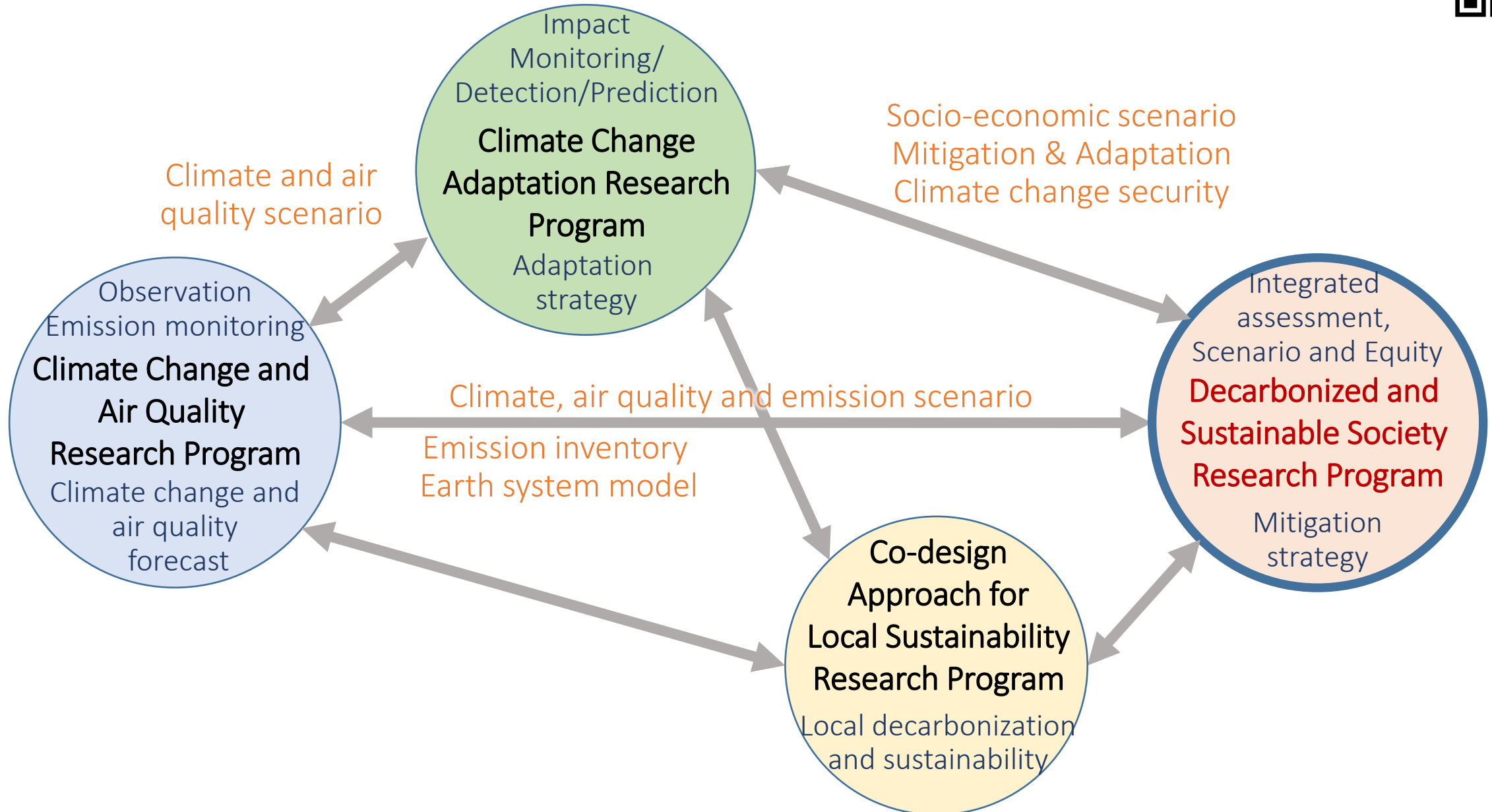




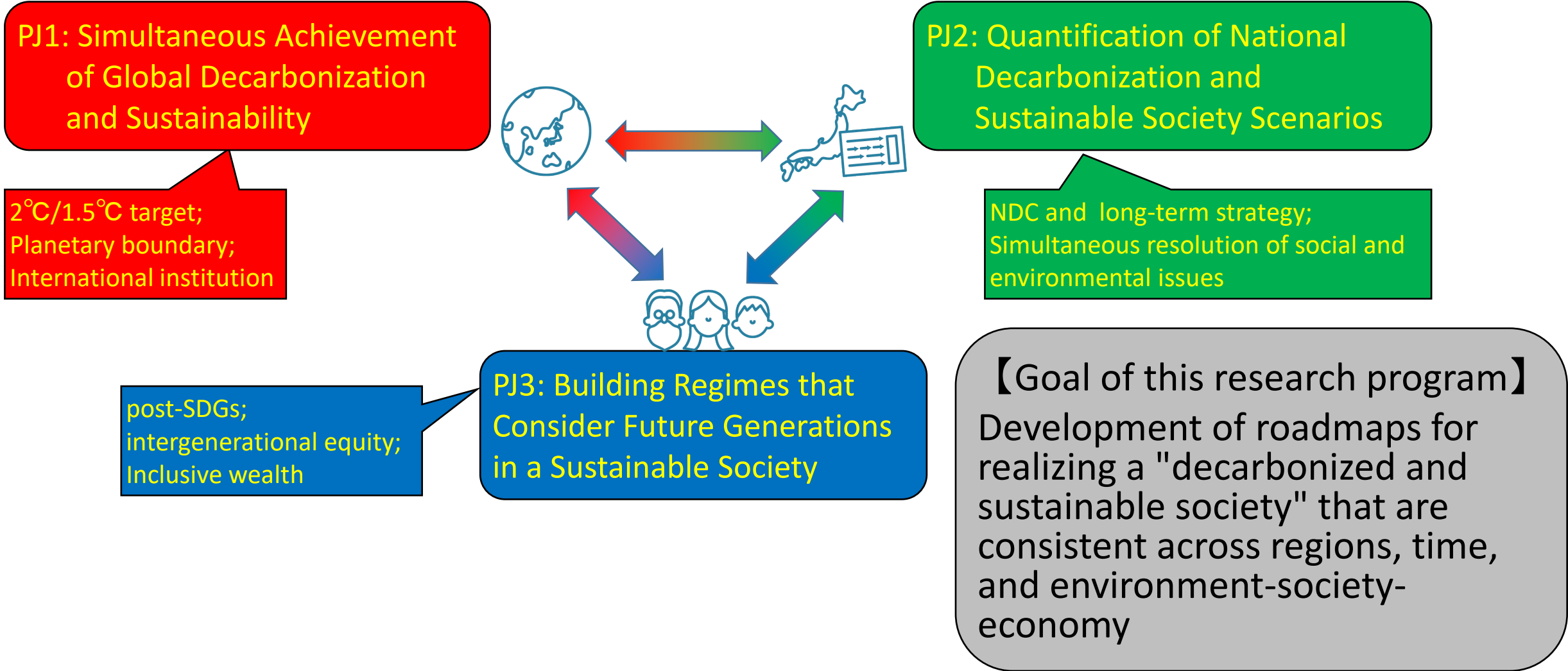
"Climate Crisis Research Initiative" for climate change research at NIES





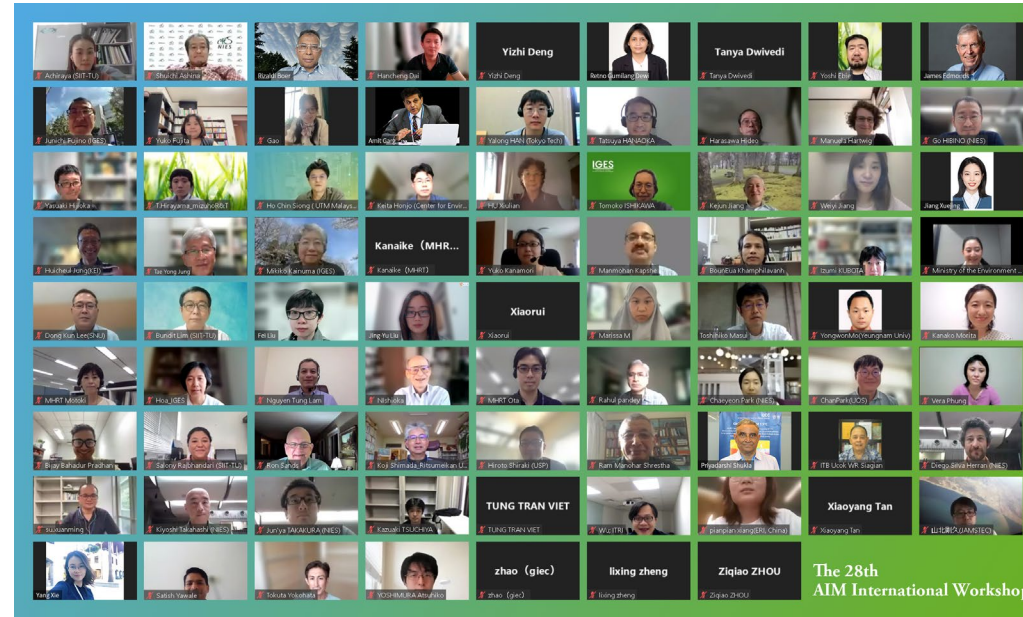
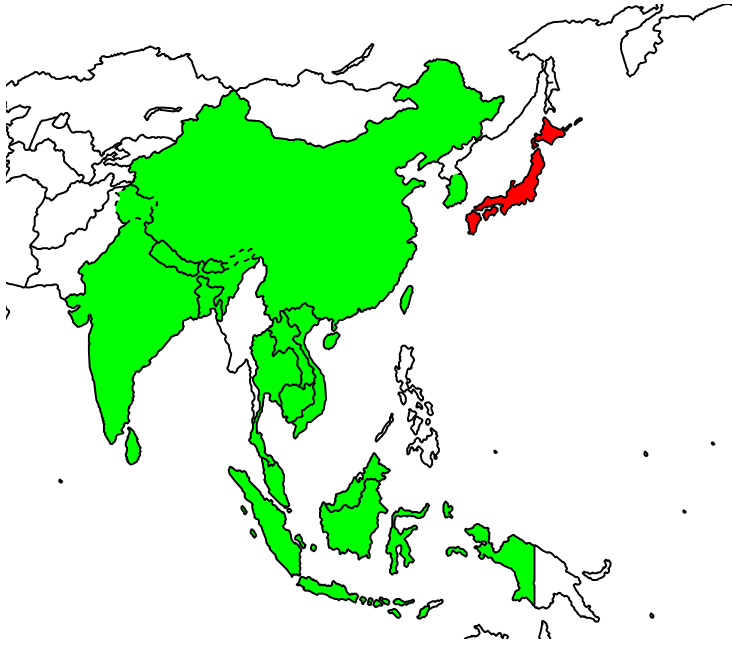
Decarbonized and Sustainable Society Research Program at NIES

Research Program for Development of Decarbonized and Sustainable Society at the Global and National Levels





International Network of AIM (Asia-Pacific Integrated Model)



The 28th AIM International Workshop in 2022 (Online)



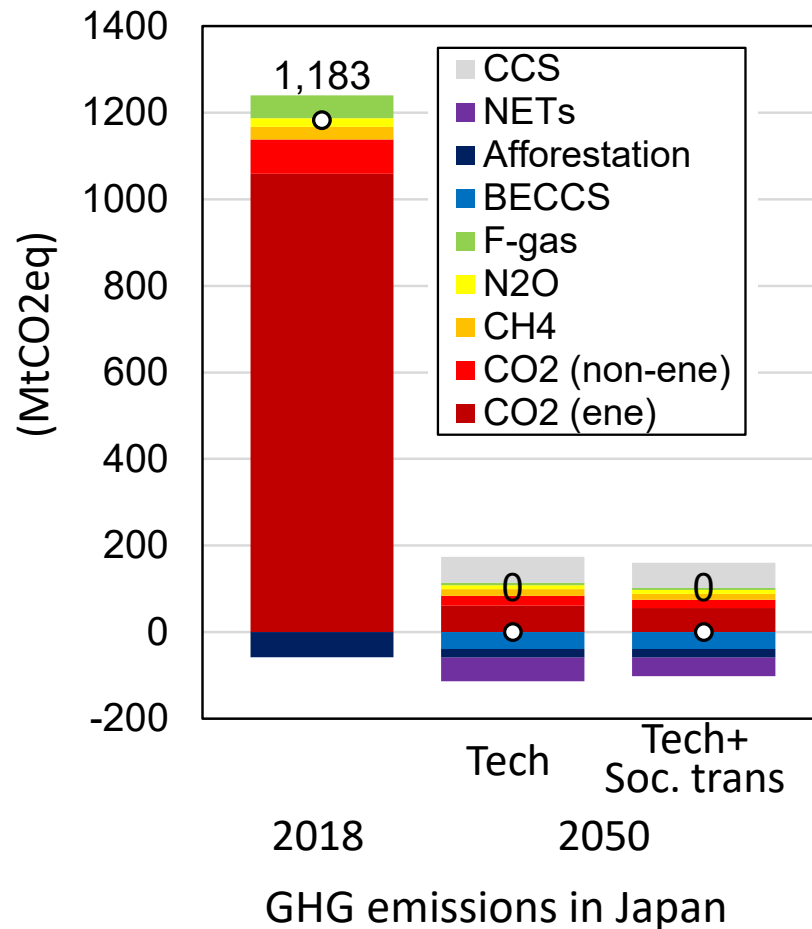
Website of AIM

- Asian countries will update their mitigation target and roadmap to achieve the 2/1.5 degree target reflecting their issues to be solved and the resources to be endowed.
- Model can be a collaboration tool between science and decision making process. From the long-term viewpoint, each country will need the capacities to develop model and scenarios by itself.

- AIM (Asia-Pacific Integrated Model) has supported Asian countries to develop the integrated assessment model and their long-term low carbon scenarios.
- <https://www-iam.nies.go.jp/aim/index.html>



Assessment of net zero GHG emissions in Japan in 2050 based on AIM



- We analyzed "technology" scenario in which net-zero emissions will be achieved through the diffusion of decarbonization technologies such as energy conservation, renewable energy, and electrification, and a "technology + social transformation" scenario in which the diffusion of decarbonization technologies is combined with progress of digitalization, circular economy, etc.
- Fossil fuels currently account for more than 80% of the total primary energy supply, but by 2050, renewable energy will account for about 70%, and energy self-sufficiency will have improved significantly from 15% (2018) to 70% (2050).
- A large proportion of energy-related CO2 emissions in 2050 will come from synthetic fuels, and since a certain amount of emissions will be inevitable even if decarbonization measures are promoted in 2050, negative emission technologies will be necessary to reduce GHG emissions to virtually zero.
- To achieve a decarbonized society, additional investment of 9-11 trillion yen per year will be needed for insulation of houses and buildings, renewable energy, etc. Net energy imports will drop from about 16 trillion yen (2018) to 4-5 trillion yen in 2050.

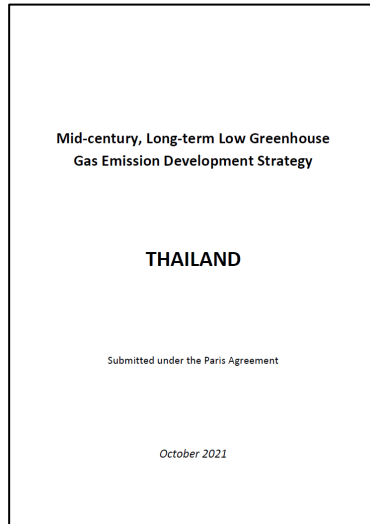
Role of AIM to support climate policies in Asian countries

Communication and feedbacks to real world using simulation results of AIM

To download the slides, please scan this QR code. →
<https://www-iam.nies.go.jp/aim/pdf/cop27.pdf>



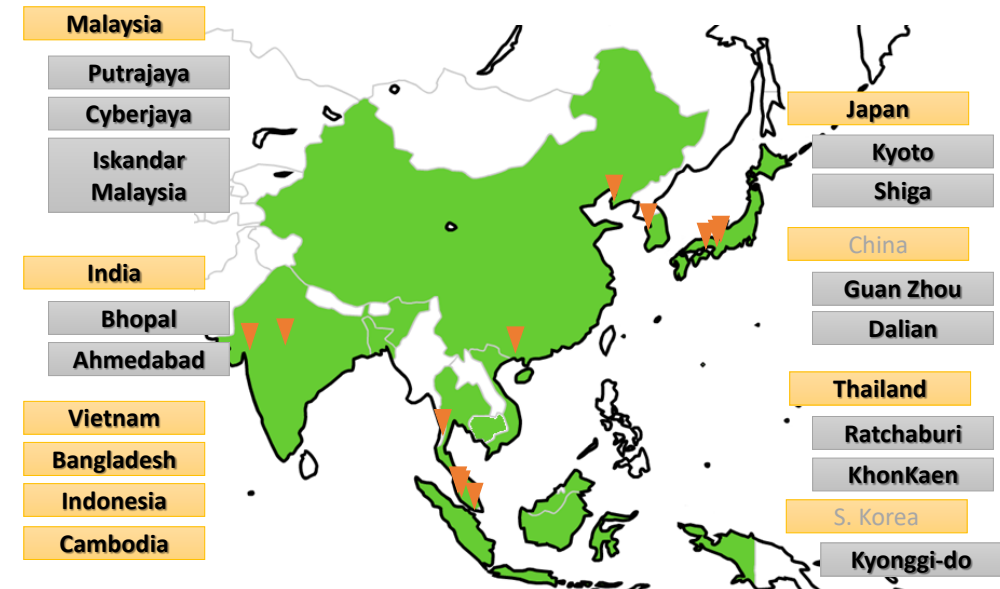
Third National Communication of Thailand
<https://unfccc.int/documents/181765>



Long-term strategy of Thailand
https://unfccc.int/sites/default/files/resource/Thailand_LTS1.pdf



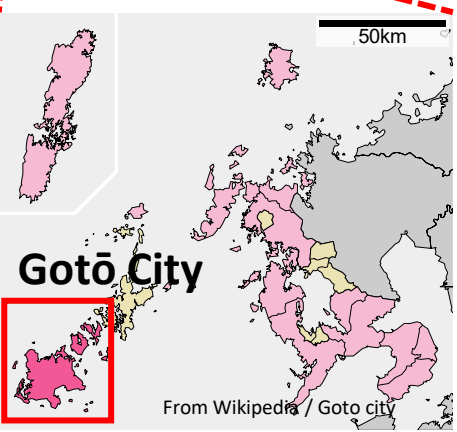
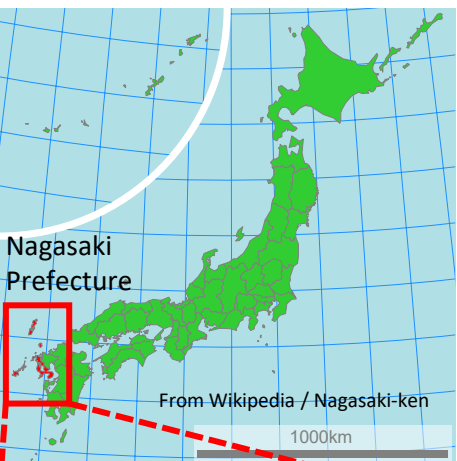
Long-term strategy of Indonesia
https://unfccc.int/sites/default/files/resource/Indonesia_LTS-LCCR_2021.pdf



Developed low carbon scenarios in Asia (<http://2050.nies.go.jp/>)



Towards a Sustainable and Decarbonized City: Research Activities for Sustainable Islands Gotō, the city of Asadora “Soar High!”



Reviewing Domestic Wastewater Treatment and Management Systems in Remote Islands



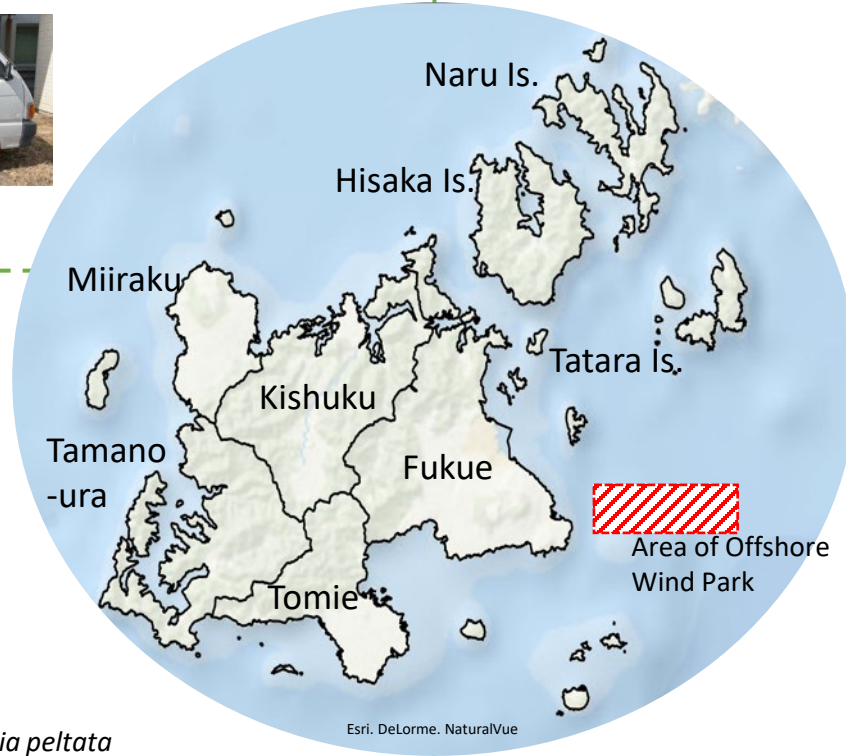
Revitalization of Fisheries and Saikai National Park

Ethnological study for fisherman
Field study of seaweed and coral

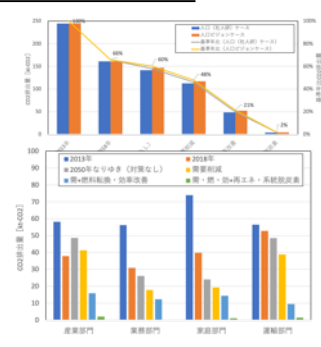


Turbinaria peltata
in Tataru Is.

Design of Decarbonized Energy System under Depopulation



Feasibility study of decarbonization with PV and Offshore wind



Analysis of rate of vacant houses in city center under depopulation



[Overview of Gotō City in Nagasaki Pref. (Yr. 2022)]

Area: 420.12 km²

(11 inhabited and 52 uninhabited islands)

Population: 34,391 (14,002 of Age 65+)

Average yearly temperature: 17 °C



Egami Church, the World Heritage