



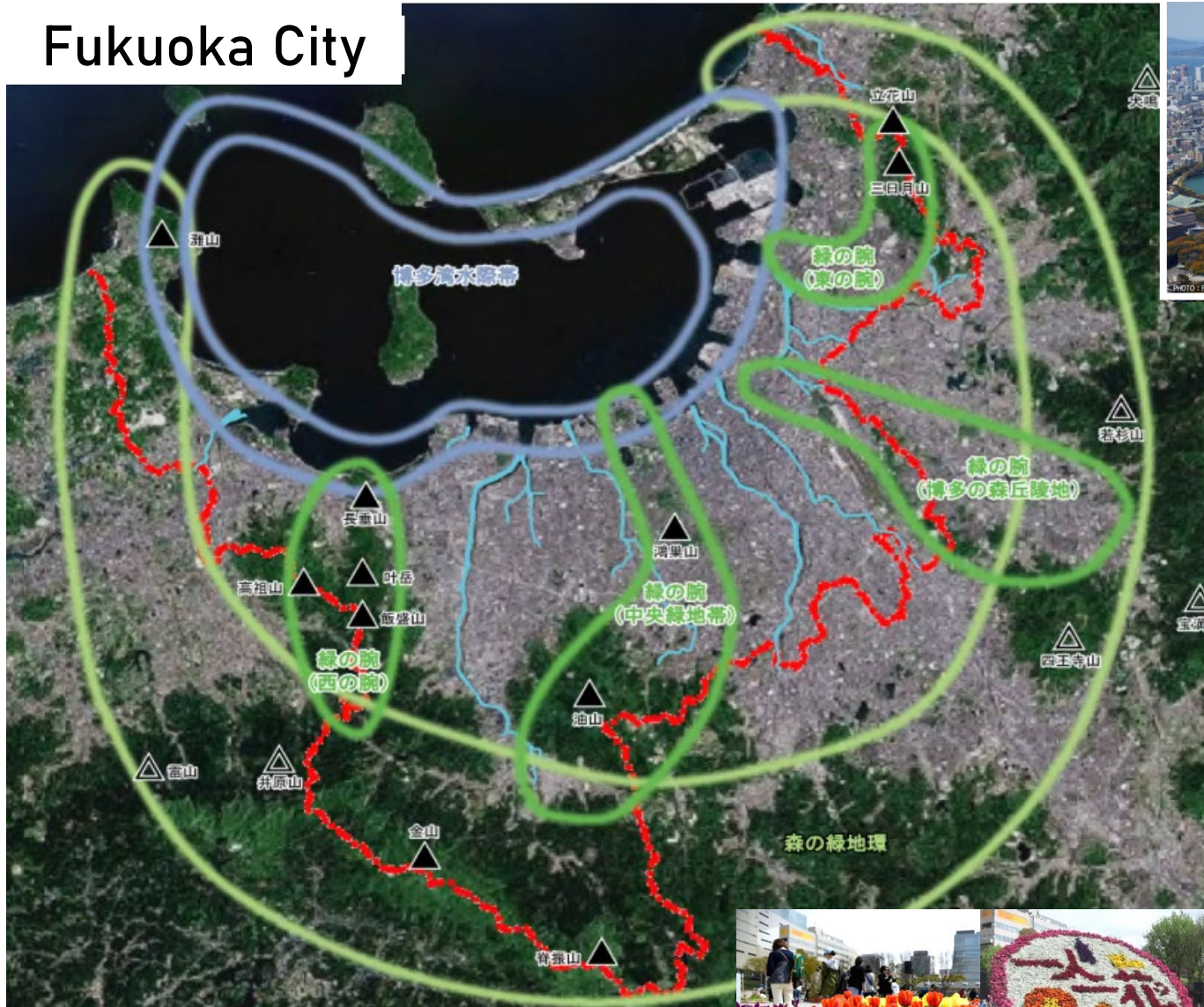
# The Challenge of Achieving a Carbon Neutral Society

27 October 2021

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Deputy Mayor  
Fukuoka City

# Fukuoka: the Livable City

Fukuoka City



Central Area



Naka River

Main River



Muromi River

Abundant Nature



# 6<sup>th</sup> biggest city in Japan

Sapporo

Population growth  
(October 2010–October 2020)

**Top 6!**  
Population of 1.6 million

**1<sup>st</sup>**

**Fukuoka**



Osaka

Nagoya

Tokyo  
Yokohama

Out of major cities

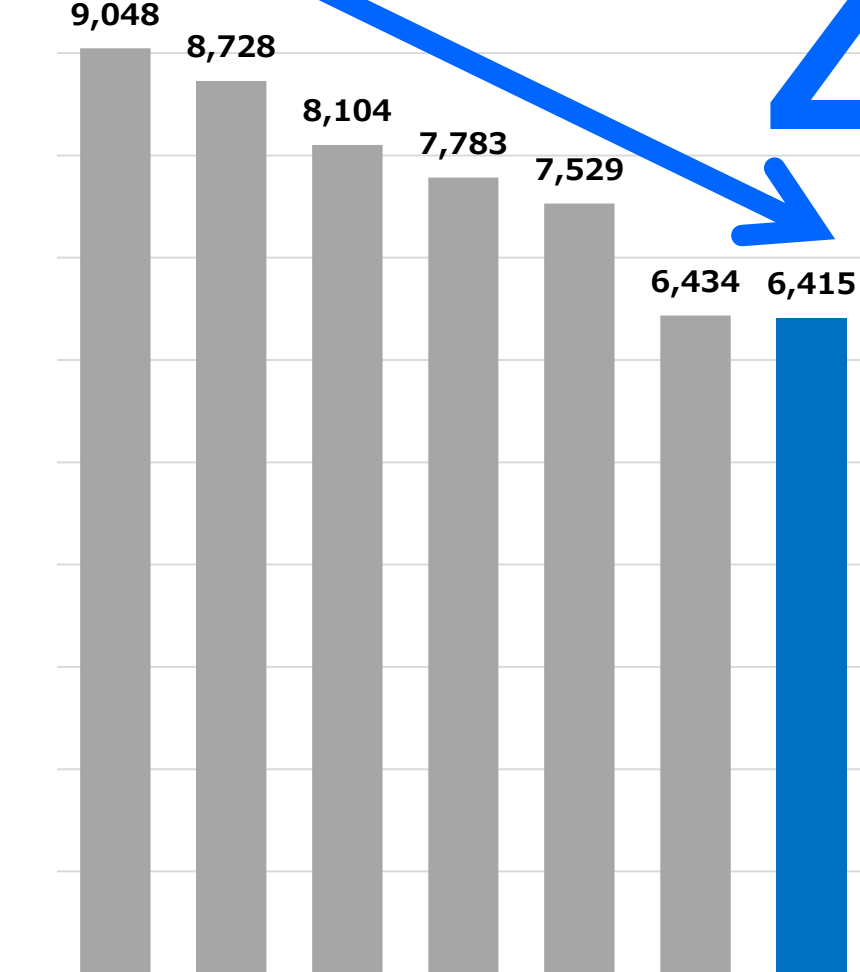


# Aiming to Achieve Carbon Neutrality

Greenhouse gas emissions

29% reduction

(thousand tons)



FY2013 FY2014 FY2015 FY2016 FY2017 FY2018 FY2019

Towards a carbon neutral society

# Aiming to Achieve Carbon Neutrality



**Utilising  
city resources**



**Implementing  
new technology**



**Creating  
partnerships**

# Aiming to Achieve Carbon Neutrality

**① Utilising city resources**

② Implementing new technology

③ Creating partnerships

# Converting City Resources to Energy

- Rooftops
  - Tap water
  - Waste
  - Domestic wastewater
- 
- An aerial photograph of a densely populated city, likely in Japan, featuring a large central lake, numerous high-rise buildings, and a river in the foreground. The city is surrounded by mountains under a clear blue sky.

# Rooftop Solar Energy



Houses

## Solar energy generated in Fukuoka City

Enough to power approx. **68,000** households for 1 year (234.75 million kWh)  
(FY2020)

CO<sub>2</sub> reduced: approx. **87,000** tons/year



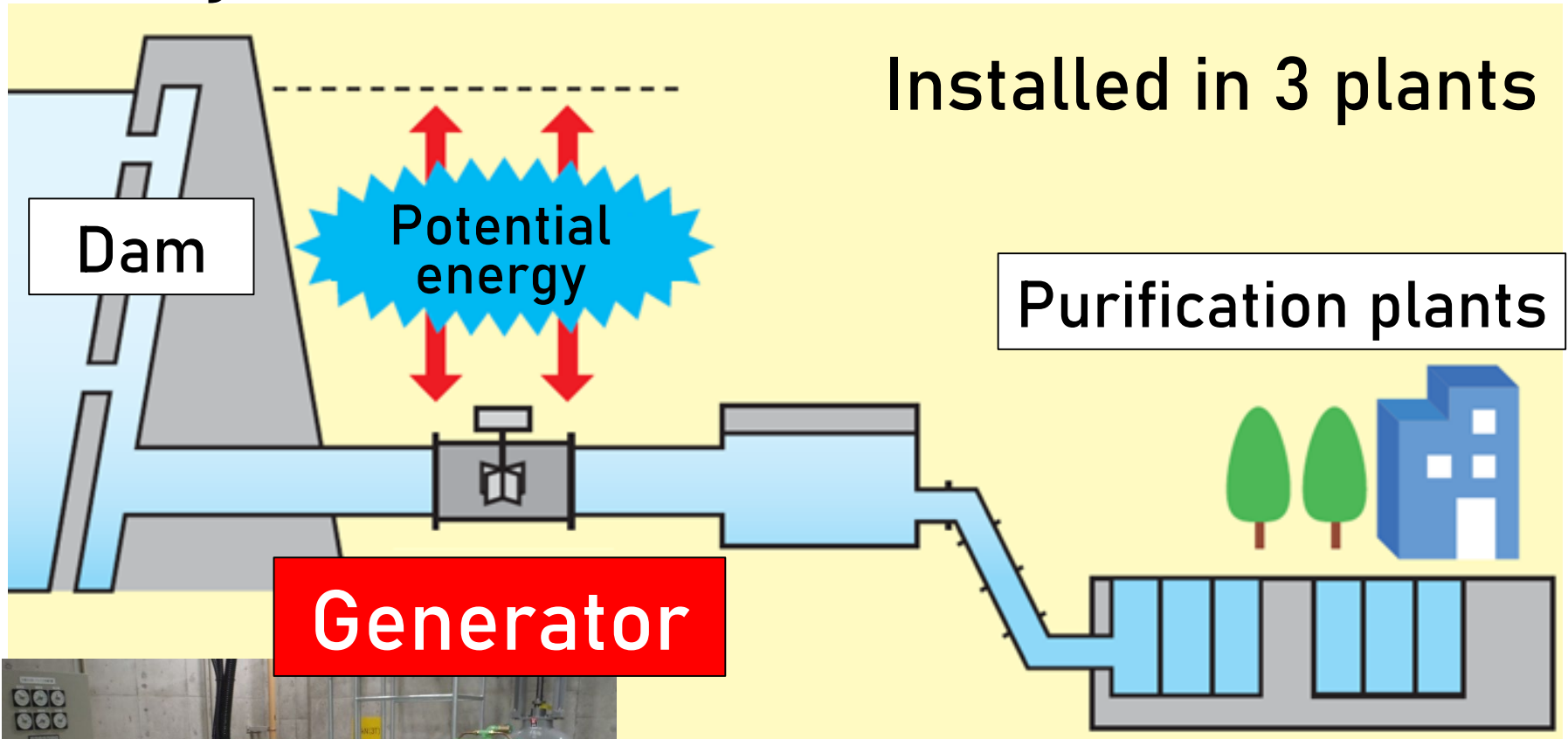
Fresh Produce Markets



Warehouses



# Hydroelectric Power Facilities



Installed in 3 plants

Purification plants

Generator



(FY2020)

Enough electricity produced to power approx. **300** households for 1 year (1.03 million kWh)

CO<sub>2</sub> reduced: approx. **380** tons/year

# Utilising Heat from Waste Incineration

Waste incineration plants  
4 facilities



EVs transport electricity to  
evacuation shelters in times  
of emergency



(FY2020)  
Enough to power approx. **75,000** households  
for 1 year (257.3 million kWh)

CO<sub>2</sub> reduced: approx. **95,000** tons/year

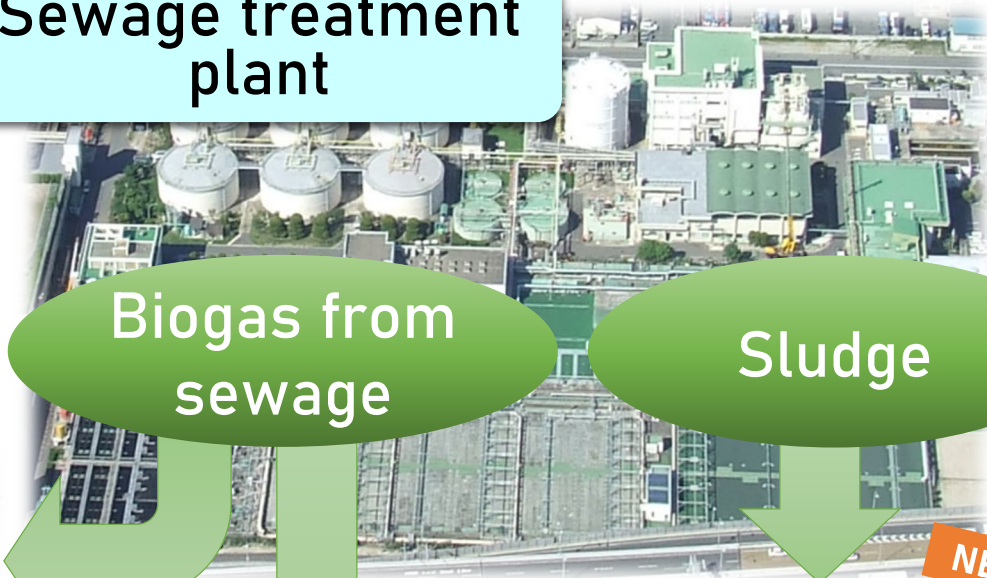
# Utilising Sewerage Resources



Electricity generated from biogas



Sewage treatment plant



Biogas from sewage

Sludge

Hydrogen produced



Hydrogen station

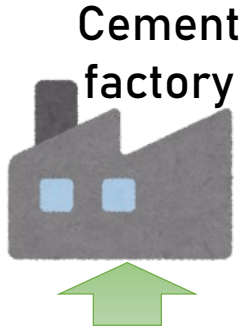
Solid Fuel Conversion Facility  
(Open from Feb.2021)



NEW



Fuel to replace coal



Cement factory

Estimated that approx. **11,000** tons of CO<sub>2</sub> can be reduced per year

# Aiming to Achieve Carbon Neutrality

① Utilising city resources

**② Implementing new technology**

③ Creating partnerships

# Hydrogen Leader City Project

Sewage to Biogas Hydrogen Station

World first



# Hydrogen Leader City Project

# Expanding the Use of Hydrogen Energy

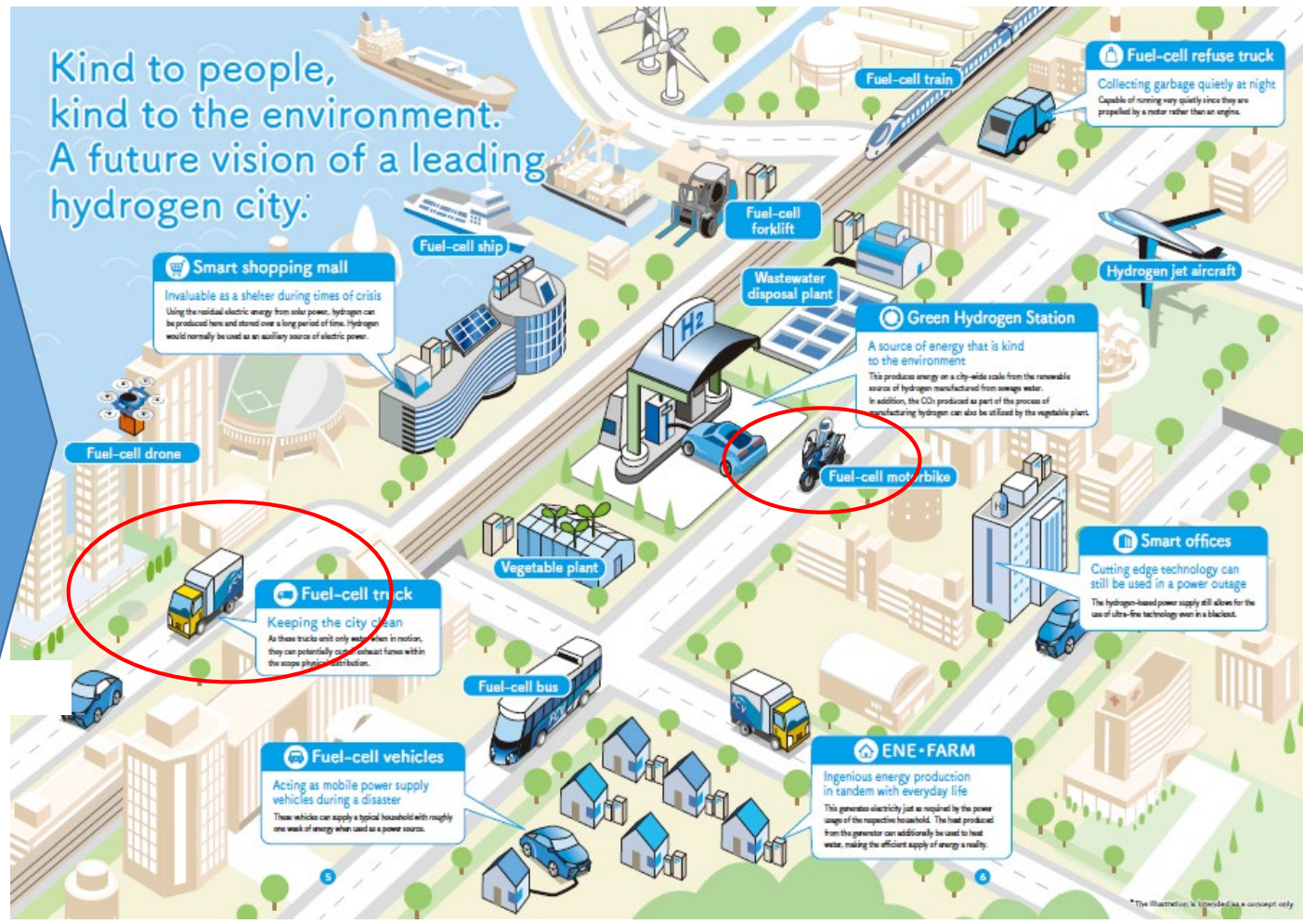
2020 Fuel-cell power truck



2017 - 2018 Fuel-cell motorbike



2016 - 2019 Fuel-cell truck



# Social Experiment: Next Generation Mobility Drone Logistics

Transporting daily necessities  
& medicine to remote islands  
by **drones**



# PoC Share Electric Scooter



Working on new traffic rules

Experimenting on **public roads**

(2020.10.20–2022.7.31)





# Aiming to Achieve Carbon Neutrality

- ① Utilising city resources
- ② Implementing new technology
- ③ Creating partnerships**

# Creating & Utilising Blue Carbon



**FUKUOKA CITY**  
**Hakata Bay**  
**Blue Carbon Offset**

Sell credits for using blue carbon

Sales revenue used to partially cover costs

Expand eelgrass beds, known as "sea cradles"



Create eelgrass beds with residents



Create blue carbon



Eelgrass seedling growth pots

# Attracting Global Finance

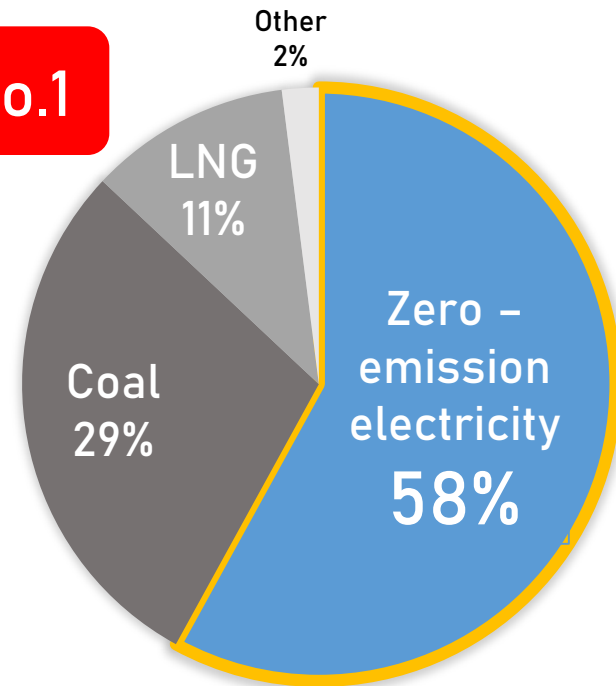
## Global trends

- ESG investment accounts for **35.9%** of all assets under management

## Strengths of Fukuoka & Kyushu

- Concentration of environmental technology businesses
- **58%** of energy generated is clean

**No.1**



Kyushu Electric Power Co., Inc. Data FY2019

Established TEAM FUKUOKA from industrial, academic and public sectors

国際金融機能誘致

**TEAM FUKUOKA**

Attract more asset management companies,  
promote investment in environmental technology

# Fukuoka Method

A semi-aerobic landfill structure developed by Fukuoka City and Fukuoka University.

**25x** the  
**GreenHouse Effect**  
of CO<sub>2</sub>

Advantage 1

Rapid  
stabilisation

Advantage 2

Low  
cost

Advantage 3

Simple



Reduce GHE

Suppress  
**methane**  
creation

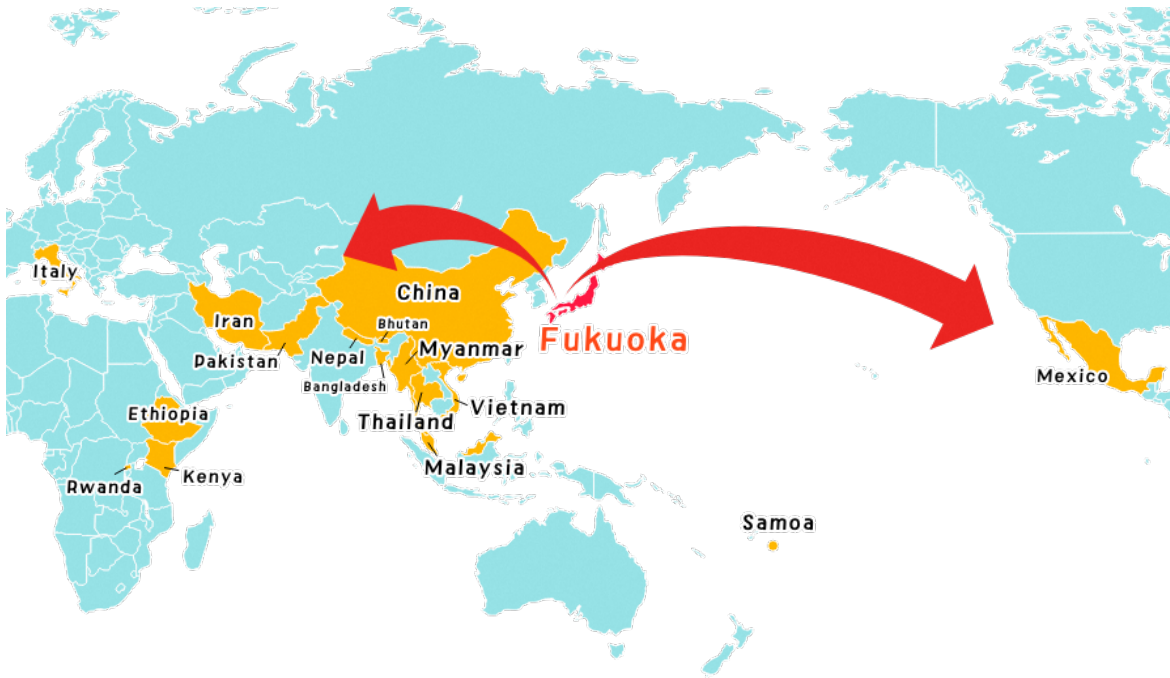


Successful  
example  
(Samoa)



# Developing Global Partnerships

Promoting international contribution through cooperating with UN-Habitat, Ministry of the Environment, JICA, Fukuoka University.



Fukuoka Method applied abroad



Technical training of foreign engineers

Fukuoka Method: spreading to 17 countries

An aerial photograph of a coastal city, likely in Japan, showing a dense urban area with a mix of residential and commercial buildings. The city is situated along a large bay with a dark blue sea. In the background, there are rolling mountains under a clear blue sky. The text "Toward Achieving a Carbon Neutral Society" is overlaid in the center in a bold, blue font with a white outline.

# Toward Achieving a Carbon Neutral Society