

Developing an Island-style Low-carbon Social System: In Pursuit of Eco-island Miyakojima



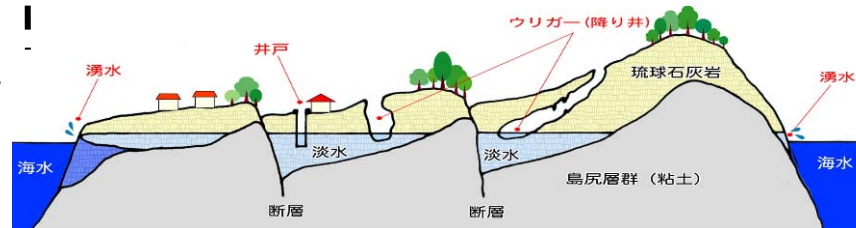
Miyakojima Profile

Surrounding by ocean of four sides and consisting of uplifted coral reef, Miyako Island is a flat island that taps groundwater for its water supply and subsists on the key industries of tourism and agriculture. Some 400,000 tourists visit the island each year.



Population: Approx. 55,000
 Area: Approx. 205 km²
 (Miyakojima accounts for 80%)
 Climate: Subtropical
 Annual average temperature: 23.3°C
 Annual average precipitation: 2,000 mm
 Annual average humidity: 79%

Cross-section of Miyako Island

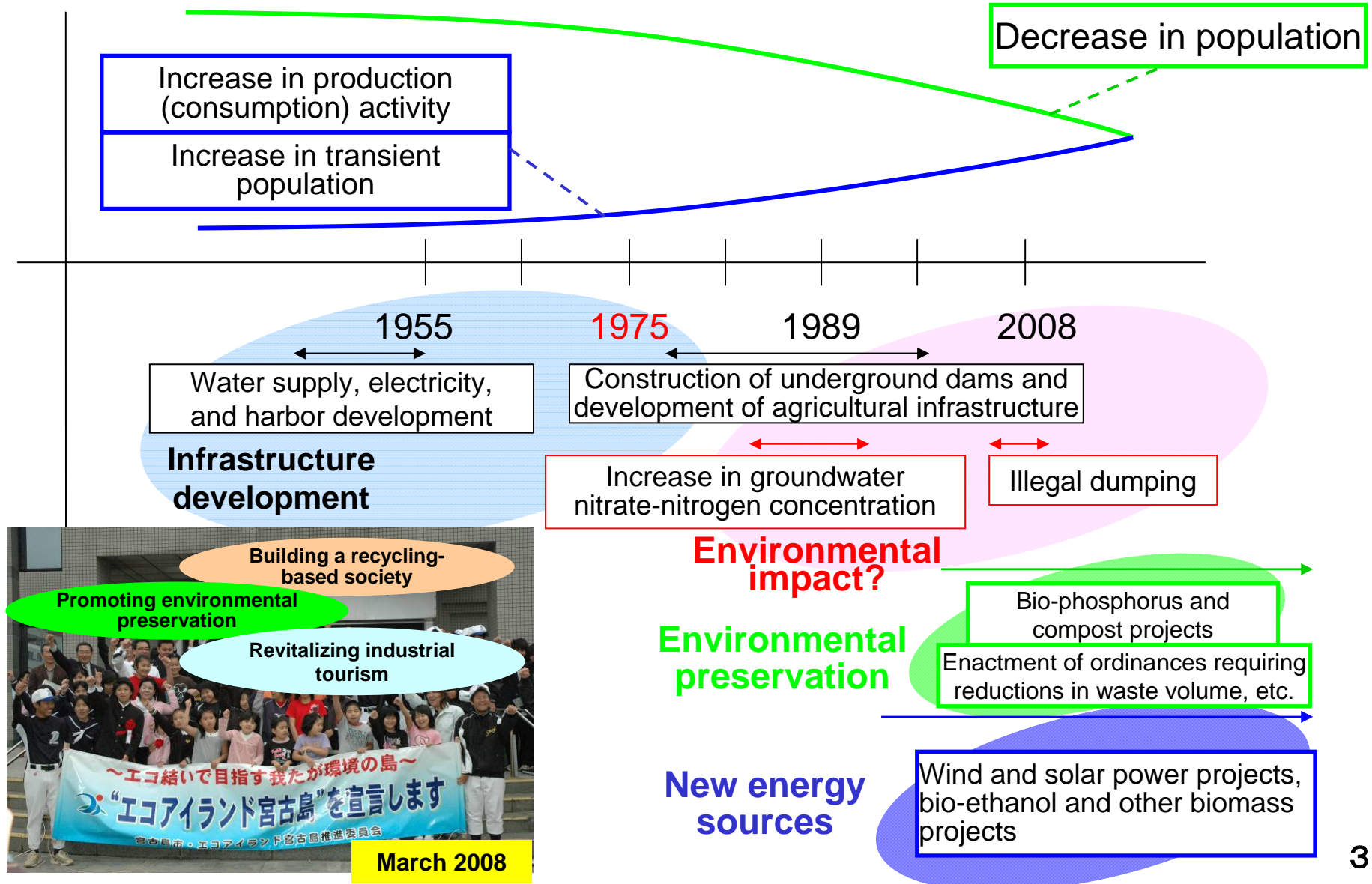


Scenes from Miyakojima



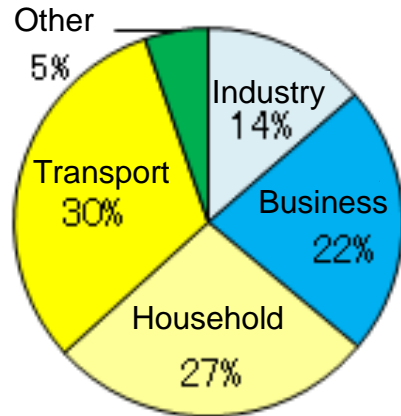
Eco-island Miyakojima Background

As residents' lifestyles become increasingly affluent, their impact on the island's natural environment and growing dependence on outside resources began to appear in such forms as groundwater pollution and illegal dumping. In response, Miyakojima made the Eco-island Miyakojima Declaration to express the goal of preserving a livable island environment for future generations.



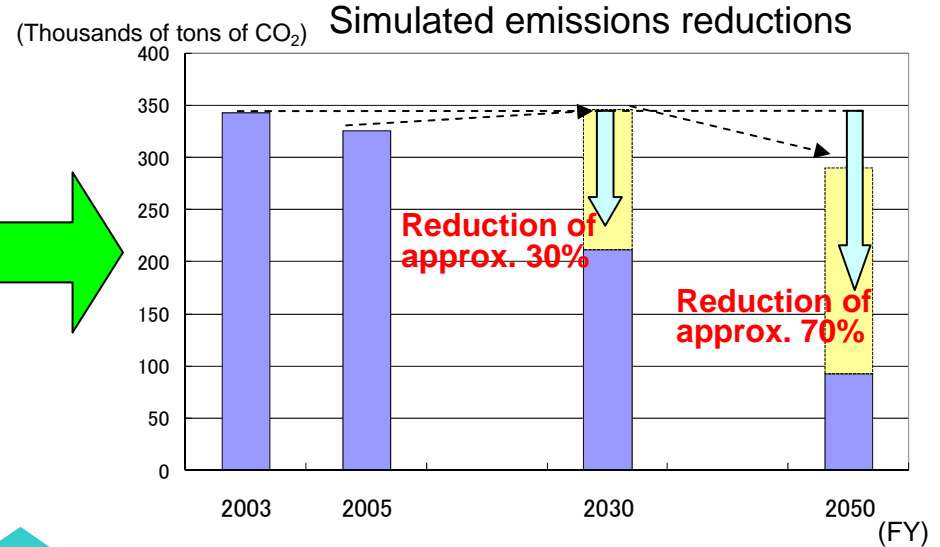
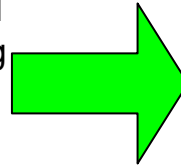
Low-carbon Initiatives

Base year (2003) emissions: 340,000 t-CO₂



Emissions by sector

Miyakojima implemented a reduction plan focusing on energy measures in the transport and household sectors, which account for the highest proportion of emissions.



Building a low-carbon eco-island

Achieving self-sufficiency in energy with sugarcane and other sources

- Generating power and producing bio-ethanol from bagasse, a by-product of the process used to manufacture sugar from sugarcane
- Producing biodiesel fuel (BDF) from used cooking oil

Eliminating CO₂ in the transport sector through clean energy

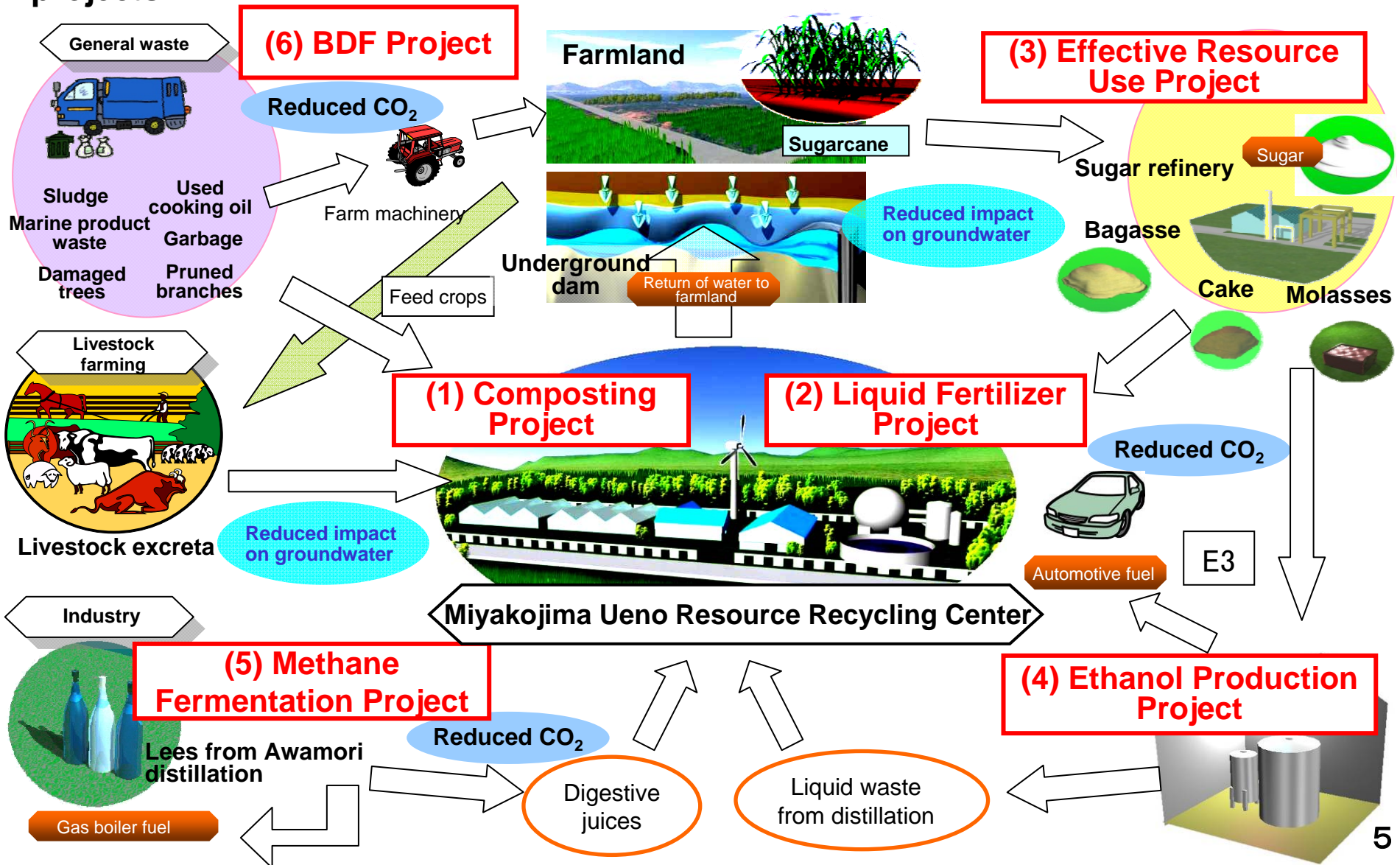
- Mega-solar and storage batteries
- "Eco-cars" and charging facilities

"Eco-action" utilizing the energy of the sun and residents

- Human resources development, awareness-raising, and its validation
- Southeastern Asia-style "eco-houses"
- Eco-tourism

Recycling-based Low-carbon Urban Planning

Miyakojima developed the Biomass Town Concept in order to build a recycling-based island that utilizes local biomass, thereby preserving the natural environment and maintaining tourism resources. The concept consists of the following six projects:



Independent Model for a Low-carbon Social System: Demonstration and Visualization Project

- Miyakojima will demonstrate Asian-style “eco-houses” and micro-grid technologies in the context of an island environment and disseminate the technologies of an independent low-carbon social system to outside audiences. The city will seek to improve its energy self-sufficiency by developing natural gas as well as tidal and wave power generation facilities.
- The city will develop eco-tourism products that allow visitors to experience new energy sources while touring the area by dividing new energy facilities that radiate out from around the city offices into four areas in an approach that will treat the entire island as an “energy park.”

The Micro-grid Demonstration Project seeks to develop mega-solar, storage batteries, control devices, and other technologies and demonstrate their ability to provide a stable supply of power.

Enetopia Project Area

- Karimata Wind Power Demonstration Facility
- Shimajiri mangroves
- Resource Recycling Center
- E3 manufacturing facility

Biomass Town Project Area

- Miyakojima City Hall
- Miyako Bio- and Eco-system Research Center

E3 Land Project Area

- Okinawa Sugar Manufacturing
- Ethanol manufacturing facility

Underground Dam Area

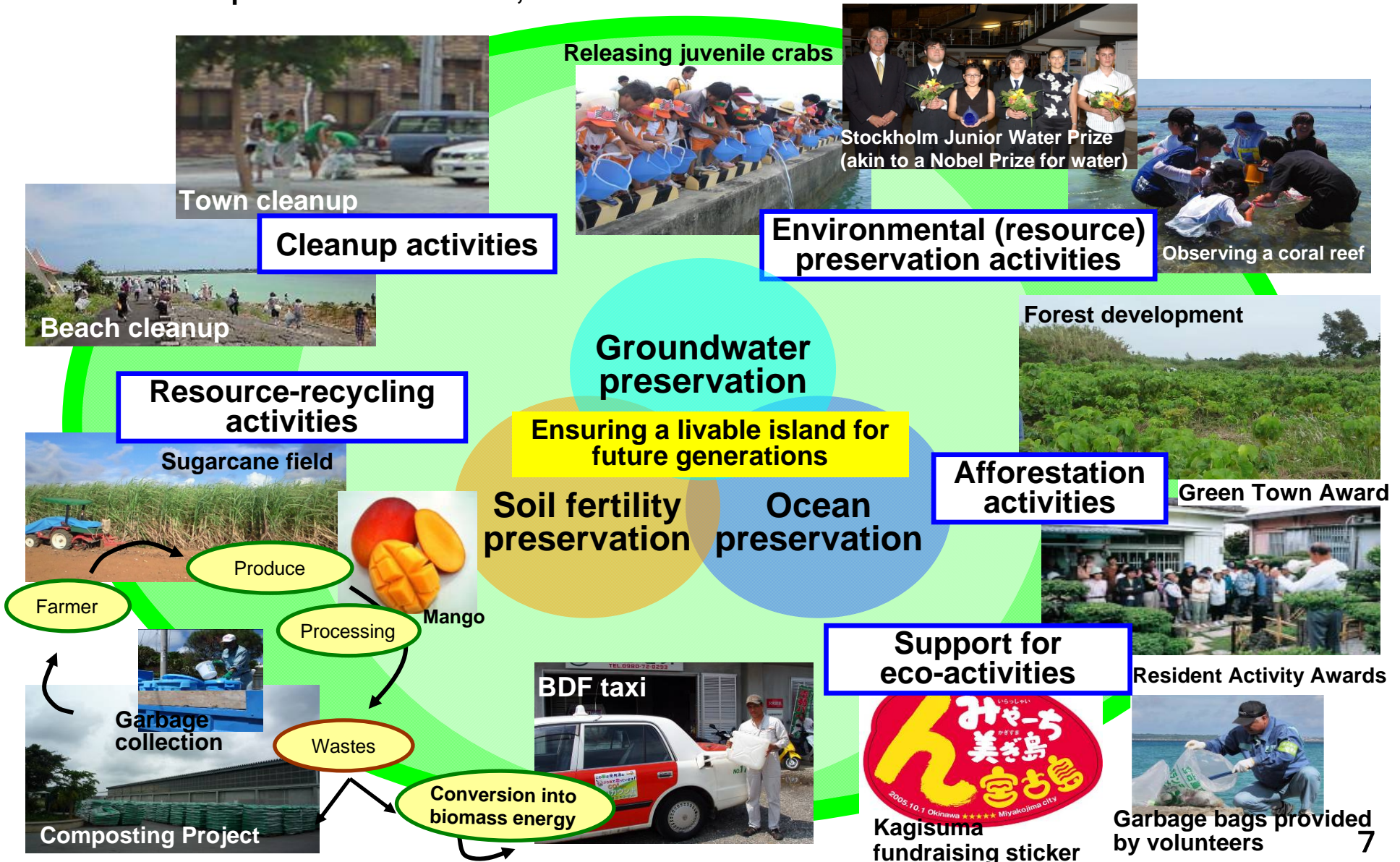
- Underground Dam Reference Library
- Deployment of energy-saving equipment
- Kawamitsu mangroves

Other features:

- Solar heat Sunlight
- Wind
- The Eco-store provides comprehensive coverage of initiatives such as new energy sources, biomass, the “3Rs,” and environmental cleanups (scheduled to open this November).
- Asian-style “eco-houses,” which combine traditional living arrangements born of Okinawa’s climate with environmental technologies that make use of solar heat

Eco-island Miyakojima Activities

Eco-activities being undertaken on Miyako Island to bring about a sustainable island are linked to environmental (resource) preservation in the form of underground water preservation, ocean preservation, and soil fertility preservation; human resources development and the cultivation of environmental preservation activities; and the creation of new industries.





Future Issues

- Raising resident awareness of low-carbon urban planning
- Building partnerships with resident groups and other organizations
- Visualizing activity results (product development)

Miyakojima is committed to pursuing initiatives to build a low-carbon society that utilizes local resources while coexisting with the natural environment in accordance with the Eco-island Miyakojima Project.

