

Initiatives on climate change and environment protection in Indonesia

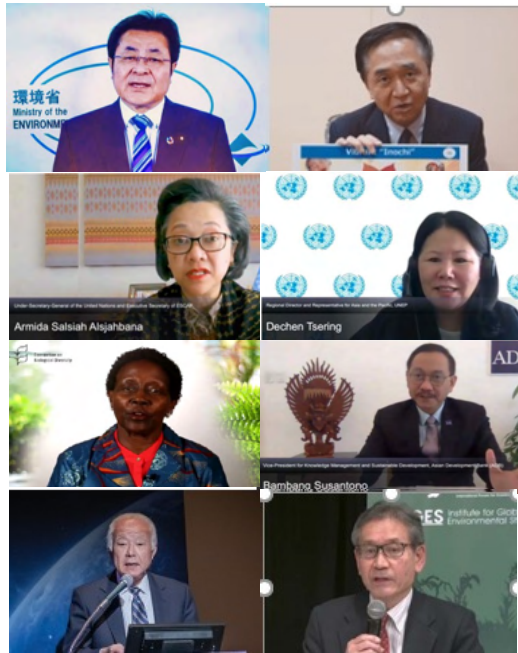


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Institute for Global Environmental Strategies

Indonesia Japan Environmental Talks 2024
April 2024

IGES mission and operating principles

- International non-profit environmental policy think-tank established in March 1998 under an initiative of the Japanese government
- To achieve a new paradigm for civilization and conduct innovative policy development and strategic research for environmental measures
- Positioned as an **Agent of Change**, we promote bold transformative change towards a sustainable society, putting particular emphasis on delivering results (impacts).



IGES main research areas and organizational structure

Sustainability / SDGs

Put SDGs on the ground

Climate & Energy

Make society net zero & resilient

Adaptation & Water

Make society net zero & resilient

Sustainable Consumption & Production

Make it circular

Biodiversity & Forests

Put biodiversity on a path to recovery by 2030

Business

Cities

Finance

- About 200 staff members in total (HQ and satellite offices)
- About 30% foreign nationals
- Gender balance: 50/50
- Annual revenues: about JPY 3.3 bill (USD 24 mill)

- Strategic Management Office
- 3 Taskforce (business, cities, finance)
- 3 satellite offices in Japan (Kobe, Kita Kyushu, Tokyo)
- 2 overseas (Bangkok, Beijing=project office)

Collaboration with international organisations and others

- **Collaboration through comprehensive agreements**

UNEP, UNESCAP, UNFCCC, UNEP-International Environmental Technology Centre (IETC), Economic Research Institute for ASEAN and East Asia (ERIA), ADB, etc.

- **Implementation of projects**

- ASEAN Secretariat, ADB, Climateworks, European Union, GCF, GIZ, ITTO, JICA, UNDP, UNEP, UNHABITAT, USAID, Wellcome Trust, World Bank, etc.
- International joint research projects with START (USA), Asian Institute of Technology (AIT), the Energy and Resources Institute (TERI), etc.

- **Contribution to global & regional assessment**

- Preparing UNEP Global Environmental Outlook (GEO), IPCC and IPBES reports, ASEAN Secretariat reports (ASEAN State of the Environment Report and State of Climate Change Report).
- Translation of key reports into Japanese, etc.

- **Policy advocacy in global policy processes**

UNESCAP's Asia-Pacific Forum on Sustainable Development (APFSD) and regional meetings, High Level Political Forum on Sustainable Development (HLPF), etc.



Collaboration with stakeholders in Indonesia

- **Implementation of projects**

- Together with Central and local governments and donor agencies, research institutions, the private sector, NPOs, etc



- **Capacity building and knowledge sharing**

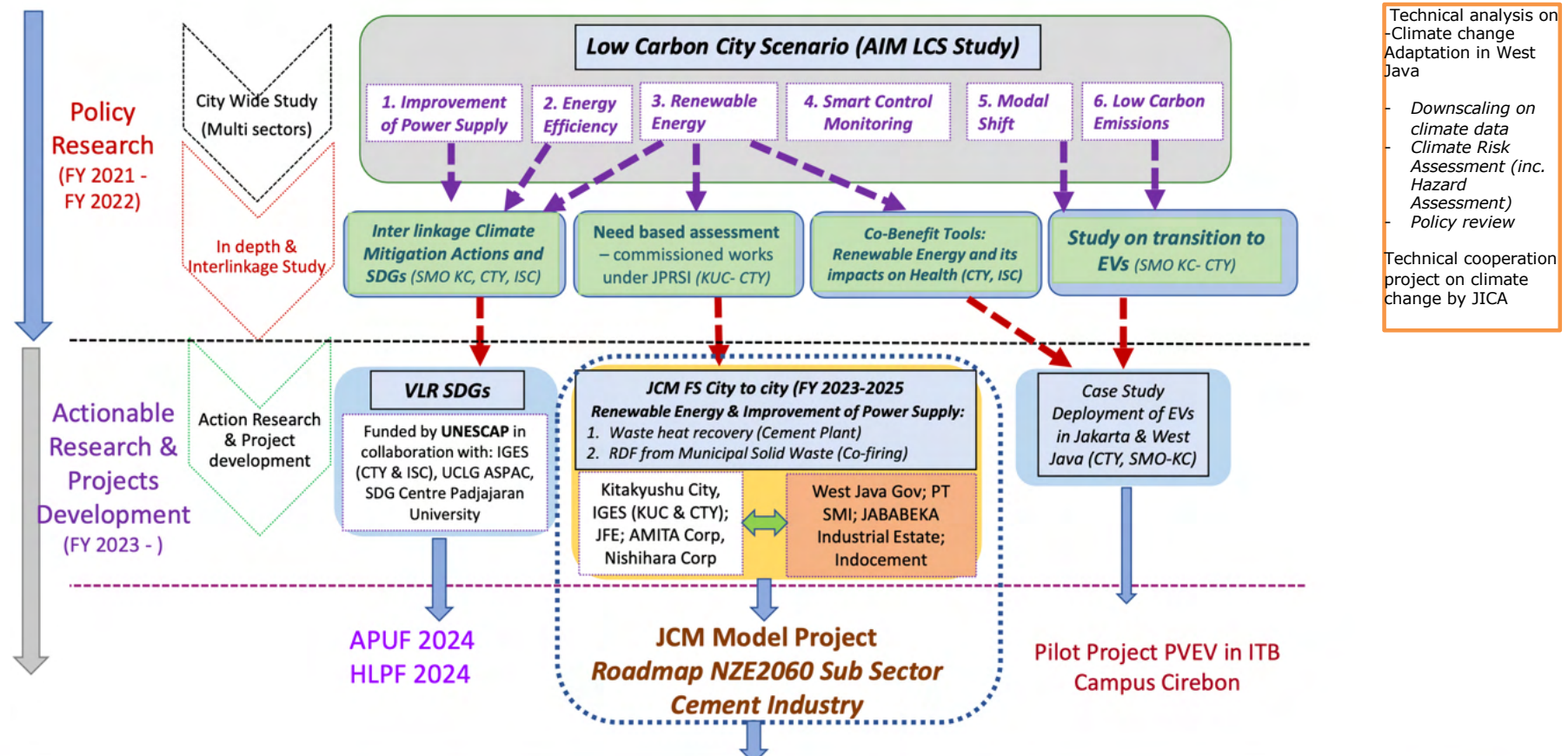
- **Policy Research**

- **Contribution to policy process**

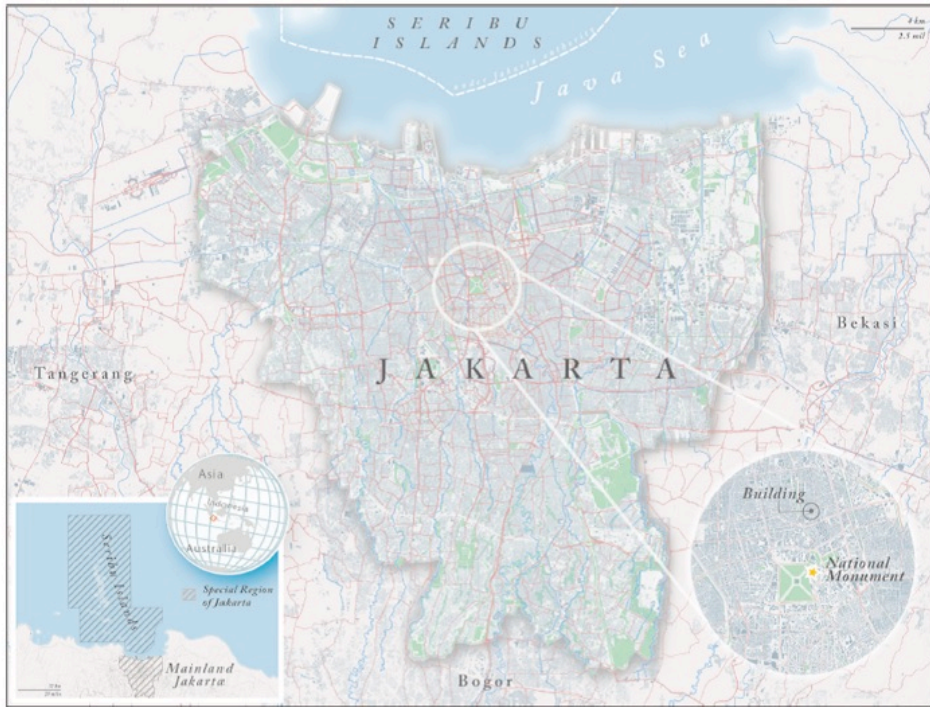
- Assessment, preparation
- Planning
- Implementation
- Stakeholder collaboration

Cooperative activities in Indonesia: Climate Change, SDGs etc, West Java

Translating Policy Research on Low Carbon City Scenario into Practical Actions and Project



Rooftop PV + EV in Jakarta, West Java and others



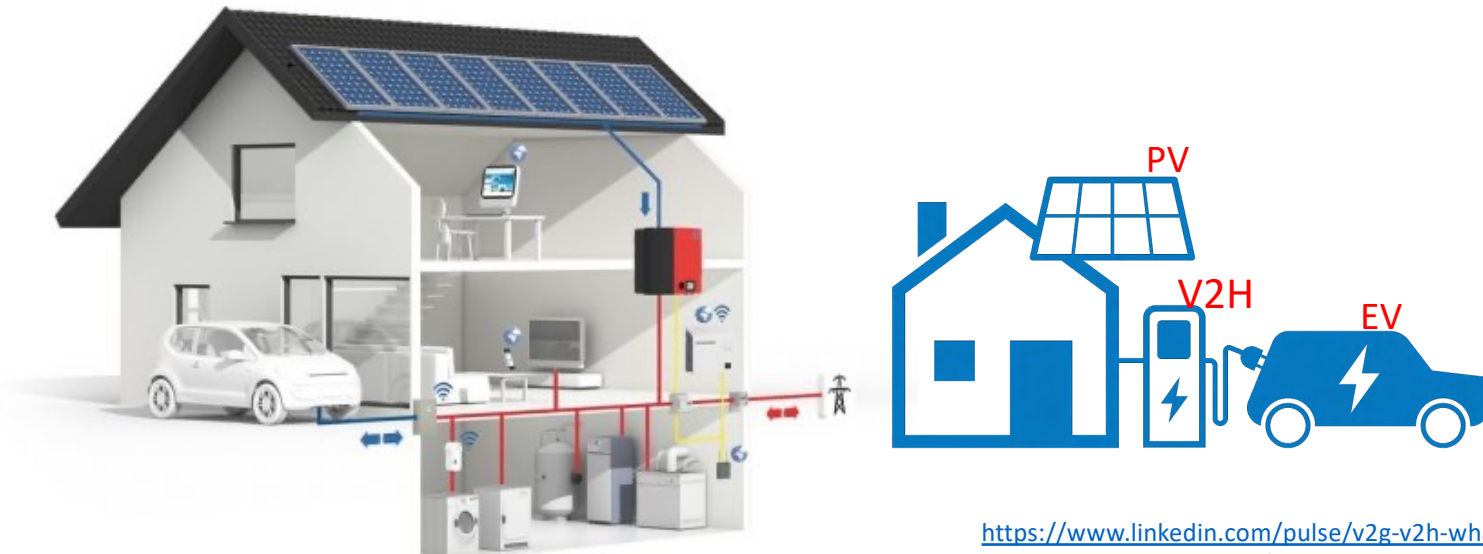
Source

Dewi, R. G., U. W. R. Siagian, B. Asmara, S. D. Anggraini, J. Ichihara, T. Kobashi, "Equitable, affordable, and deep decarbonization pathways for low-latitude developing cities by rooftop photovoltaics integrated with electric vehicles", *Applied Energy*, 332, 120507, 2023.

- Assume 70% of rooftop is available for PV at maximum and that Private vehicles are converted to all EVs.
 - EV Battery is considered as storage of electricity from Solar PV.
- The EV+ rooftop PV system can supply CO₂ free electricity to 75–76 % of Jakarta's electricity demands with 33–34 % potential cost saving (with estimated costs in 2030)
- Pre FS is ongoing under ADB study in collaboration with ITB, Tohoku University and etc:
 - Aim to identify potential pilot sites in West Java and others

Potential mitigation option for net zero in Nusantara

(Ref) Solar PV + EV and V2H(Vehicle to Home)



Svari Energija, https://www.svarienergija.lt/?attachment_id=2446

<https://www.linkedin.com/pulse/v2g-v2h-whats-difference-xavier-moreau/>,
modified by author

- Stand-alone battery is very expensive and difficult to make economic contribution with PV.
- EV contains large battery for example 40 kWh in comparison to 5kWh of stand-alone battery.
- PV can provide CO₂ free electricity to EV, but also EV can act as battery, saving money.
- More than 20,000 units of V2H have been sold in Japan by 2023.

(Ref) Climate change cooperation in West Java under JICA Project (completed in 2023)

[Scientific Assessment]

- **Climate Change Projection:** Climate change projection with 5km resolution based on RCP8.5 scenario will be utilized as the inputs for the following hazard assessment (available)
- **Vulnerability assessment:** existing SIDIK results utilized (available)
- **Hazard assessment:** hazard in the priority sectors assessed by utilizing climate projection output data: priority sectors (data available).

[Study on Climate Resilience Development Policy]

- **Economic Loss Assessment:** Potential Loss due To Climate Change.
- **Selection of Priority Location:** Location which is needed intervention of resilience action.
- **Identification of Climate Resilience Actions:** List of Resilience Action that contribute on reducing GDP loss and/or decrease vulnerability/increase adaptive capacity of community.





Field observation of an oil palm plantation and a mill in Kalteng (advised by KBRI, 2023).



JICA's SDGs Business Verification Survey
 "Disseminating Japanese Technologies to Extinguish Forest and Peatland Fire
 Using Environment-friendly Soap-based Fire Fighting Foam" in Kalteng
 (collaboration with U. Palangka Raya, 2023~)

Forestry in Indonesia

Analysis on National Policy for Sustainable Forest Management in Indonesia

INDONESIA - JAPAN 60th ANNIVERSARY SEMINAR FOR FOREST SECTOR
 Changing Paradigm of Forestry Policy in Indonesia:
 "Toward Promotion of Community-based Sustainable Forest Management"

Waseda Univ. International Conference Center
 Tokyo, 28 June 2018

Hiromitsu Samejima
 (Institute for Global Environmental Strategies)
 Syahru Ramdhoni & Lilik Budi Prasetyo
 (Bogor Agricultural University)

IGES
 Institute for Global
 Environmental Strategies



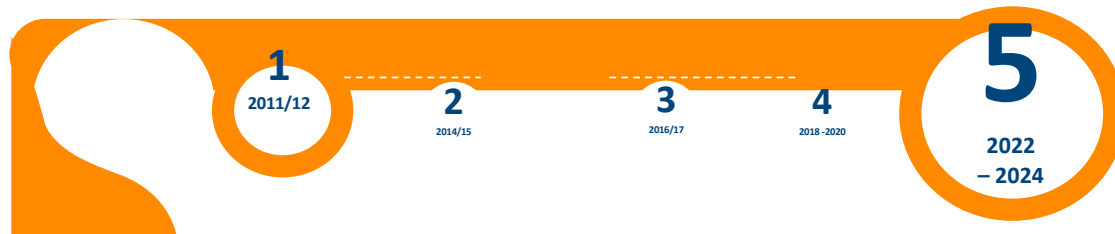
Indonesia - Japan 60th Anniversary Seminar for Forest Sector
 (organized and invited by KBRI, 2018, Waseda U.)

Sustainable city development/SDGs: Indonesia and ASEAN countries

ASEAN SDGs Frontrunner Cities Project: one of ASEAN's longest-running city platforms

MAIN ACTIVITIES

- Promote bottom-up practices by Cities linked to SDGs 3, 6, 7, 9, 11, 12, 13, 14 and 15 (by Model & Frontrunner Cities)
- Expand national green city platforms (by ASEAN's National focal points)
- Facilitate knowledge exchange, peer learning, networking and promotion by Regional Secretariat (IGES, ASEAN Sec & partners)



1	Banda Aceh	235,245
2	Banjarmasin	692,793
3	Balikpapan	701,066
4	Banyuwangi	1,604,857
5	Lamongan	1,284,379
6	Malang	856,419
7	Palembang	1,708,413
8	Surabaya	3,000,000
9	Tangerang	1,918,556
10	Surakarta	523,008

ASEAN SDGs Frontrunner Cities Phase 2 (2022-2024)



ASEAN SDGs
FRONTRUNNER
CITIES



Project Implementation in Indonesia

National Focal Point (NFP): Ministry of Environment & Forestry

Participating Cities: Banda Aceh & Surakarta (Solo)

BANDA ACEH

Project Title: Formation of Climate Village Programme (ProKlim) at Peurada Gampong, Syiah Kuala District, Banda Aceh City

Activities:

- Socialization/introduction (awareness raising), site inventory, and assistance for registering the Climate Village in the National Registration System for Climate Change Control.
- A series of training on waste management, food security, controls of drought, flood, landslide, climate disease control through sanitation, clean water and clean and healthy lifestyle promotion etc.
- Mitigation and adaptation activities aim to control climate change through the creation of infiltration wells ('biopori'), plants/trees, health facilities/posyandu, and other initiatives.
- Monitoring & evaluation.

SURAKARTA

Project Title: Development of Unit Waste Bank and Strengthening the existing Central Waste Bank in Surakarta City

Activities:

- Scale up and enhance the operations of the city's newly-established Central Waste Bank, especially in term of collection capacity, facilities and research functions.
- Training/capacity building and networking for Uni Waste Banks volunteers and administrators
- Training on upcycling and handicraft making using waste materials recovered through waste banks.
- General awareness raising activities (sosialisasi) of diverse stakeholders in the community and schools.
- Monitoring & evaluation.



Sosialization and training on food security in Banda Aceh





ASEAN SDGs FRONTRUNNER CITIES 2024
 Rabu, 17 Januari 2024
 Gedung Pertemuan RT 02 RW 24, Jebres



**Establishment of new Unit Waste Banks and training of
 volunteers, community members and administrators in
 Surakarta City**

Facilitating Stakeholder Collaboration and Mutual Learning

IGES offers networks, platforms, centre and consortiums for stakeholder collaboration and mutual learning.

Some examples are below:

- Asia-Pacific Climate Change Adaptation Information Platform (AP-PLAT)
- Paris Agreement Article 6 Implementation Partnership (A6IP) Center
- UNFCCC-IGES Regional Collaboration Centre for Asia and the Pacific
- Consortium for Advancing the Circulating and Ecological Sphere (CES) Concept in South and Southeast Asia

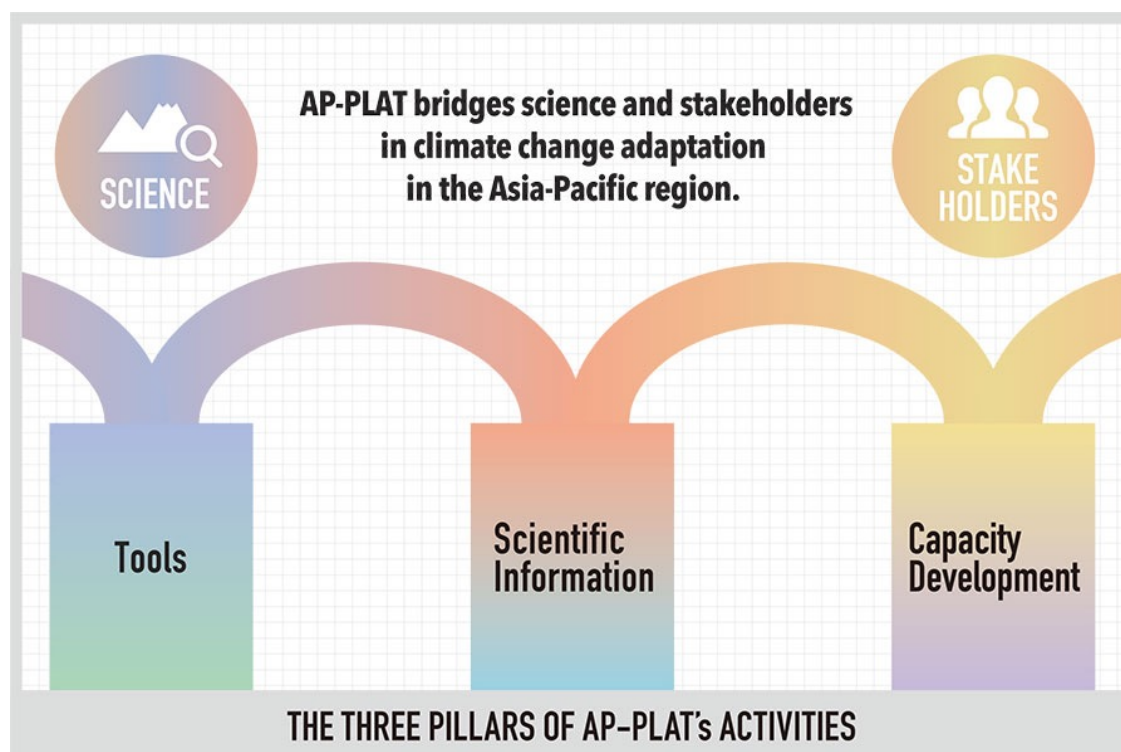


Asia-Pacific Climate Change Adaptation Information Platform (AP-PLAT)

Mission

To support **best science-based decision-making** and promotion of **effective climate change adaptation measures** in the Asia-Pacific region, in light of climate change risks, through strengthening partnerships with diverse stakeholders, and to boost international adaptation efforts, with the UNFCCC process at its core.

Core Pillars



AP-PLAT Partners (examples)



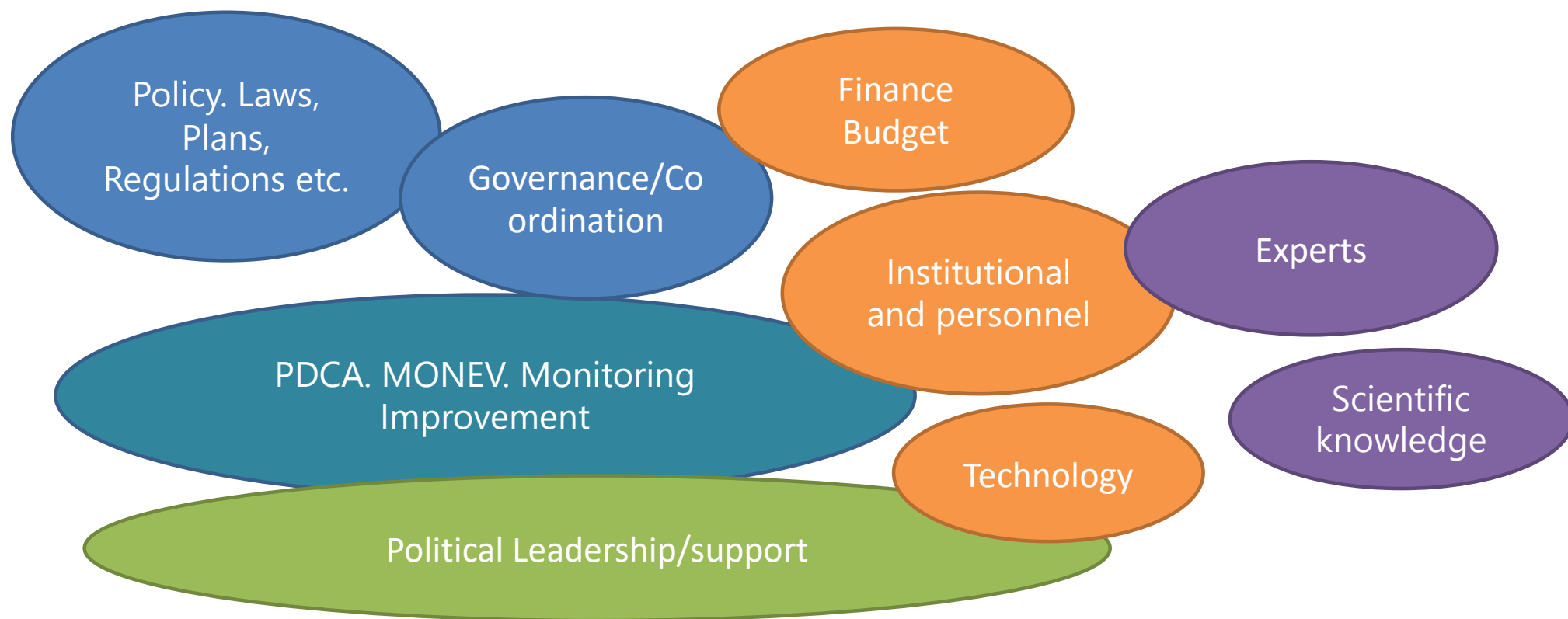
Towards smooth implementation of climate policies and projects in Indonesia

Target setting done:
NDC and Net Zero
targets

Time to act /
Implement
climate actions!
Yet challenging

- Global and national climate targets are set.
- Act Now: Implementing Climate Actions! Implementing these actions is challenging. The process encounters numerous challenges and barriers. How can we facilitate smooth implementation?
- Identified several categories of barriers and challenges to project implementation in the case of the JCM (Joint Crediting Mechanism for energy sector mitigation projects) and CDM (Clean Development Mechanism) in conjunction with climate change adaptation efforts in Semarang.

Potential key factors to smooth policy implementation



What is needed for the steady implementation of environmental and climate policy? What are potential key areas for collaboration?

Joint Crediting Mechanism (JCM)

- Facilitating diffusion of leading low carbon technologies through contributions from Japan and evaluating realized **GHG emission reductions** or removals in a quantitative manner to use them for achieving Japan's emission reduction target.
- Japan will address the high initial cost barrier of **introducing advanced low-carbon technologies** in the partner countries through JCM



Waste heat recovery
in Cement Industry



Eco-driving with
Digital Tachographs



Energy saving at
convenience stores



High efficiency air-
conditioning and
process cooling



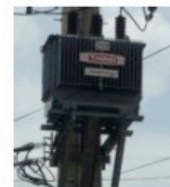
High-efficiency Heat
only Boilers



Upgrading air-saving
loom



Installing solar PV
system



Amorphous
transformers



Co-generation
system at factory



High efficiency air-
conditioning system



Solar PV System



Waste to Energy
Plant



High efficient
refrigerator.



Regenerative
Burners in industries.



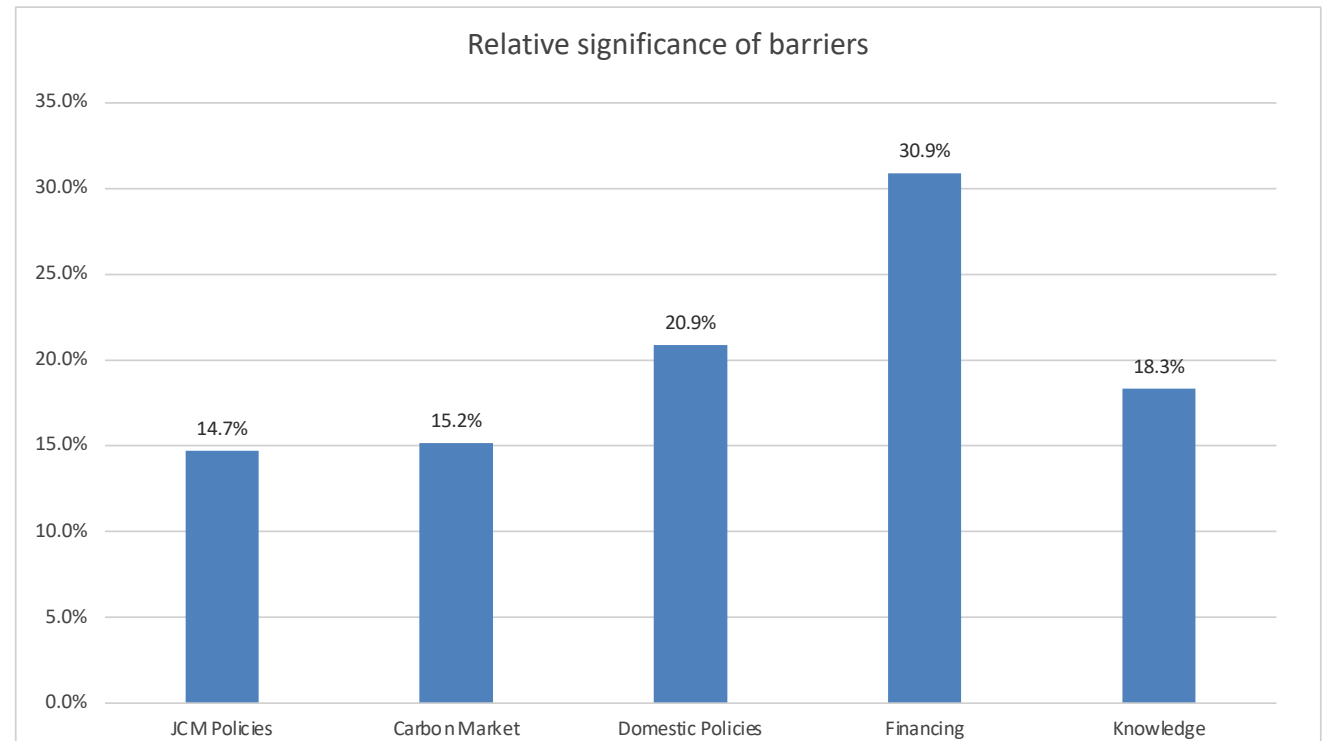
LED street lighting
system

Source: MOE-J

Potential Barriers on implementation to JCM Projects in Indonesia

The Government of Indonesia and The Government of Japan have been signed a cooperation agreement in 2013.

Joint Crediting Mechanism is to promote Japanese private sector organizations to implement / cooperate mitigation activities in Indonesia by giving incentives. More than 20 (23) JCM projects have been registered in Indonesia (as of April 2024).

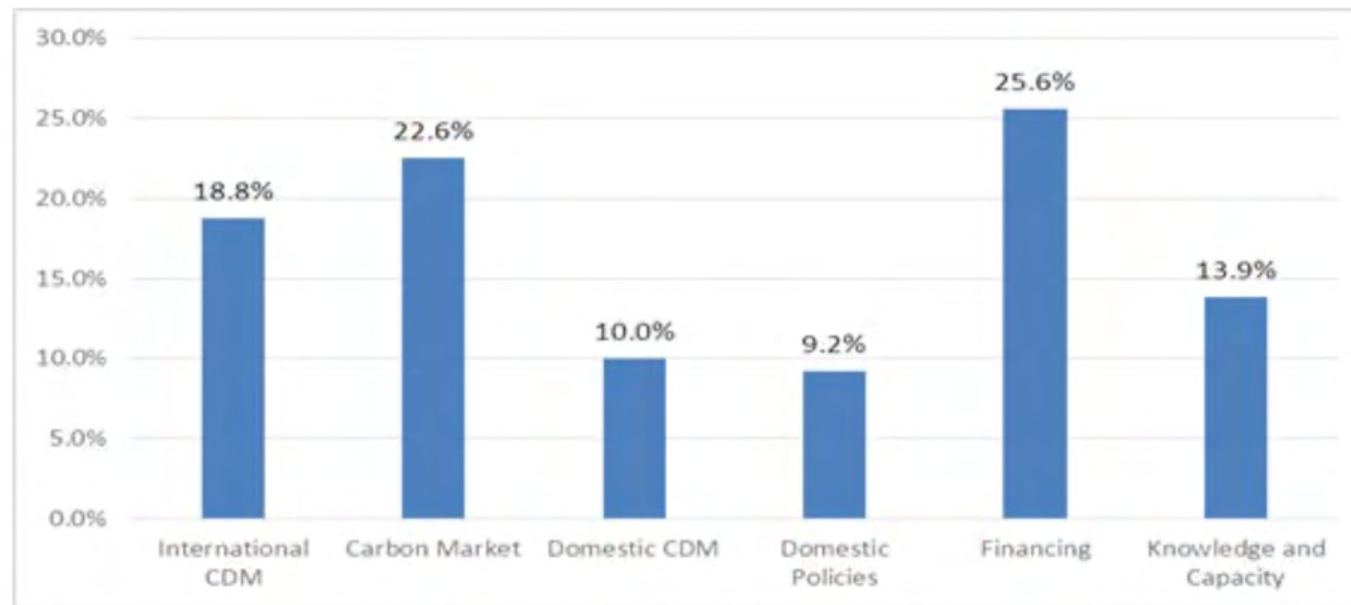


Prioritized barriers are:

- **Financing Barriers**
- **Domestic Regulatory Barriers** (Domestic policies/rules not specifically related to JCM)
- Knowledge and Capacity Barriers

Source: Ichihara and Uchida (2016)

Potential barriers to CDM implementation in Indonesia



Method (survey): apply analytic hierarchy process (AHP) to related stakeholders in Indonesia

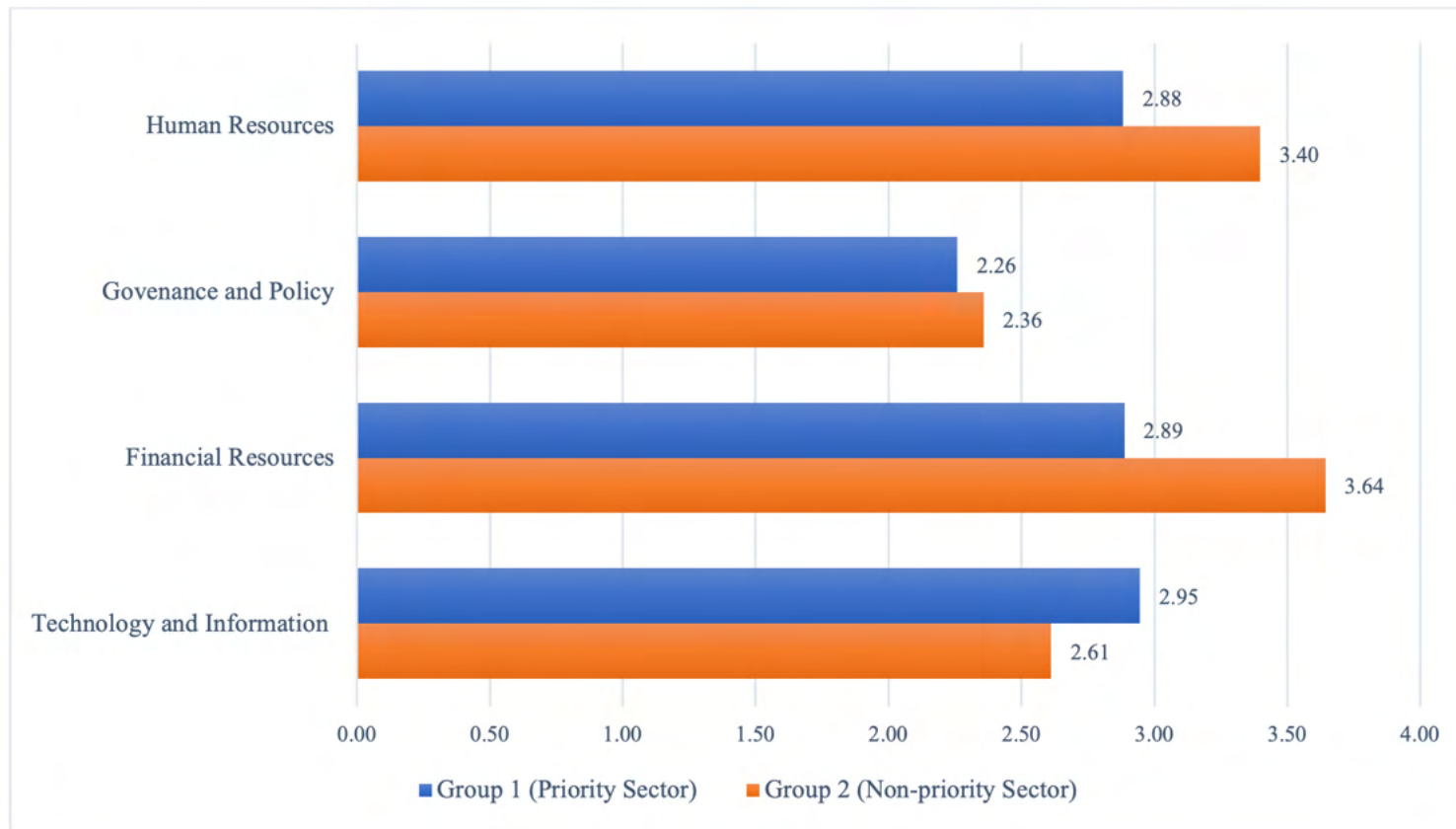
Some prioritized barriers are:

-Financing Barriers

-Carbon Market Barriers

Source: Ichihara and Uchida (2014) "Prioritizing Barriers to Implementing More CDM Projects in Indonesia: An Application of AHP" 7

Potential barriers on implementing adaptation plan and activities in Semarang city, Indonesia



Source: study with
Diponegoro University

Way Forwards

- ❖ Enhance needs assessments for policy development and implementation for sustainable actions.
- ❖ Identify and address key issues to facilitate the implementation of these actions.
- ❖ Develop locally-led solutions and establish best practices.
- ❖ Foster collaboration with multiple stakeholders through facilitated cross-sectoral coordination and mutual learning.

Thank you very much

Terima kasih banyak

We look forward to further collaboration with stakeholders
in Indonesia and Japan