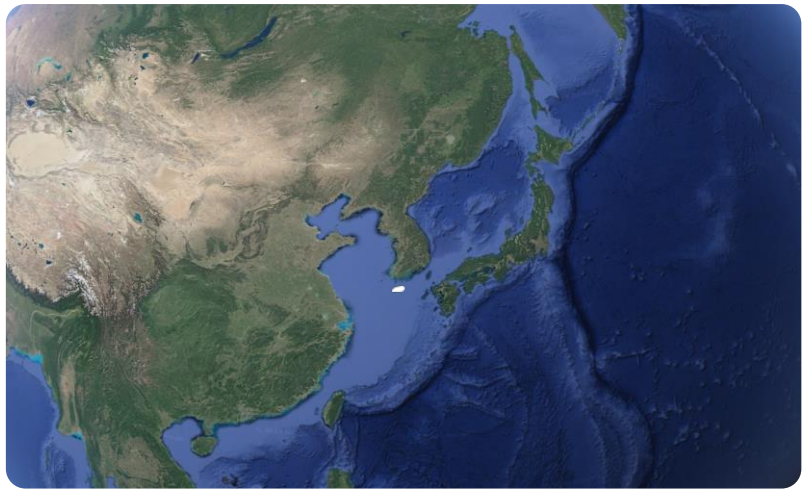
Jeju's Efforts and Policies for Transitioning to Circular Economy

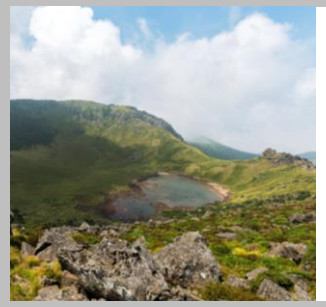
Action Plans and Future Visions for a Plastic-Free Society with Jeju Residents

An Island of Pristine Environment Recognized by UNESCO



Population	698,366(‘24.)	Annual Tourists	13,767,350('24.)	Area	1,850.3km²

Biosphere Reserve



World Natural Heritage

Global Geopark

Ramsar wetland

Jeju

The Necessity of Transitioning to a Circular Economy

July 22, 2024

The Hottest Day in Meteorological History

Jeju's Challenge for Circular Economy Transition (2040 Plastic Zero Jeju)

Plastic Waste Reduction by 50% + **Recycling ratio 100%**

- Reduction of plastic waste
- Expanding plastic recycling
- Expansion of resoure circulation infrastructure
- Promotion of carbon-neutral industry
- Encouraging civic Participation in Plastic-free initiative

2040 Plastic Zero Jeju through public-private cooperation

Deposit Return System for Single-Use Cup

Plastic Zero U-do Project

Diversification of Reusable Container Policies

Plogging App Launch

Jeju's Circular Economy System

Clean House

Small-scale waste separation and discharge facility

Recycling Assistance Center

Large-scale waste separation and discharge facility

- **system**
  Recyclables Separation and Disposal System by Day of the Week
- **management**
  Separation Disposal Assistant
- **policy**
  Recyclable Resource Collection and Compensation System

Resource Recovery from Waste

Jeju Resource Recovery Center

Material Recovery Facility

Jeju Resource Circulation Cluster

Recycling Industrial Complex

Energy Recovery from Waste

Jeju Environmental Resource Circulation Center

Waste-to-Energy Plant

Jeju Food Waste Resource Recovery Facility

Food Waste-to-Hydrogen Plant

Jeju's Hub-based waste management system

Clean House

Small-scale waste separation and discharge facility

1,662

Recycling Assistance Center

Large-scale waste separation and discharge facility

183

Recycling Separation and Disposal System by Day of the Week

combustible waste, food waste, recyclables (plastic, transparent PET bottles, paper, vinyl, etc)

Separation Disposal Assistant

1,378
Jobs Created

Recyclable Resource Collection and Compensation System

Annual revenue

2
Billion KRW

Creating a Community-Based Resource Recycling Hub

Resident-led Waste Drop-off Site

- Hands-on environmental education & upcycling
- Promotion of special recycling initiatives
- Household hazardous waste collection service
- Open space for community use

Integrated circular economy model

Resource Recovery from Waste

Jeju Resource Recovery Center

Operational from June 2023 | Capacity 140 tons/day | Processing 60 tons/day

- Deployment of Advanced Multi-Stage Sorting Technologies (Optical, Density, Magnetic, etc.)
- Sorting rate - 68.1% (↑11.6%p compared to the previous facility)
- Annual Revenue - 3.2 Billion KRW
- AI Sorting Robots in 2025 / Annual Economic Benefit 150 Million KRW

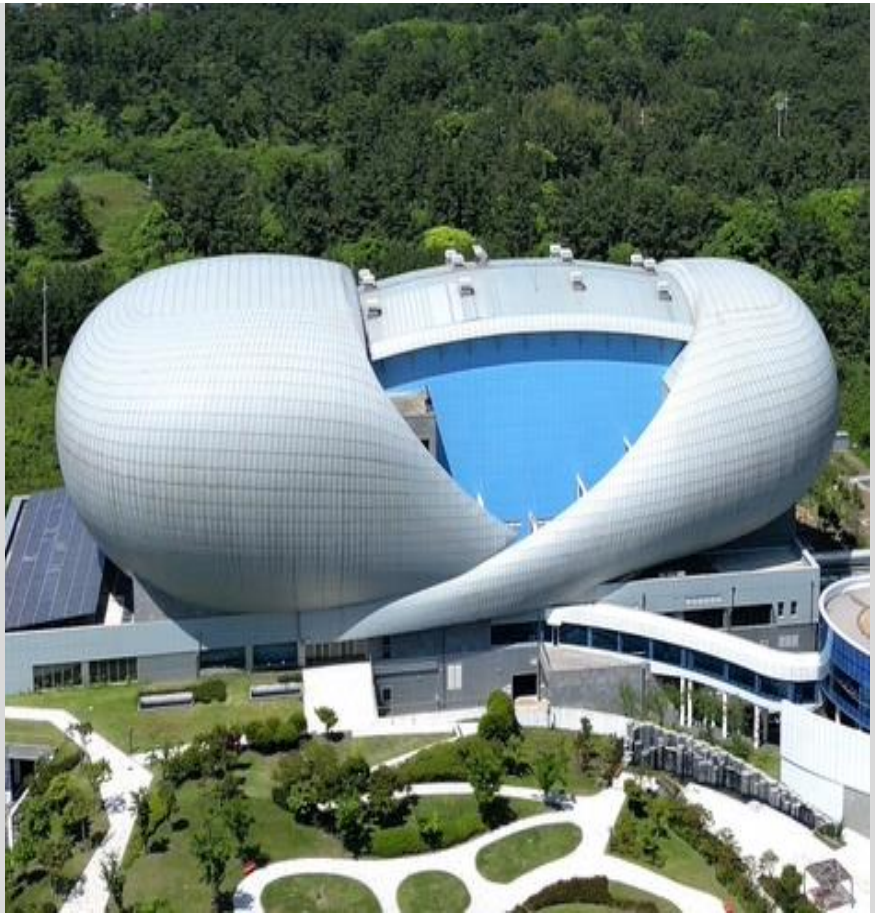
Jeju Resource Circulation Cluster

Construction scale 227,061㎡ | Total Project Cost 49.5 Billion KRW

- (Establishment of recycling infrastructure) transparent PET bottles, waste batteries for electric vehicles, solar panels, etc.
- Annual Transportation Cost Savings 10 Billion KRW / Reduction Carbon Emissions

Energy Recovery from Waste 1

Jeju Environmental Resource Circulation Center

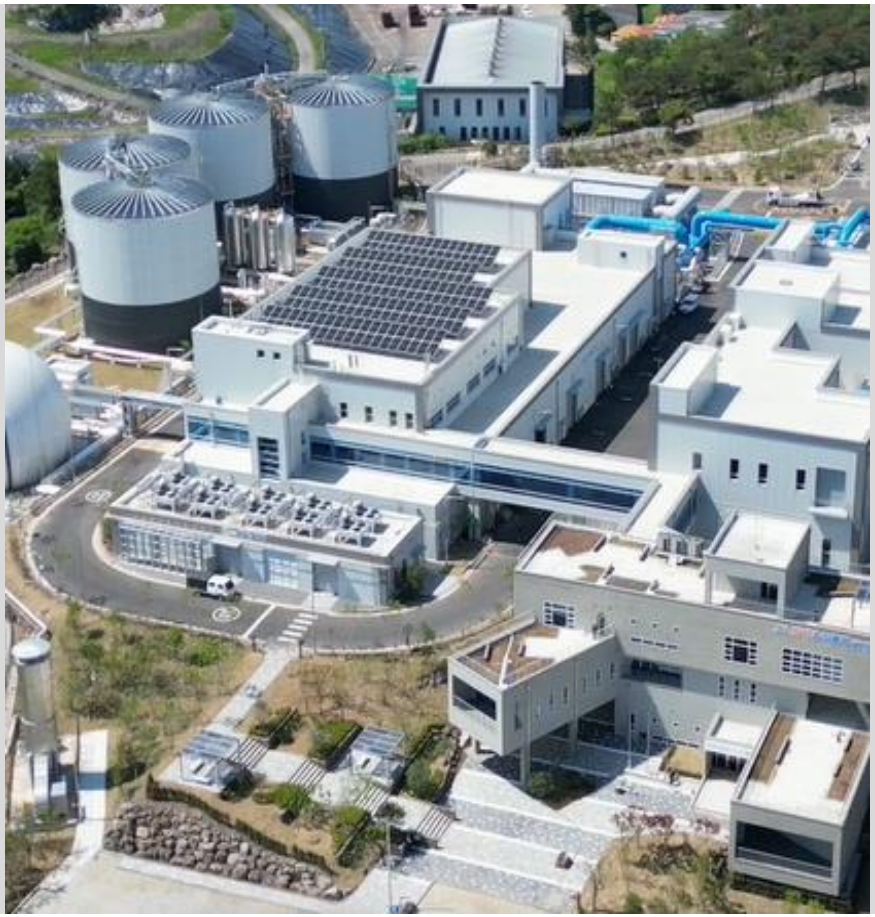


- Designed to Utilize Thermal Energy
- Revenue of 64.9 Billion KRW from Electricity Sales
- Revenue of 3.7 Billion KRW from the Sale of REC

- ORC power plant Installation in Progress
- Utilizing the heat generated from the incineration facility to operate resident benefit facilities(Swimming pool, sauna, etc.)

Energy Recovery from Waste 2

Jeju Food Waste Resource Recovery Facility



- Utilizing the **biogas (30,000Nm³)** generated during the process as a heat source for **generating electricity**
- Cost Savings of **4.3 Billion KRW**(‘24. 6.~12.)
- Annual Operating Cost Savings of **7.4 Billion KRW**

- **Biogas-Powered Clean Hydrogen producing Facility**(’25~)
- Utilizing **17,100Nm³** of unused biogas/day
- Produce **2.5 tons** of clean hydrogen per day (sufficient to charge 500 hydrogen vehicles)
- Annual Greenhouse Gas Reduction of **7,425 tCO2eq**
- Annual Additional Revenue of **8.2 Billion KRW**

Jeju's circular economy model spreading to the world

Export of Jeju Resource Circulation Model to Indonesia Bontang City

- Selection of KOICA's ODA project('25), '26~'30 $9.9 million in support
- Supporting the establishment of Jeju's separate waste disposal system, Resource & Energy Recovery from Waste

World Bank Spreads Jeju Resource Circulation Model to Developing Countries

- Producing and utilizing the Jeju circular economy model as an educational video for developing countries('24.10.~)

Jeju hosted the 2025 World Environment Day event('25.6.)

- UNEP highly praises Jeju for being the first in Korea to introduce a disposable cup deposit system and establish a vision for a '2040 Plastic Zero Jeju'

THANK YOU