

Driving Decarbonisation and SDG Localization: Insights from Leading Smart and Sustainable Cities in Asia

IEA Experts Group on R&D Priority-setting and Evaluation (EGRD)
Workshop: Technologies and innovations for the climate-neutral city

12 May 2025

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COP 29 JAPAN PAVILION



<https://www.env.go.jp/earth/cop/cop29/pavilion/en/exhibition/details/052/>



Nov 12
2024
Baku



Tokyo to Kuala Lumpur Low Carbon System (T2KLLCS): knowledge transfer on low carbon building systems

Tokyo Metropolitan Govt (TMG): The capital of Japan and the inventor of **the first city based Cap-and-Trade Program** for emissions from **buildings**

MOEJ City to city collaboration for a zero-carbon society

+ **Kuala Lumpur City Hall (KL):** The capital of Malaysia; announced **low carbon plan to reduce by 2030** carbon emission intensity of GDP by **70%** (national target 45%)

Aug. 2019
Kickoff mtg @
KL City Hall

TOKYO TO KUALA LUMPUR
LOW CARBON SYSTEM
(T2KLLCS)

Supported by IGES and
Malaysian institutions

Datuk Mahadi
New Mayor of KL
since Oct 2020,

Mr. Ogawa
Senior Director,
TMG

TMG's **know-how** on **energy efficiency and renewable energy** in around **4200 public buildings** is **transferred** to KL for around **2000 public buildings**. KL has decided to prepare **her own budget** to **retrofit several main public buildings** in FY2021 based on **data analysis**. The city has announced its target to become **carbon neutral by 2050**.

Second year: Hosted an International Conference

March
2021
online

Zero Carbon City International Forum (March 2021)

Governor of Tokyo



Offered policy recommendations to KL on buildings while reducing own emissions

Mayor of KL



Announced aim to achieve carbon neutral by 2050 with TMG's support

**Leader of Glasgow
Host of COP26**



Minister of Environment(at the time)



Praised the collaboration between TMG and KL saying it could serve as a good practice that could begin a domino effect for decarbonization

<https://www.iges.or.jp/jp/events/20210317>)

Many Online Workshops

～Low carbon buildings/mobility ▪ Nature based Solutions～

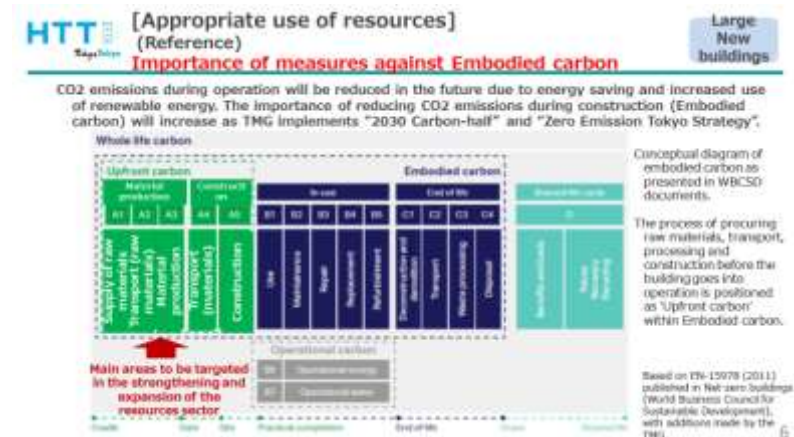


KL-TMG-Saitama Carbon neutrality in mobil... - スピーカービューとの共有画面



KL-TMG-Saitama Carbon neutrality in mobil... - スピーカービューとの共有画面

Information exchange of
Tokyo and Saitama's
latest policies



C40 World Mayors Summit @ Buenos Aires Oct 19th 2022



C40 Bloomberg
Philanthropy Award



C40 Bloomberg Philanthropy Award Ceremony
@ Buenos Aires

[Building a Climate Movement](#)

Winners: Seattle, **Tokyo** / **Kuala Lumpur**

[Cleaning the Air We Breathe](#)

Winners: Beijing, Pune

[Accelerating Immediate Action in Critical Sectors](#)

Winners: Addis Ababa, Amsterdam

[Building Climate Resilience](#)

Winners: Dhaka North, Metropolitan Area of Guadalajara

[Innovative Climate Solutions](#)

Winners: Freetown, São Paulo



Third year : Discussions begin on the “Wangsa Maju Carbon Neutral Growth Center”

The private sector in the district also participated in the discussions on specific initiatives.



Project organization of 2nd phase (FY2022-2024)

Tokyo Metropolitan Government (TMG)

Supports KL for sustainable policies and buildings at whole city level

Saitama City Hall (Saitama)

Supports KL for sustainable energy management at neighbourhood level

Takasago Construction:
Private sector:
timber buildings

IGES:
Main coordinator

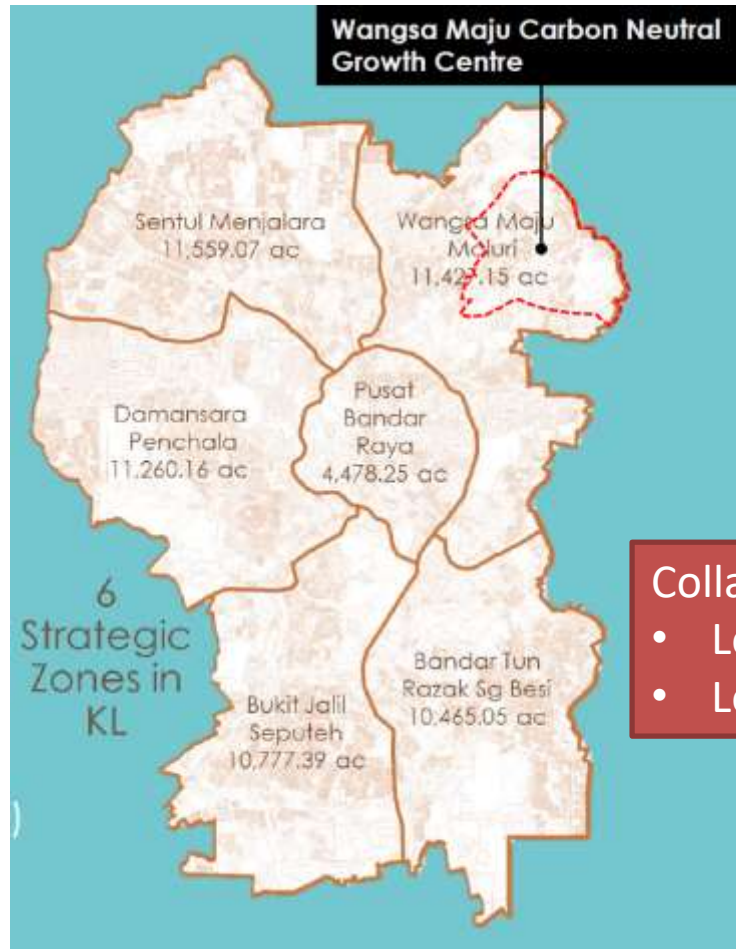


Fig. Map of Kuala Lumpur City

Kuala Lumpur City Hall (KL)

Streamline and enhance zero emission policies, ways to develop a zero emission neighborhood

SEDA (Sustainable Energy Development Authority):
Public sector: energy management and policies

Collaborative topic: a system for

- Low carbon buildings
- Low carbon districts

Universiti Teknologi Malaysia:
Local coordinator

Japan's 100 Decarbonisation Leading Areas by 2030

Residential Zone Detached houses

Source: Ministry of the Environment, Japan

Parks, walkable areas

Mobility

Smart LED lights

Reduce waste with
charging for service

Solar PV, geothermal energy

ZEH

Car-sharing

Maximise solar PV on roofs, parking space

MaaS using EV, E-bikes,
community buses

Zero-carbon driving

Energy efficient
electric appliances

Carbon neutral fuel

Manage renewable energy
supply/demand

Offer excess energy
supply to other regions

Monitor with AI/ICT

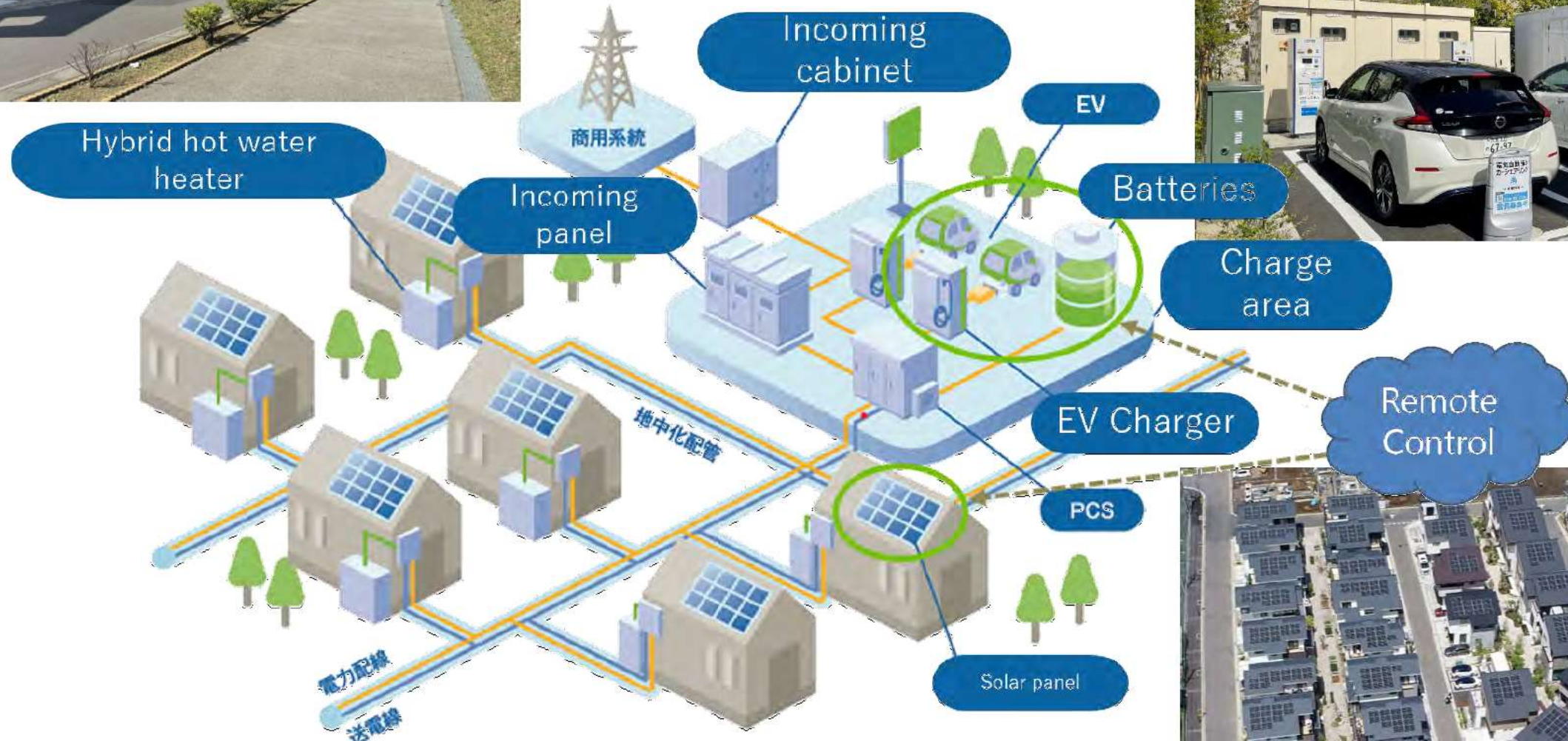
Teleworking

Battery storage

※このページに表示しているイラストは先行地域そのもののイメージであり、先行地域の外から再エネを供給する再エネ立地地域のイメージは紙面の都合上記載していない。

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Smart Home Community Resilience with Local Grids



Saitama City Mayor Shimizu to KL High Level Talks 2023

Aug 2023
KL

Mayor Shimizu of Saitama City made a key note speech. SEDA speaks about Malaysia's national policies



Mayor Shimizu (Saitama) , Ambassador Takahashi (Embassy of Japan)
SEDA, JICA Malaysia Office, JETRO Kuala Lumpur, JACTIM



KL Mayor Kamalzaman and
Saitama Mayor Shimizu



T-REX site visit



SDG S Center visit



Wangsa Maju visit

Sustainable Wooden Architecture Highly Airtight and Insulated Houses

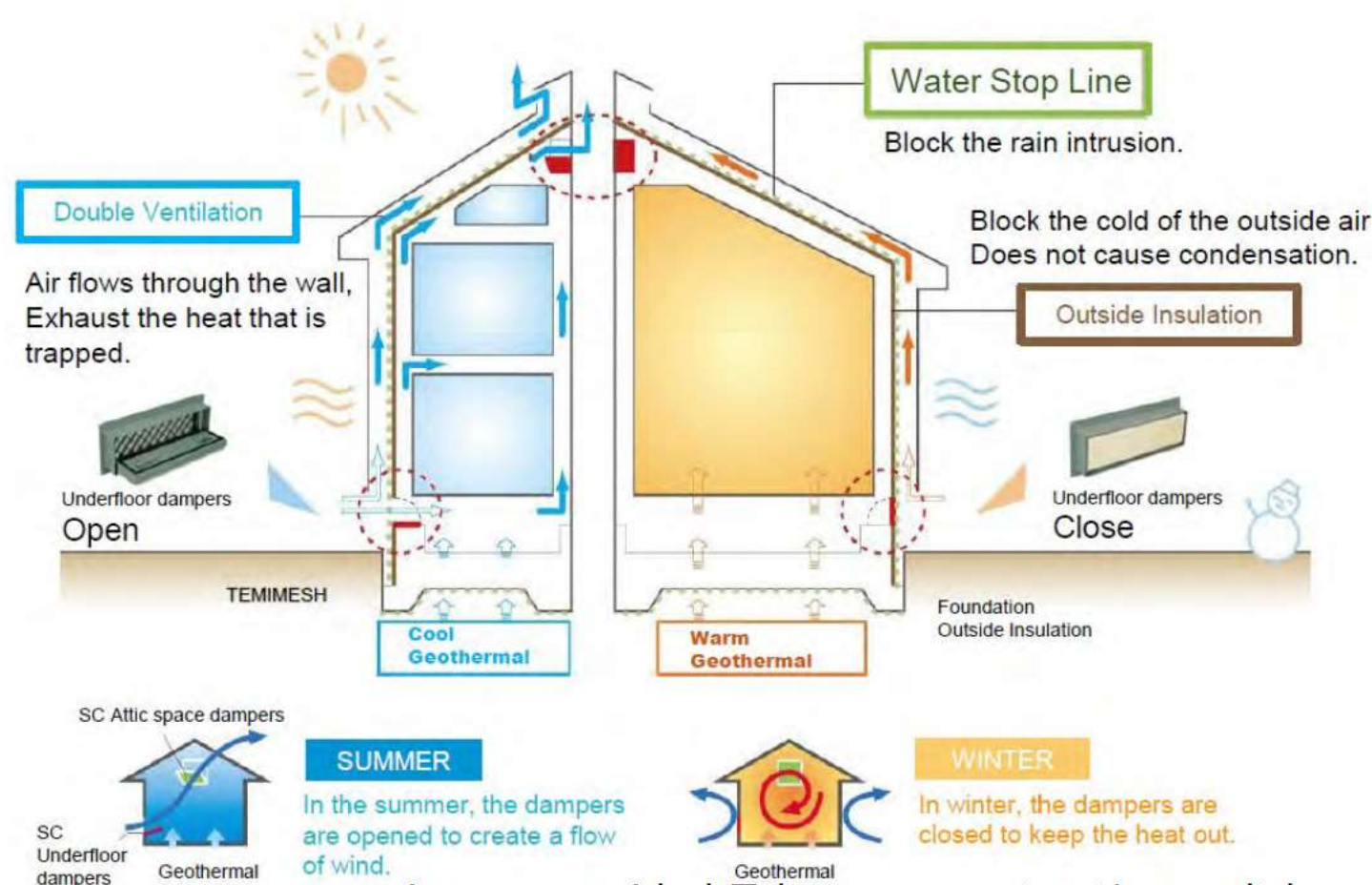


image provided: Takasago construction co, ltd

UTM expert on timber construction visits Saitama

July 2024
Saitama



UTM visits Saitama's forest, lumber yard and the construction site (2024.07.26-27)

This SATREPS (JST-JICA) project (2011-2016) produced huge outputs/outcomes and still on-going activities!

**2011-
2016**

SCIENCE AND TECHNOLOGY RESEARCH PARTNERSHIP FOR SUSTAINABLE DEVELOPMENT PROGRAM (SATREPS)



Project for Development of Low Carbon Society Scenarios for Asia Regions 2011

Ho Chin Siong and Matsuoka Yuzuru



Iskandar Regional Development Authority (IRDA) Developed LCS blueprint based on scientific output of SATREPS projects

2013



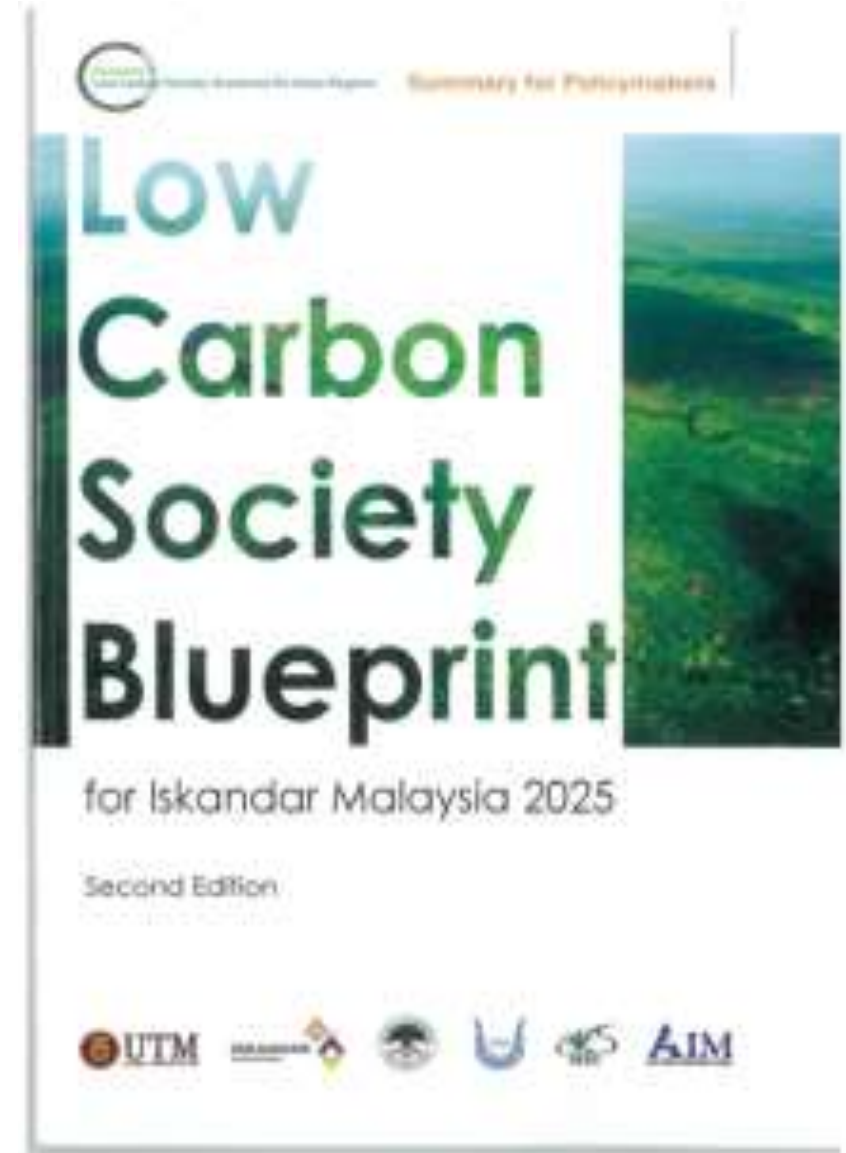
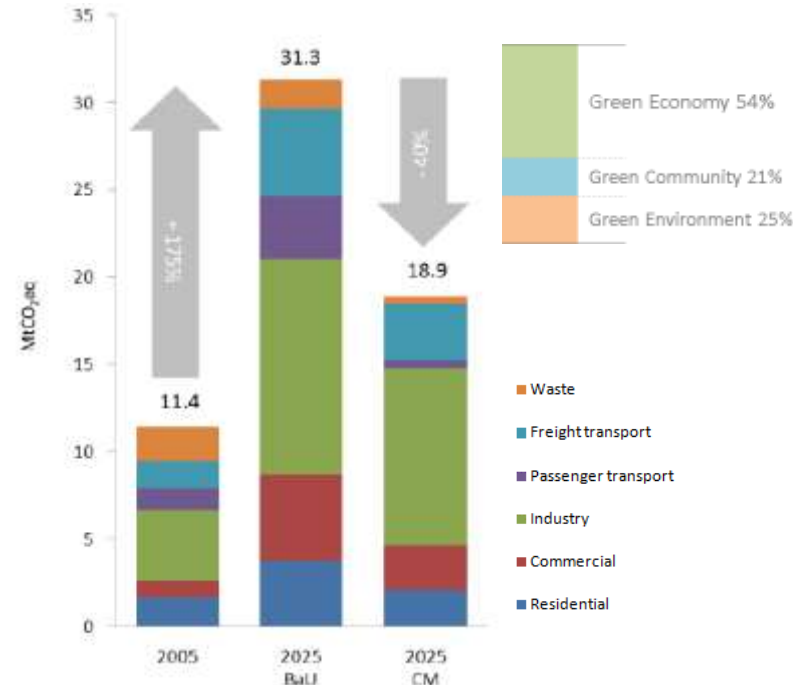
✓ Document that presents comprehensive climate change mitigation policies and detailed strategies to guide development of Iskandar Malaysia

✓ Stress on the **holistic and integrated approach to decouple economy and environment development**

Comprise of two principal components:

I) Narrative on growth scenarios, policies, measures and programs to achieve a minimum targeted **40% reduction in carbon emission by 2025** based on the 2005 level and;

II) **scenario-based modelling** and projection of carbon emission reductions achievable.





A New Form of Environmentally-Friendly City for the Future

Global warming is the worldwide problem. In Malaysia, communities are working together on a new initiative with the goal of achieving a "low-carbon society." A Japanese research team is providing support for this project.



The workbook for Iskandar's "Eco-Life Challenge." Participants use this checklist for reference and take on various ecological challenges.

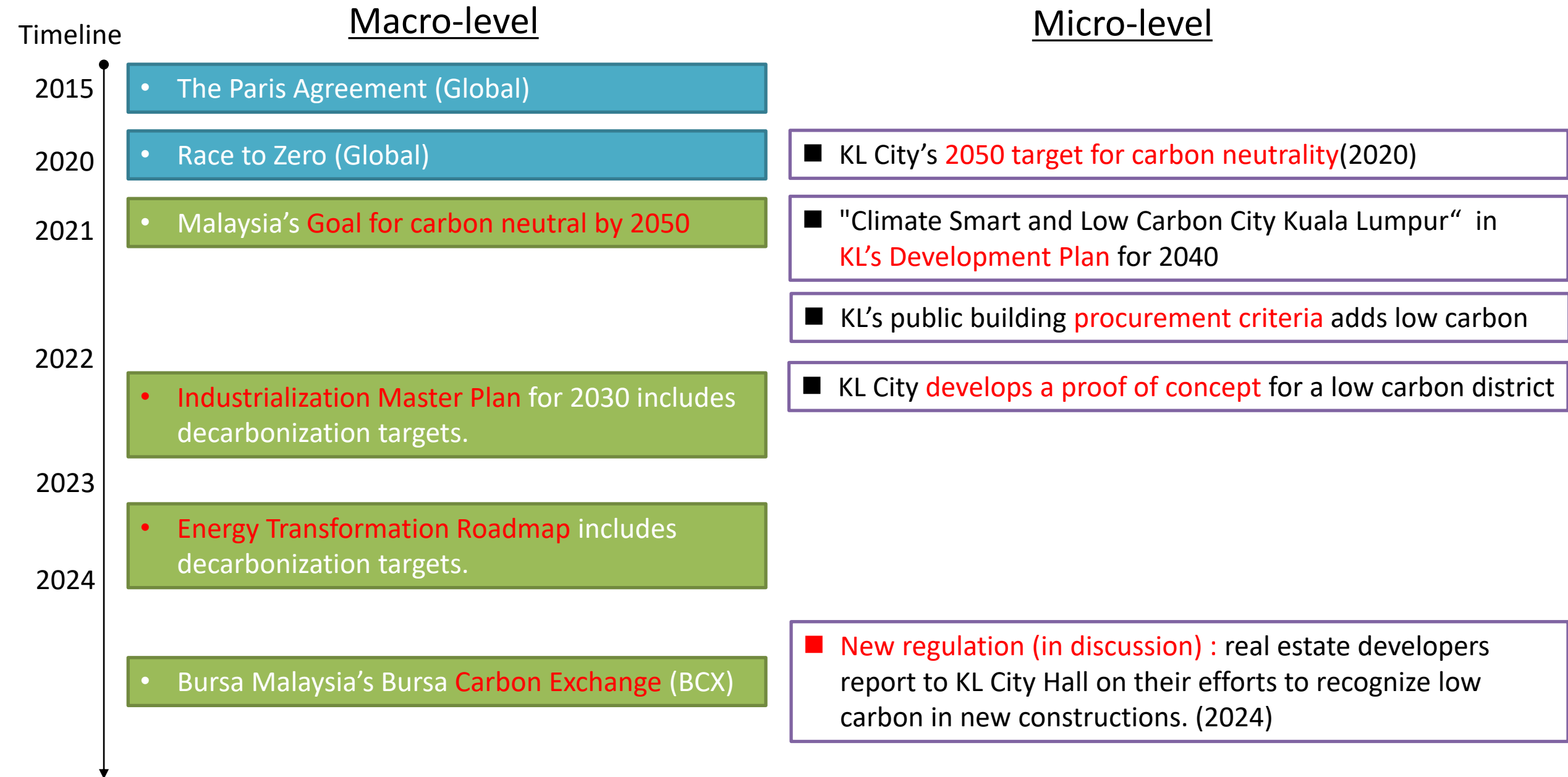


Investigating the composition of household trash to use as a reference for recycling projects and educational activities.

Discussing the progress of the project with members of the collaborative research. (Professor Matsuyama is on the right side.)



The Macro and Micro Linkage



Asia-Pacific Synergy Report: Addressing the SDGs and the Triple Planetary Crisis

The **Asia-Pacific Synergy Report (APSR)** aims to consolidate strategies for advancing SDGs and addressing the Triple Planetary Crisis. Targeted for **release in 2026**, it will provide practical insights for policymakers and practitioners.

Lead Agencies



Sponsoring country



Secretariat

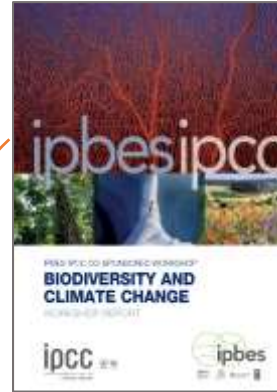


Growing Evidence of Synergies, Yet Further Integration Is Needed

Global Report on Climate and
SDG Synergies



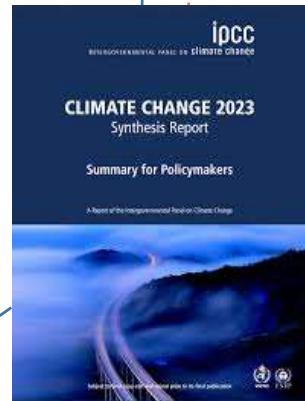
IPBES-IPCC co-sponsored
workshop report



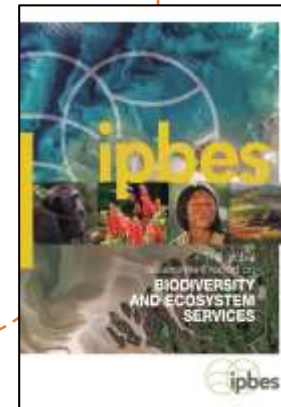
UNEA6 resolution on synergies
encourages countries to strengthen
cooperation and synergies to
address the triple planetary crisis.



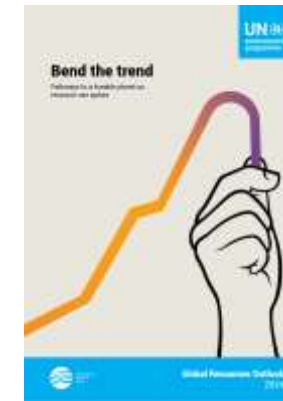
GSDR 2023



IPCC AR6 Synthesis Report



IPBES Global Assessment Report



Global Resources Outlook 2024

Co-Leads and Global Collaboration



Bernadia Irawati
Tjandradewi

Secretary General, United
Cities and Local Governments
Asia-Pacific (UCLG ASPAC)



Kazuhiko TAKEUCHI

President, Institute for
Global Environmental
Strategies (IGES)



Ma Jun

Director, Institute of
Public and Environmental
Affairs (IPE)



Soumya Swaminathan

Chairperson, M S
Swaminathan Research
Foundation (MSSRF)

- ◆ The Co-leads, four experts from the Asia-Pacific region, are part of the expert group that developed the **Global Synergy Report**, led by UNDESA and the UNFCCC Secretariat. This ensures meaningful contributions from the Asia-Pacific to the global discussion.
- ◆ To maintain a comprehensive and inclusive perspective, the report will be developed in collaboration with **experts from diverse fields across the region**.

Create a report incorporating the diversity and cultures of Asia, highlighting its status as a hotspot.

Practical Applications of Synergistic Approaches

Explore insights on synergies in the Asia-Pacific context, focusing on climate and health, the circular economy and pollution, nature, cities, and MOIs.

Proposed Components

Introduction

1

2

3

4

5

Organizing Existing Knowledge

Synthesize understanding of synergies and analyze past experiences

Advancing Synergistic Approaches

Provide policy recommendations for mainstreaming synergies.

Conclusion

- ◆ A **case study collection** summarizing synergy examples will be created separately and attached to the main report.
- ◆ The term "**synergistic approaches**" refers to a broad range of strategies that foster synergies. This report will organize and analyze their characteristics and interconnections, clarifying their roles and applicability across various sectors.

Key Milestones



February 2025

Side Event at APFSD (today's event)

May–June 2025

1st Expert Group Meeting

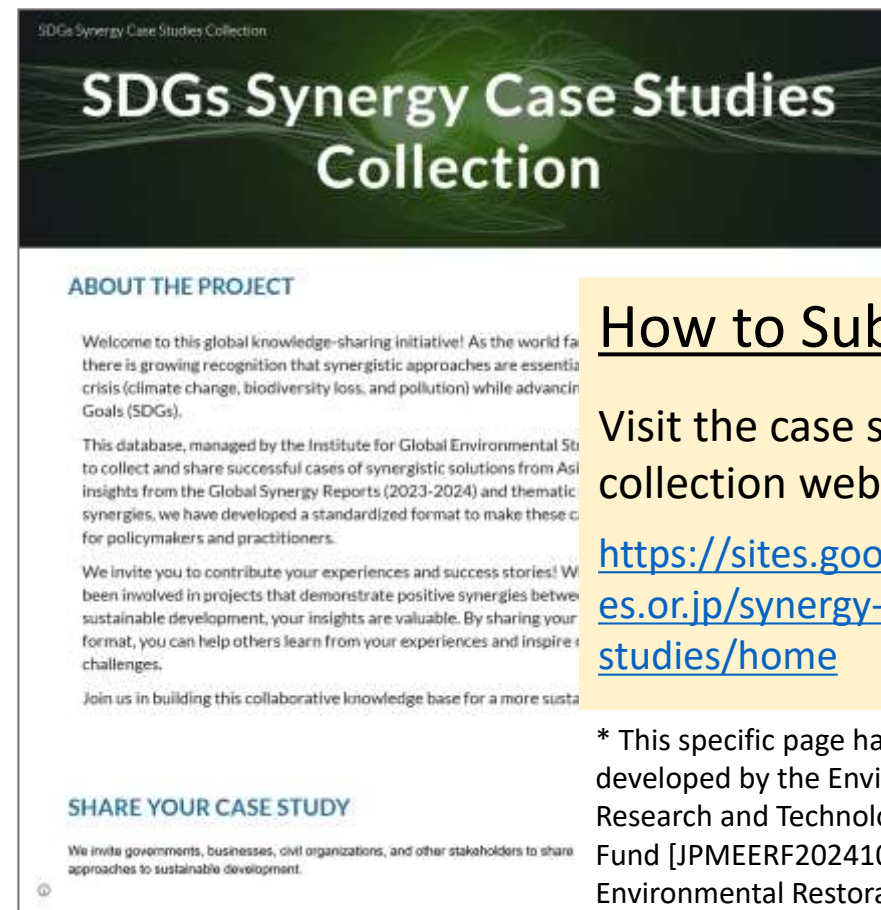
Late 2025

2nd Expert Group Meeting

July 2026

Launch Event at **9th ESCAP
Committee on Environment and
Development (CED)**

Call for Case Studies



How to Submit

Visit the case study collection website:

<https://sites.google.com/igees.or.jp/synergy-case-studies/home>

* This specific page has been developed by the Environment Research and Technology Development Fund [JPMEEF20241005] of the Environmental Restoration and Conservation Agency provided by the Ministry of the Environment of Japan.

A dedicated website for the Asia-Pacific Synergy Report Initiative also coming soon!