

Low-carbon Development in Asia

- Challenges and JICA's Assistance -

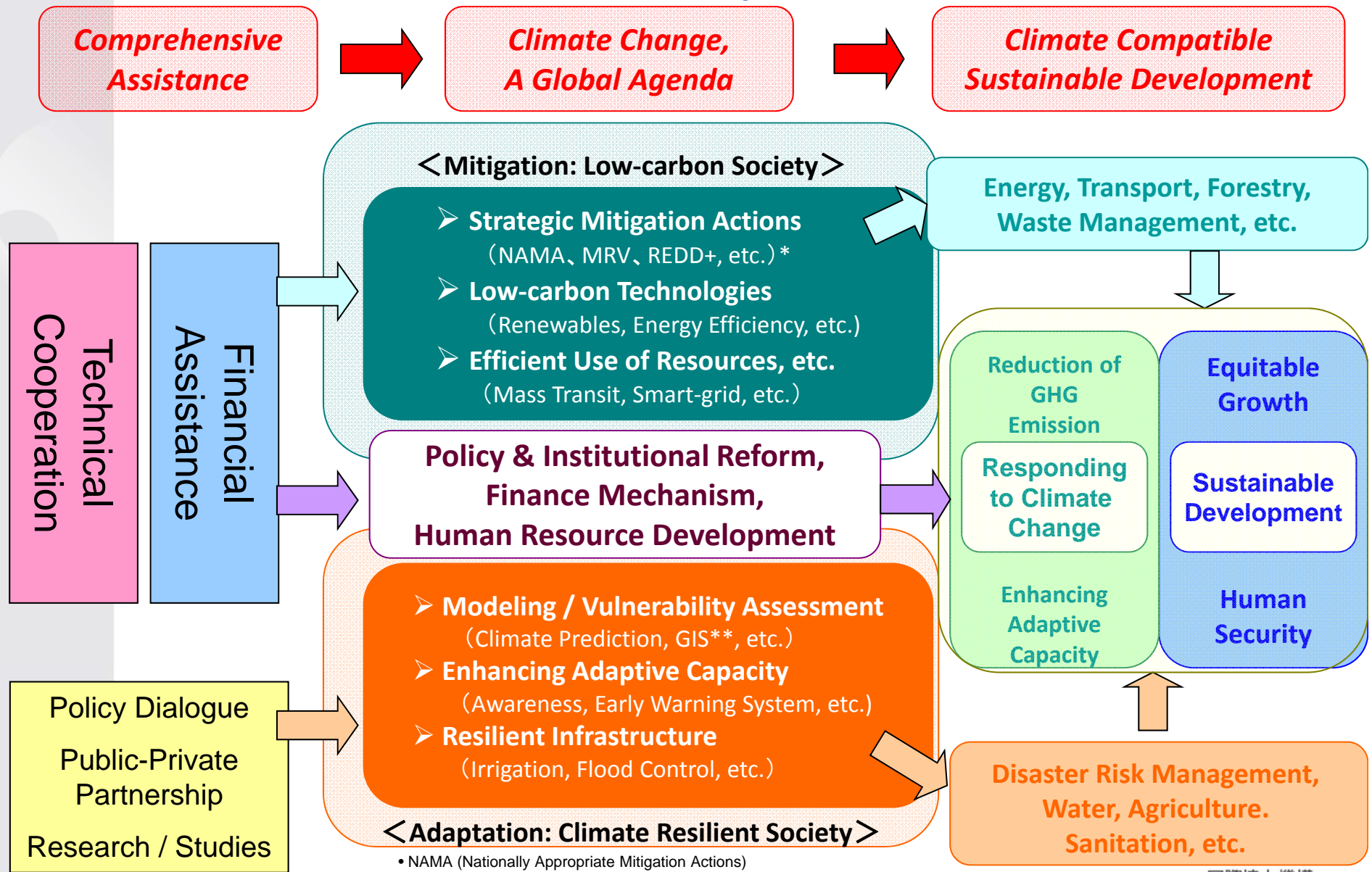


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1. JICA's Approach: Development Cooperation for Low-carbon and Climate Resilient Development



• NAMA (Nationally Appropriate Mitigation Actions)
 MRV (measurable, reportable, verifiable)
 REDD+ (Reduction of Emission from Deforestation and Degradation)
 **GIS (Geographic Information System)

2. Strategy to Realize Low Carbon Society in Asia

1. Extending Low Carbon Development

- Comprehensive support from research, policy and institutional improvement down to transformational impact at the project level
- Promoting low-carbon development utilizing cutting-edge technologies of Japan

2. Regional Networking for Low-carbon Society

- In the area of research, policy planning and the implementation, promoting dialogue and exchange lessons learned through mutual training among Asian countries

3. Assistance for Low-carbon Development

Figuring out current social, economic, natural and meteorological circumstances

Designing possible development scenarios

Sorting out tangible policies and measures to achieve a low-carbon development

- Adjusting appropriate national policies and measures
- Introducing innovative low-carbon technologies
- Utilizing other measures including market mechanisms

Analyzing each policy and measure in terms of cost-effectiveness, technology availability, etc.

Developing Nationally Appropriate Low-carbon Development Strategy

Capacity Development
Correcting Data and Developing Database

Challenges for Asia

- Vision & Analysis of Low-carbon Development Path
- Strategy and Financing Plans for Investment
- Promoting Private Sector Participation

4. Malaysia-Japan Joint Research Project for Development of LCS Scenarios for Asian Regions (TA)

Science and Technology Research Partnership for Sustainable Development (SATREPS)

Science & Technology Research

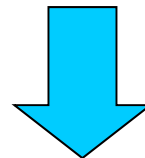
- To Address global issues through science & technology innovation by Japan's world-leading technology & soft power

+

International Cooperation

- Boosting self-reliant research & development capacity in developing countries through joint research by Official Development Assistance (ODA)

Research Members



Modeling Workshop

- **Develop methodology** of LCS Scenarios **suitable for Asian countries** in Malaysia as a showcase of rapid development regions in Asia
- **Incorporate research outputs into real planning** of regional/national development **to establish low carbon society** in Malaysia
- Diffuse project outcomes to other Asian countries through training in Malaysia **to enhance low carbon development in whole Asia**



8. Outline of "Project of Capacity Development for Climate Change Strategies in Indonesia"

1. CURRENT STATUS

- Substantial GHG emissions, if including deforestation and peat land conversion
- Increase in GHG emissions due to economic development and population growth
- High vulnerability to climate change impacts, particularly among poor communities

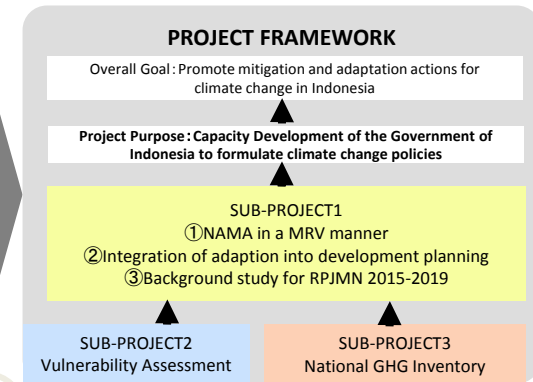
2. THE EFFORTS BY THE GOVERNMENT OF INDONESIA

- National Action Plan on Climate Change; COP13 in Bali (2007)
- National Development Planning: Indonesia Responses to Climate Change ; Establishment of National Council on Climate Change (2008)
- Indonesia Climate Change Sectoral Roadmap ; Announcement of the commitment to 26% GHG emission reduction (2009)
- Association with the Copenhagen Accord (2010)

3. INDONESIA'S 26% GHG EMISSION REDUCTION

<7 Areas of Mitigation Actions>

- ① Sustainable Peat Land Management,
- ② Reduction in Rate of Deforestation and Land Degradation,
- ③ Development of Carbon Sequestration,
- ④ Promotion of Energy Efficiency,
- ⑤ Development of Alternative and Renewable Energy Sources,
- ⑥ Reduction in Solid and Liquid Waste,
- ⑦ Shifting to Low-Emission Transportation Mode



PROJECT OUTLINE

- (1) Counterpart: National Development Planning Agency (BAPPENAS), The Agency for Meteorology Climatology and Geophysics (BMKG), Ministry of Environment (KLH), etc.
- (2) Area: Indonesia at the national level and pilot areas
- (3) Duration: 5 years from 2010
- (4) Project Budget: about 1.1 billion yen
- (5) Inputs: ① experts (chief advisor, vulnerability assessment, national GHG inventory, project coordinator) & consulting teams, ② training (long/short term), ③ local project cost, etc.

CHIEF ADVISOR (JICA Senior Advisor)

SUB-PROJECT1

Formulate NAMA in a MRV manner and Integrate adaption into development planning

- Counterpart: BAPPENAS
- Sub-Project Outputs:
 - ① Capacity for formulating NAMA in a MRV manner
 - ② Capacity for integrating adaptation into development planning
 - ③ Background study for RPJMN 2015-2019 on low carbon development policy
- Pilot sectors for NAMA: sector/sub-sectors relating to Energy Efficiency and Waste
- Pilot Sites: to be determined

SUB-PROJECT2

Vulnerability Assessment

- Counterpart: BMKG
- Sub-project Outputs:
 - ① Capacity for climate change projection and verification (assessment of exposure)
 - ② Capacity for assessment of adaptive capacity
- Pilot Site: Bali
- Produce vulnerability assessment report, including vulnerability maps

SUB-PROJECT3

Prepare national GHG Inventories

- Counterpart: KLH
- Sub-project Outputs:
 - ① Capacity to periodically and systematically collect and compile data necessary for national GHG inventories
 - ② Accuracy and reliability of GHG inventories for each sector
 - ③ Institutional arrangement for preparing national GHG inventories
- Produce draft national GHG Inventory reports (2008 and 2010)

1. Integral Approach

Linkage with the Climate Change Program Loan

2. Flexible Approach

Set flexible TOR for 5-year project duration to be able to respond to the changing landscape of negotiation process on post-2012 framework.

3. Actively Share the outputs and lessons learned with International community

e.g.) UNFCCC/COP, academic societies

国際協力機構

Stakeholders in Indonesia

- BAPPENAS
- KLH
- local governments, etc.

Other donors

- GTZ (NAMA/MRV)
- EU (MRV), etc.

Inputs from Japan

- long-term expert (JICA Senior Advisor) & consultant team
- long- & short-term training, etc.

- BMKG
- KLH
- relevant line ministries
- local governments, etc.

- GTZ (vulnerability assessment), etc.

- long-term expert (Stockholm Environmental Institute)
- long-term training (Ibaraki Univ.), etc.

- KLH
- relevant line ministries
- local governments, etc.

- UNDP (national communication), etc.

- long-term expert (National Institute of Environmental Studies GHG Inventory Office) & consultant team, etc.

5. Extending Low Carbon Development in Asia Utilizing Cutting-Edge Technologies of Japan (A Case of Indonesia)



- *Public funds not enough to develop the estimated 27,000 MW potential in Indonesia's geothermal power*
- *Private sector finance is crucial to develop geothermal, a low-carbon solution to Indonesia's power supply*

Upstream Policy Support

- Low Carbon and Resilient Development Program (ODA concessional loan)
- Supporting MRV, NAMA (technical assistance)

Preparation of Master Plans (Technical Assistance)

- Geothermal Power Development
- Mid-long Term Thermal Power Development

Supporting Infrastructure Development (ODA concessional loan + introduction of Japanese technology)

- Promoting construction of highly efficient coal fired power plants and geothermal power plants



- *JICA listens to the private sector to identify barriers for participation*
- *JICA discusses with the Government of Indonesia on private sector engagement policy in geothermal*
- *Regulatory environment is improved*

- Promoting economic development & low-carbon society
- Introducing monitoring system toward the goal of 26% GHG reduction by 2020 set by the Government of Indonesia

6. Extending Low Carbon Development in Asia Utilizing Cutting-Edge Technologies of Japan (A Case of Vietnam)



Photo: from recent training course for Vietnam power engineers

Upstream Policy Support

- Support Program to Respond to Climate Change (SP-RCC, ODA concessional loan)
- Supporting GHG Inventory (technical assistance)



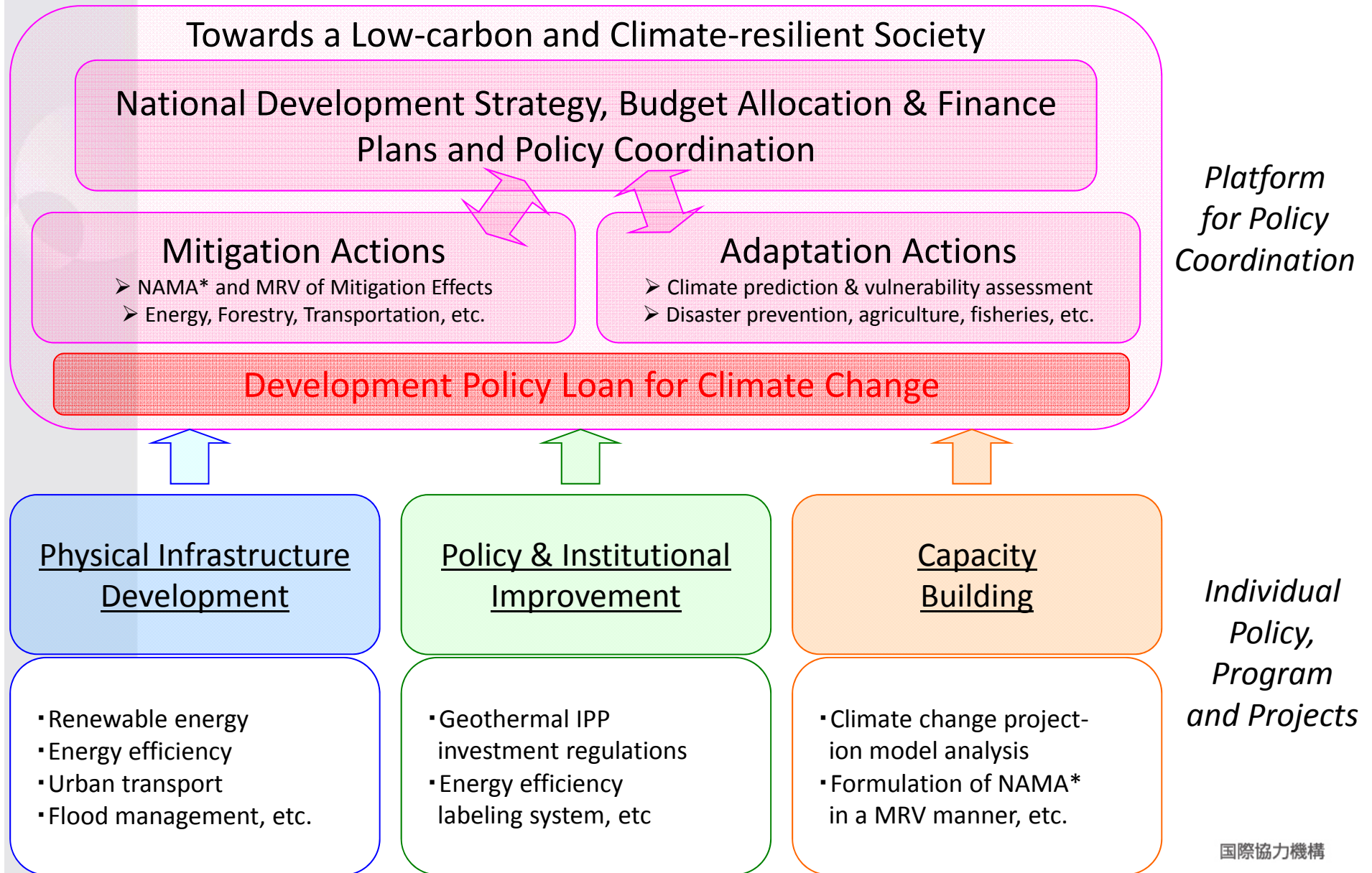
Preparation of Master Plans (Technical Assistance)

- Promoting Energy Efficiency and Conservation

- Promoting economic development & GHG emission reduction
- Financing and consulting to firms for introducing energy efficient equipment

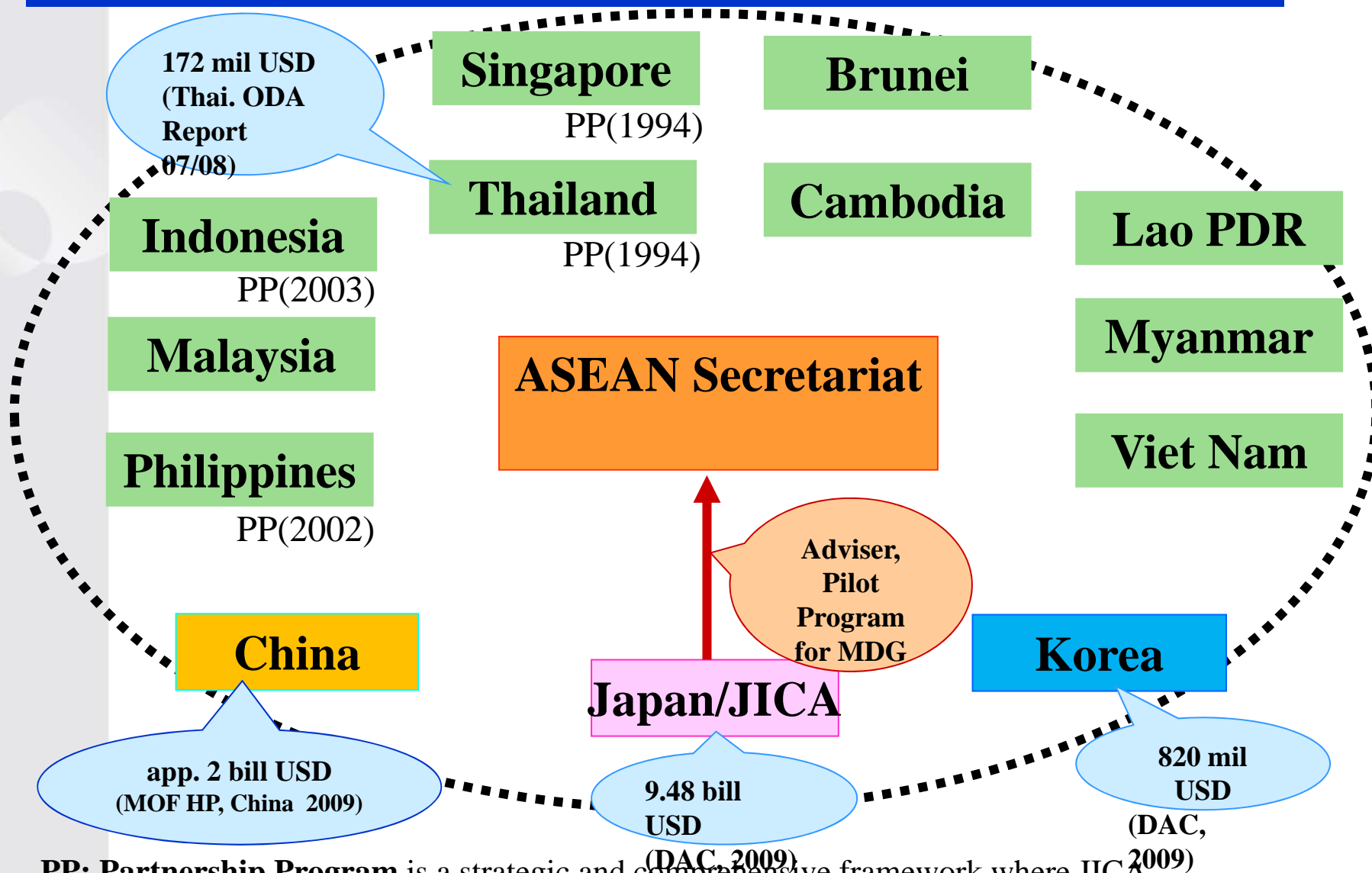
Energy Efficiency and Renewable Energy Promotion
(ODA concessional loan + introduction of Japanese technology)

7. Low-carbon and Climate-resilient Development Framework - Pioneering Examples from Indonesia and Vietnam -



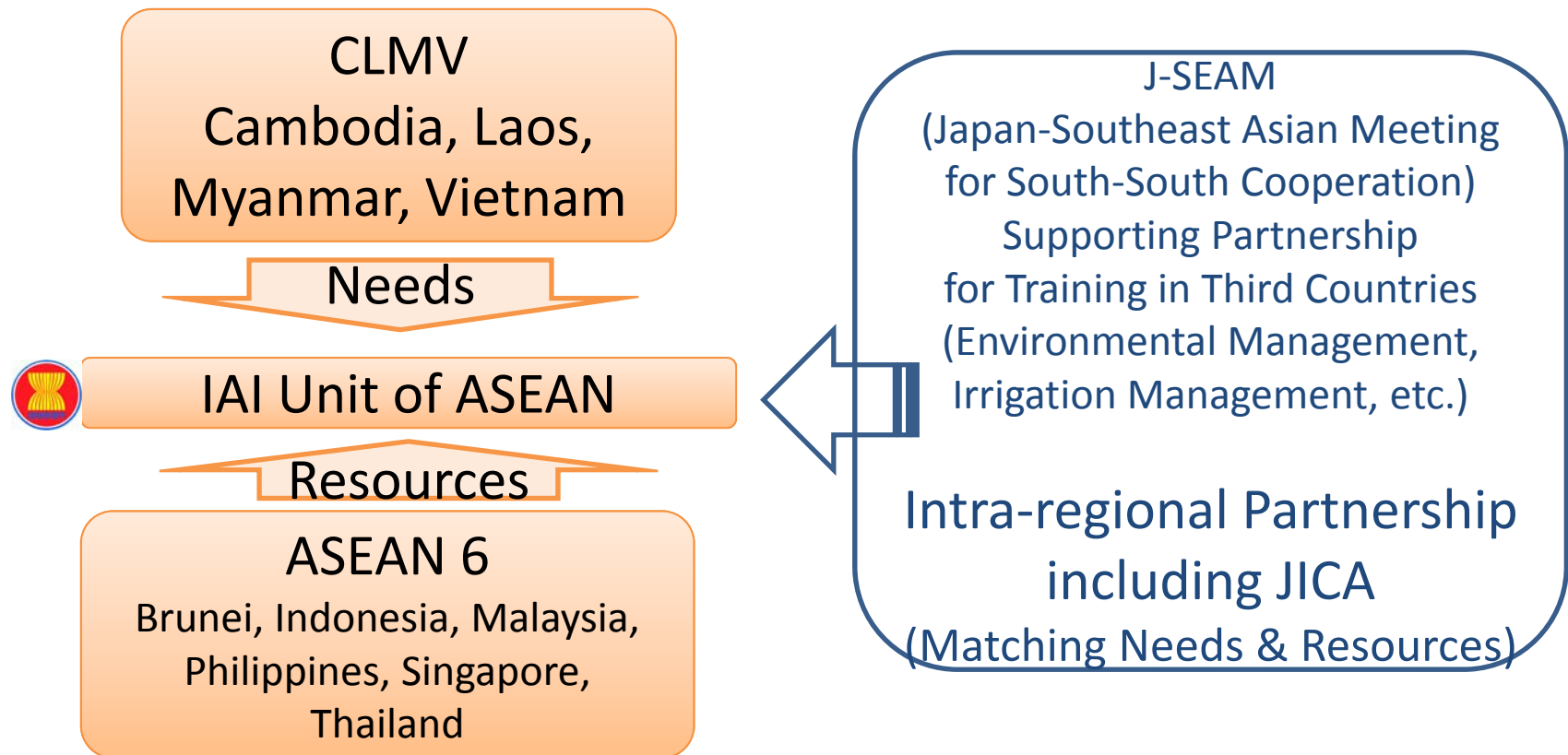


8. Regional Partnership to achieve Low Carbon Society



PP: Partnership Program is a strategic and comprehensive framework where JICA and Partner country jointly implement technical cooperation.

9. Supporting IAI (Initiative for ASEAN Integration) for Networking toward Low-carbon Society



Example: Pilot Program in Laos:
Promoting “Environmental Sustainable City” in Laos
(including preparation of guideline)

10.Future Policy Development

(Networking and Extending Low Carbon Development in Asia,
the Year of Sharing and Promoting Ideas (2012))

1. East Asia Low-carbon Growth Partnership (Tokyo)
Initiative for constructing low-carbon growth model
in East Asia, the global growth center and the
largest emitter of GHG
2. Asian Development Forum (Bangkok)
Deepening the understanding on policy and actions
for environmental protection by emerging countries
in Asia, focus on Green Growth
3. IMF – World Bank Annual Meeting (Tokyo)
4. COP18 (Qatar)

Thank you for your attention.

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