JCM City-to-City Collaboration between Kawasaki-city and Yangon-city

Kawasaki-city
Japan
About Kawasaki-city, Japan

Kawasaki
Beijin
Shanghai
Soul
2000km
1000km
Hong Kong
Yokohama
Tokyo

About Kawasaki-city, Japan
Experience of Industrial Pollution in Kawasaki (1960-70)
Current Landscape over Kawasaki Waterfront Area (2016)

- Mt. Fuji
- Kawasaki waterfront
- Tama river
- Tokyo international airport
About Yangon-city, Myanmar
About Yangon-city, Myanmar

- **Population:** APPROX 5.2 million population (2014)
- **Area:** 598.8 Km²
- **Economic Growth Rate:** 7.8 % (2016: Estimated by World Bank)
JCM City-to-City Collaboration Project (2015)

Objectives
To contribute to sustainable development and realize low carbon society in Yangon, the study aims to formulate prospective JCM projects collaborate with Kawasaki city and Japanese private entities, which have high-efficiency and low carbon technologies.

Potential sectors for low carbon project

[Power]
Unstable power supply, stand-by (back-up) power system in industrial park/commercial facilities etc.

[Transportation]
Heavy traffic jam, demand of mass rapid transit (MRT) system, insufficient parking lots, lack of consolidated logistics system etc.

[Water supply & sewerage]
Decrepit water supply/sewerage facilities, expansion of the facilities in the suburb etc.

Target sector
1) Low carbon industrial park
2) Low carbon building management system
3) Low carbon water supply/sewerage facilities
4) Project identification of Renewable energy/New energy

Technologies to be introduced
a) High efficiency air conditioning facilities, energy saving fluorescent light, etc.
b) High efficiency air conditioning facilities, energy saving fluorescent light, etc.
c) High efficiency pumping system, low carbon technologies in water sector etc.
d) Solar power, biogas, biomass, mini hydropower etc.
JCM City-to-City Collaboration Project (2015)

Mingaradon Industrial park in Yangon

Pollution Control and Cleansing Department in YCDC

City Planning and Land Administration in YCDC

Meeting with CPLA&PCCD in YCDC regarding City-to-city collaboration workshop
JCM City-to-City Collaboration Project (2015)

Kawasaki Chamber of Commerce and Industry

Economic and Labor Affairs Bureau of Kawasaki

Zero-Emission Industrial park

Ukishima Incineration Plant
JCM City-to-City Collaboration Project (2015)

Building up “Trust” and “Mutual Understanding”

City-to-city collaboration workshop held in Yangon city hall
Achievement: MOU between Kawasaki and Yangon (2015)

August 2015: Start of city-to-city collaboration

October 2015: 1st Visit to Yangon-city

December 2015: Discussion on Draft MOU at Yangon-city

January 2016: Workshop on City-to-city collaboration at Yangon-city

March 2016: Concluding MOU between Kawasaki city and YCDC

Memorandum of Understanding Between the City of Kawasaki, JAPAN and the City of Yangon, Myanmar on the City to City Collaboration

In order to promote city to city collaboration between Kawasaki and Yangon for achievement of low carbon city in Yangon and thus to contribute to the further prosperity of both, the City of Kawasaki and the City of Yangon hereby agree upon the following:

1. Both parties shall be committed to promote city to city collaboration for achievement of low carbon society in Yangon and contribute to the further prosperity of Kawasaki and Yangon within the fields of technical cooperation, information exchange, and economic exchange as well as develop cooperative framework based on win-win and equal relationship.

2. In order to achieve the aforementioned objectives, both parties shall cooperate on the following:
   (a) Excavation and supporting of low-carbon projects utilizing Joint crediting mechanism (JCM) scheme
   (b) Technical cooperation and information exchange for realizing low-carbon society of Yangon
   (c) Supporting creation of new business in a field of environment

3. According to this Memorandum of Understanding (MOU), there shall be back to back missions to have exchanges and study visits in both cities.

4. This MOU shall become effective on the signed date and remain valid for three years. If one country wants to terminate the MOU, they shall inform in writing before one month, otherwise the MOU will be continued automatically.

5. The contents of this MOU can be amended in accordance with a written agreement of both parties.

6. Any disagreement which comes from interpretation of the MOU shall be solved in a friendly way based on both parties’ trust and discussion.

7. This MOU shall be made in two original copies in English.

March 25th, 2016

H.E U Hla Myint
Mayor of Yangon

Mr. Norihiko Fukuda
Mayor of Kawasaki

Workshop for city-to-city collaboration at Yangon
JCM City-to-City Collaboration Project (2016)

- **Yangon City (YCDC)**
  - Pollution control & Cleansing Dept.
  - City Planning & Land administration Dept.

- **Kawasaki City**
  - Economic and Labor Affairs Bureau

City-to-city collaboration regarding the JCM project formation

JCM project formulation with regional government’s support

- **Private entities in Yangon city**
  - Myanmar company [Project participant]
  - Myanmar company [Project participant]
  - Myanmar company [Project participant]

- **Private entities in Kawasaki city**
  - Japanese company [Project participant]
  - Equipment manufacturer [Supplier]
  - Equipment manufacturer [Supplier]

- **Installation of high efficiency boiler in the factory**
- **Solar power project to install public facilities in YCDC**
- **Energy efficiency project in YCDC facilities**

JCM needs identification of ESCO Project, Renewable energy project, Solid waste, Transportation infrastructure, Low carbon city planning/development, Low carbon industrial park in Myanmar, especially Yangon city.
Cascade system of high efficient chiller can reduce electricity consumption and CO2 emission

- 28% electricity reduction

<table>
<thead>
<tr>
<th>Item</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Drinking factory in Yangon</td>
</tr>
<tr>
<td>Efficiency</td>
<td>COP4.3, compressor 95%</td>
</tr>
<tr>
<td>Capacity</td>
<td>Compressor 1401+1039kW Condenser 1650 kW x 2</td>
</tr>
<tr>
<td>CO2 Reduction</td>
<td>1029 ton/year</td>
</tr>
</tbody>
</table>
High-efficiency once-through oil boiler reduce fossil fuel and CO2 emission

Co-benefit of reduction of air pollutant

- 9.6% fuel reduction

**Introduced Technology**

- **Location**: Food factory in Yangon
- **Efficiency**: 94%
- **Capacity**: 2 ton/h x 6 nos
- **CO2 Reduction**: 674 ton/year

JCM Subsidy Project - 2 (2016)
Ongoing JCM Feasibility Study (2016):
Installation of Solar Power Generation Device in Public Facility in Yangon
Pilot Project Site: Nyaung Hnit Pin Water Purification Plant

- **Electric Room (PV–related Equipment can be stored)**
- **Pump Room**
- **Candidate PV Module Area**
Photo Voltaic (PV) System Concept

< PV System on Planning >
- Solar PV Energy sent to YESC (Yangon Electric Supply Company) grid
- YCDC purchase Electricity from YESC grid
- Net Metering: Tariff Payment = Energy used – PV generated

2.0 MW PV Array in YCDC Water Purification Plant

Power Conditioners
DC -> AC

Control Panel, Switch, Meter, etc.

YESC Grid

YCDC pump

**Basic Concept**

Establish a sustainable low-carbon society through
i) Harmonization of green environment and economy
ii) Creation of their good cycle, so that the good natural environment can be maintained for the next generation.

**Target year for Low Carbon Action Plan**

This Low Carbon Action plan set target year as short, mid, and long term;
- **Short term** (Up to 2018)
- **Mid term** (Up to 2020)
- **Long term** (Up to 2030)

**Implementation body of the plan**

Implementation body of the Low Carbon Action Plan is indicated in the attachment 1.
It is assigned by project base which are listed under Basic Measures.
Low Carbon Action Plan under JCM city-to-city collaboration, supported by Kawasaki city

1) Preparation of low carbon action plan
   * See Kawasaki’s plan as reference

2) JCM project formation
   - Installation of high efficiency boiler in factory
   - Solar Power Project in YCDC’ property

Feasibility Study on JCM solar power project in YCDC’s facility, such as water treatment plant, ex-dumping site etc.

[item to be checked in FS]: Availability, applicable load, generation and energy supply plan, grid connection, ownership, tariff, cost benefit, budgeting by YCDC etc.
U Kyaw Win, Union Minister of Ministry of Planning and Finance visit Kawasaki-city
Photo with Kawasaki city mayor, chairman of city council, and chairman of Kawasaki Chamber of Commerce and Industry
Thank you for your kind attention.