

Carbon-Neutral Technology Development and Demonstration Project: Main Presentation Methods During the Expo

※ The method of presentation is current (May 1, 2025) and is subject to change in the future.

Presentations inside the Expo site

Joint exhibition at Future Life Village (Future Life Experience)

Energy and Hydrogen:

1. **Biomass power generation system** (gasification of wood chips) Kansai Catalyst
2. **Hydrogen production system** (using high-temperature steam) Green Methanation Research
3. **FC ships** (powered by renewable hydrogen) Smart Design
4. **Hydrogen refueling system and FC drones** (equipped with a small gas cylinder) MIRAIT ONE
5. **Biogas power generation system** (fermenting tree barks and capturing CO₂) Renaissance Energy Research

Exhibition Period: October 7 to October 13

Capturing CO₂ and recycling:

6. **Recycled products** (using recycled seashells and waste plastic) Koushi Chemical Industry
7. **CO₂ capture system and applied products** (CO₂ capture and resource recovery technology) Sumitomo Electric Industries
8. **Microwave heating system** (chemical recycling of waste plastic) Microwave Chemical

Energy saving:

9. **Vacuum insulation panel** (energy-saving in the cold chain) TIGER CORPORATION
10. **AI-controlled air conditioning system** (using outside air based on the weather predicted by the system to save energy) MIRAKOTO

Corporate pavilions

Gas Pavilion (used in the building materials), East Gate Information Center (installed on the roof)

11. **Radiative cooling material** (Reduction of indoor air conditioning energy) SPACECOOL SUMITOMO Pavilion

7. **Products using captured CO₂** (such as plastic products containing metal carbonate) Sumitomo Electric Industries (reposted)

Future Life Village

6. **Recycled products** (Helmets and benches made from recycled shells and other materials) Koushi Chemical Industry (reposted)

Osaka Healthcare Pavilion (Reborn Challenge) *Exhibition Period

2. **Hydrogen production system** Green Methanation Research (reposted) August 26 to September 1
12. **High-efficiency, high-precision laser technology** (using high-power laser) EX-Fusion May 20 to May 26
13. **Nitrogen fertilizer manufacturing technology** (using industrial wastewater) Kotoku Group May 13 to May 19
14. **Nitrogen fertilizer manufacturing technology** (using livestock manure) Nakamura Choukou May 13 to May 19
10. **AI-controlled air conditioning system** MIRAKOTO (reposted) August 26 to September 1

Various locations within the site

9. **Refrigerated transportation of foods and beverages** (reposted) TIGER CORPORATION

Continuous exhibitions in conjunction with respective venues
- Increased opportunities to disseminate information

Presentations outside the Expo site

Presentation at the city center

Exhibitions at spots where people gather, such as Umekita

- Multiple short-term exhibitions
- Providing opportunities for many people to experience carbon-neutral technologies through permanent exhibits

Providing information online

Offering opportunities for people of all ages to experience carbon-neutral technologies firsthand

- Disseminating information on social media
- Exhibits at the Virtual Pavilion

Presentations at various locations throughout Osaka Prefecture

*Individual projects will be presented on the premises of companies or partner companies. (Including Exhibition Period)

Energy and Hydrogen:

15. **Renewable diesel** (for use at construction sites throughout Osaka Prefecture)

ITOCHU ENEX

2. **Hydrogen production system** (facilities open to the public, Izumisano City) Green Methanation Research (reposted)

4. **Hydrogen refueling system and FC drones** (demonstration use, Hattori Ryokuchi Park, Toyonaka City) MIRAIT ONE (reposted)

5. **Biogas power generation system** (facilities open to the public, Izumisano City) Renaissance Energy Research (reposted)

Capturing CO₂ and recycling:

14. **Nitrogen fertilizer manufacturing technology** (vegetable cultivation with fertilizers, Osaka Metropolitan University Farm, Sakai City) Nakamura Choukou (reposted)

8. **Microwave heating system** (chemical recycling of waste plastic, Sakishima District) Microwave Chemical (reposted)

16. **Small vegetable factory** (capturing CO₂ to promote growth, in front of Bentencho Station) West Japan Railway Company

Energy saving:

12. **High-efficiency, high-precision laser technology** (facilities open to public, the University of Osaka, Suita City) EX-Fusion (reposted)

Future Life Village (Future Life Experience)

1. Biomass power generation system	2. Hydrogen production system
3. FC ships	4. Hydrogen refueling system and FC drones
5. Biogas power generation system	6. Recycled products
7. CO2 capture system and applied products	8. Microwave heating system
9. Vacuum insulation panel	10. AI-controlled air conditioning system

Future Life Village

6. Recycled products

7. Products using captured CO2
(SUMITOMO Pavilion)

11. Radiative cooling
material (East Gate
Information Center)

15. Renewable diesel (for
use at construction sites
throughout Osaka Prefecture)

8. Microwave heating
system
(chemical recycling of waste
plastic, Sakishima District)

4. Hydrogen refueling
system and FC drones
(demonstration use, Hattori
Ryokuchi Park, Toyonaka
City)

12. High-efficiency,
high-precision laser
technology
(facilities open to public,
the University of Osaka,
Suita City)

16. Small vegetable
factory
(capturing CO2 to
promote growth, in front
of Bentencho Station)

5. Biogas power
generation system
(facilities open to the
public, Izumisano
City)

14. Nitrogen fertilizer
manufacturing technology
(vegetable cultivation with fertilizers,
Osaka Metropolitan University Farm,
Sakai City)

2. Hydrogen production system
(facilities open to the public,
Izumisano City)

11. Radiative cooling
material (Gas Pavilion)

Various locations within the
site

9. Refrigerated transportation
of foods and beverages

Osaka Healthcare Pavilion (Reborn Challenge)

2. Hydrogen production system
12. High-efficiency, high-precision laser technology
10. AI-controlled air conditioning system
13. Nitrogen fertilizer manufacturing technology (using industrial wastewater)
14. Nitrogen fertilizer manufacturing technology (using livestock manure)

Provided by The Japan Association for the 2025 World Exposition

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