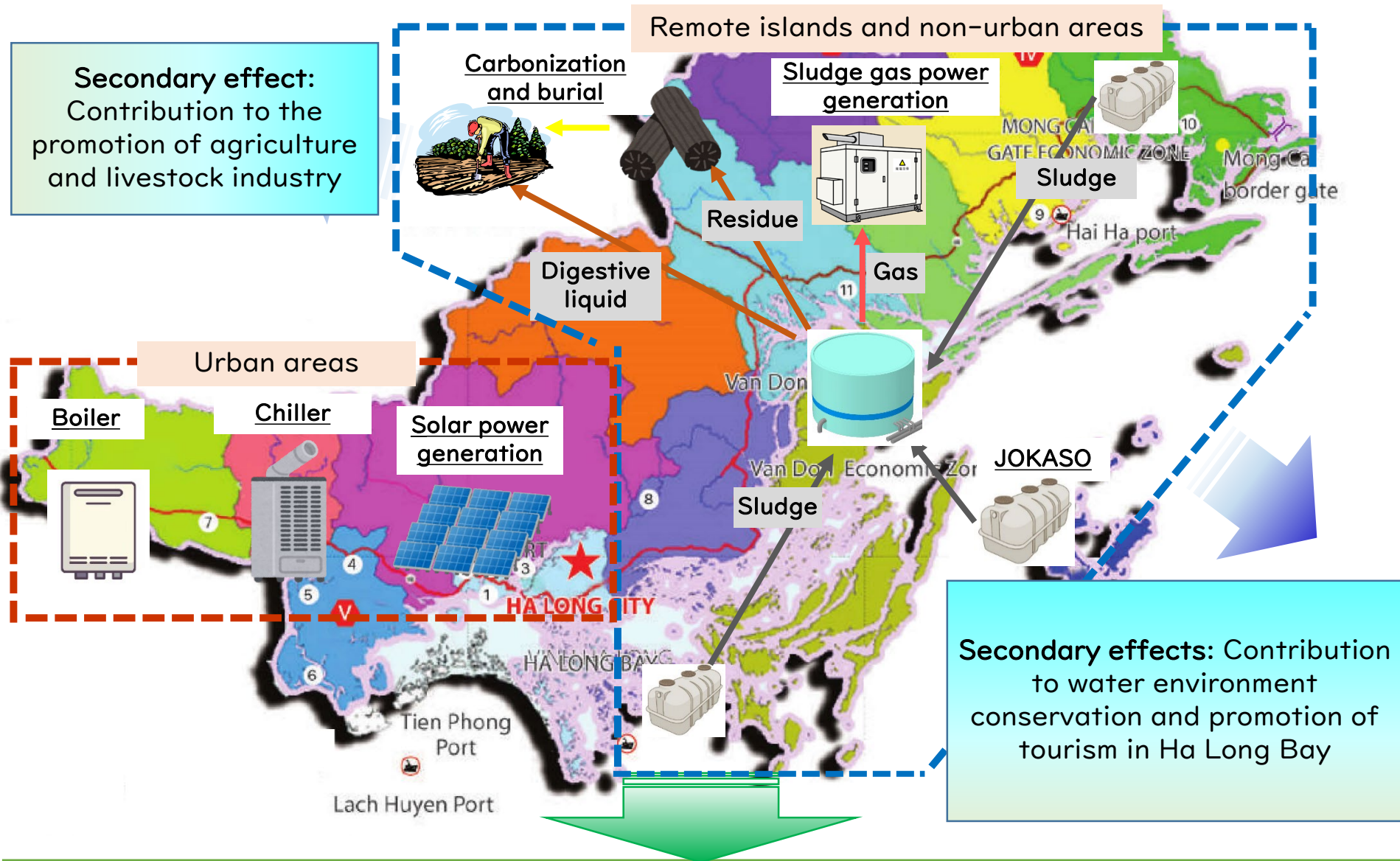
Solar power generation  
Chillers and Boiler

JOKASO  
Sludge gasification  
facility  
Sludge carbonization  
and burial

Sludge carbonization  
and burial



**Project to support the achievement of green growth and the realization of a decarbonized society through city-to-city collaboration between Quang Ninh Province and Shiga Prefecture (Conceptual Diagram)**



# Promotion policy for each project envisaged in the City-to-City Collaboration Program

Project \ Period		Short-term (1 to 2 years)	medium-term (3 to 5 years)	long term (after 5 years)
Solar power generation Chiller Boiler	private initiative	Promoted on a Private – Private basis (factories in industrial parks, large hotels, etc.)		
Sludge gas power generation	<u>Need to introduce public funds</u>	Investigate promotion methods in the City-to-City Collaboration Program.		
Sludge carbonization and burial				
JOKASO	<u>Need to introduce public funds</u>	Islands within the Ha Long Bay World Heritage Area (several locations)	Islands within and around Ha Long Bay World Heritage Site Area	Inland areas, etc.
		Grassroots Grant Aid (Japanese government funds)  Upper limit of 10 million yen Can be introduced relatively quickly	Non-Project Grant Aid (Japanese government funds)  Amount available hundreds of millions of yen Requires a lot of time to implement	Utilization of PPP system, etc.  Need to plan possible methods for the City-to-City Collaboration Program



# Status of Installation



Dau Gou Island



Selection of installation location



Construction Status



# Seminar and Meetup on decarbonization and water environment conservation

- Quang Ninh Province and Shiga Prefecture made presentations on each initiative in order to share current situations of decarbonization and environmental protection
- In addition, a company-to-company matching event was held to introduce technologies that can contribute to the achievement of decarbonization and environmental preservation.







Thank You