The JCM project development in Bangkok making effective use of city to city collaboration

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1. Climate policy and Japan’s cooperation in Bangkok
   - Bangkok Master Plan on Climate Change 2013-2023
   - Cooperation by Yokohama city

2. Survey on JCM project development under city to city cooperation
Rationale: Climate Change and Bangkok

 ✓ Climate change is one of the largest challenges to the current and future development of human society.

 ✓ For Bangkok, climate change has become a big and real challenge.

 ✓ At the same time, expanding economic and social activities in Bangkok has caused large emission of GHGs.
Climate policy in Bangkok and relevant JICA cooperation

BMA Action Plan on Global Warming Mitigation 2007-2012

Bangkok Master Plan on Climate Change 2013-2023

July, 2015
Basic approval by JCC/SC

December, 2015
Approval by the BMA Governor

2007 2013 2023

Technical Cooperation Project on
Capacity Development and Institutional
Strengthening for GHG Mitigation (2009-2012)

Technical Cooperation Project on
Bangkok Master Plan on Climate Change 2013-2023 (Phase 1)

Technical Cooperation Project on
Bangkok Master Plan on Climate Change 2013-2023 (Phase 2)

Cooperation for study tours
-Dispatch of experts
-Knowledge/Experience sharing
-Support for drafting the Master Plan

Conclusion of MOU on low-carbon city development

Cooperation by JICA

Cooperation by Yokohama city
JICA Technical Cooperation Project for BMA Master Plan on Climate Change 2013-2023

Objectives
(1) Drafting a Bangkok Master Plan on Climate Change 2013-2023
(2) Capacity development for the implementation of the Master Plan

Focal Areas of Cooperation
(1) Energy management, public transport, waste and wastewater etc.
(2) Participation by the private sector, academia, and local communities
(3) Call for participation by the Thai and Japanese Government and international organization for their support
(4) Information sharing
Bangkok Master Plan on Climate Change 2013-2023

December, 2015: Approval by the BMA Governor

1. Background
2. Basic Approaches to the Master Plan
3. Future Visions of Bangkok
4. Current and Future Mitigation
5. Mitigation Actions by Sector
6. Current and Future Adaptation
7. Adaptation Actions by Sector
8. Implementation of the Master Plan
9. Monitoring and Evaluation (M&E) and MRV
10. Capacity-building and outreach
Scope of the Master Plan

5 sectors:
- Environmentally Sustainable Transport
- Energy Efficiency and Alternative Energy
- Efficiency solid waste management and wastewater treatment
- Green Urban Planning
- Adaptation Planning

Transport

- Development of bikeway

Waste management

- Promotion of Waste separation

Energy efficiency

- Promotion of ESCO business
## An example of mitigation measure in energy sector

<table>
<thead>
<tr>
<th>Title</th>
<th>&quot;Promotion of ESCO business for existing buildings (Educate ESCO business, advertisement promotion support, subsidy system for energy saving diagnostic)&quot;</th>
</tr>
</thead>
</table>
| Description | a. Promotion of ESCO business for existing buildings  
b. Educate ESCO business  
c. Advertisement promotion support  
d. Subsidy system for energy saving diagnostic  
e. Publicity of cost benefit  
f. Backup exhibition and provide advertising spaces at BMA facilities |
| BMA Responsibility | BMA: Support  
Other Organization: DEDE |
| Stakeholder | TCC |
| Plan | short term (2015-2013) |
| GHG Mitigation | Accumulate 10 years = 121,264 thousand CO2-eq/ |
| Comment | ESCO fund program in Thailand started for more than five years |
BAU emission and mitigation targets in 2020

<table>
<thead>
<tr>
<th>2013 Emission</th>
<th>2020 BAU</th>
<th>2020 Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13,760,000 ton-CO$_2$e</td>
<td>17,907,072 ton-CO$_2$e</td>
<td>-16.75%</td>
</tr>
<tr>
<td>Energy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25,599,000 ton-CO$_2$e</td>
<td>30,093,900 ton-CO$_2$e</td>
<td>-13.22%</td>
</tr>
<tr>
<td>Waste and Wastewater</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4,550,000 ton-CO$_2$e</td>
<td>4,934,746 ton-CO$_2$e</td>
<td>-4.06%</td>
</tr>
<tr>
<td>Green Urban Planning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4,729,963 ton-CO$_2$e</td>
<td>4,550,000 ton-CO$_2$e</td>
<td>-45,232 ton-CO$_2$e</td>
</tr>
<tr>
<td>-16.75%</td>
<td>+8.89%</td>
<td></td>
</tr>
</tbody>
</table>

2013 Emission: 13,760,000 ton-CO$_2$e
2020 BAU: 17,907,072 ton-CO$_2$e
2020 Target: 14,907,072 ton-CO$_2$e

Transport: -16.75%
Energy: -13.22%
Waste and Wastewater: +8.89%
Green Urban Planning: -45,232 ton-CO$_2$e
Towards implementation of Bangkok Master Plan

Bangkok Master Plan on Climate Change

Institutional arrangement for coordination

- Secretariat

- Drafting
- Capacity Development
- Monitoring Evaluation

Transport Task Force
- Energy Task Force
- Waste & Wastewater Task Force
- Urban Green Planning Task Force
- Adaptation Task Force

Implementation

BMA Budget
- Project (BMA Facilities)
- Project (Private sector)

National Budget
- Project (Subsidies)

Other Budget
- Project (JCM finance)
- Project (Private)

Stakeholders
Feasibility studies for city to city collaboration project by MOEJ (2015-2016)

1. Promotion of low carbon city by properly developing material recycling systems in Bengaluru City (Bengaluru City)
2. Establishment of Base for Low-Carbon Project Expansion in Surabaya (Surabaya)
3. Project for Developing JCM projects under city-to-city collaboration between Yokohama city and Batam city (Batam)
4. Project for Low Carbon Society Development under Collaboration between Bandung City and City of Kawasaki (Bandung City)
5. Project for Developing Low-carbon Tourism Cities through the Joint Crediting Mechanism in Siem Reap (Siem Reap)
6. JCM projects development (energy efficiency, and waste and waste water) under the Bangkok Master Plan on Climate Change, and study on financial and other facilitation schemes for introducing low carbon technologies (Bangkok)
7. Promotion of Decarbonizing of Municipal Waste Management and Ecological Industrial Town in Rayong Prefecture (Rayong Pref.)
8. JCM Feasibility Study in Da Nang through "Technical Cooperation for Sustainable Urban Development" with Yokohama City (Da Nang)
9. The whole city low carbonization in Hai Phong City (Hai Phong)
10. Ho Chi Minh City – Osaka City Cooperation Programme for Developing Low Carbon City (Ho Chi Minh)
11. Establishment of Base for Low-Carbon Project Expansion in Iskandar (Iskandar)
12. Study for building a sustainable low carbon city around the industrial zone in Pathein city, Ayeyarwady Division, Myanmar (Pathein)
13. JCM Project Formulation Study through City-to-City Collaboration in Yangon (Yangon)
14. Programme for the Establishment of Low-Carbon Historic City in Vientiane, based on City-to-City Cooperation between Vientiane Capital and Kyoto City (Vientiane Capital)
Collaboration with the component of the Bangkok Master Plan project (JICA)

**Local government: BMA**
- Department of Environment (Focal point)
- Transport/City Planning/Waste management, etc.

**Local government: Yokohama**
- International Affairs bureau (Focal point)
- Global warming/Architecture, etc.

**Companies in Thailand:**
- Public corporations, Private companies
  (ESCO, Renewable energy, Waste management, Water & Sewage, Transport, Low carbon city)

**Companies in Japan:**
- Companies in Yokohama, Y-PORT members
  (ESCO, Renewable energy, Waste management, Water & Sewage, Transport, Low carbon city)

**Tech. transfer**

**JCM project development**
- Introducing high efficient facilities in hospitals
- Developing projects in waste management facilities

**Support for MRV methodology**
- Proposal for JCM project
- JCM finance

**Consulting companies etc.**
- OEC (Secretariat)

**Ministry of Environment**
- JCM finance
Scope of the FS in 2015-2016

<table>
<thead>
<tr>
<th>Energy efficiency project development</th>
<th>Waste project development</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Public sector</strong></td>
<td><strong>Public sector</strong></td>
</tr>
<tr>
<td>- ESCO project development in public hospitals</td>
<td>- Installation of large-scale incineration plant</td>
</tr>
<tr>
<td>- Installation of energy efficient equipment at Bangkok port, etc.</td>
<td>- Installation of RDF plant</td>
</tr>
<tr>
<td><strong>Private sector</strong></td>
<td>(Improvement of Waste collection/segregation system)</td>
</tr>
<tr>
<td>- Installation of PV power generation at commercial store/plant etc.</td>
<td><strong>Wastewater project development</strong></td>
</tr>
<tr>
<td>- Installation of energy efficient boiler at food plan, etc</td>
<td><strong>Public sector</strong></td>
</tr>
<tr>
<td></td>
<td>- JCM project development at wastewater treatment plant</td>
</tr>
<tr>
<td></td>
<td>- JCM project development at community wastewater treatment plant</td>
</tr>
</tbody>
</table>

**Activities for the survey**
- Policy dialogues between BMA and Yokohama city
- Site visit and energy audit/technical consultation on potential project
- Match-making event in Bangkok
- Study tour in Japan
Structure and rolls for elaborating waste project with JCM scheme

**Framework for city to city cooperation**
Bangkok Master Plan on Climate Change 2013-2023

- Policy dialogue on waste management sector

**Structure and rolls for elaborating waste management project**

- **Yokohama city, Resources and Waste Recycling Bureau**
- **Waste incineration company (JPN)**
  - Proposal for waste incineration
- **Waste treatment company (JPN)**
  - Improvement of waste transfer station
- **Waste collection company (JPN)**
  - Promotion on segregation at resource

- **BMA**
  - BMA, Department of Environment
  - BMA, waste transfer station
  - Operator of waste transfer station
  - Driver of waste collection trucks
  - Districts with ongoing model project
  - Resident in model districts

**Overall management**
- Coordination
- Support for JCM project development
Structure and roles for elaborating ESCO pilot project with JCM scheme

**Department of Environment**: Overall management
**Department of Public Works**: Project planning
**Fiscal Policy Office**: Support for procurement issues

**TGO, DEDE**: Advices from national policy level
- Policy dialogue on Energy sector
  - Elaborating ESCO pilot project plan
  - Discussion on contract/procurement issues

**ESCO (Company)**
- Technical advice for ESCO project planning
- Implementing Energy Audit at public hospitals

**Representative company**
- Installing Facility/equipment
- Engineering, etc.

Forming International Consortiums & applying JCM subsidy scheme
Case study: Project using JCM Financing Programme

Introduction of 1.5MW Rooftop Solar Power System and Advanced EMS for Power Supply in Paint Factory

<table>
<thead>
<tr>
<th>Project participants (Partner country)</th>
<th>Project participants (Japan)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOA Paint CO., Ltd./ Prime Roof Top Co., Ltd.</td>
<td>FINETECH CO., Ltd.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sectoral scope</th>
<th>Expected GHG reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy industries</td>
<td>1,344 t-CO2/Year</td>
</tr>
</tbody>
</table>
Thank you for your attention!