Developing JCM Projects Through the City-to-City Collaborations Under Y-PORT (Yokohama Partnership of Resources and Technologies)
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1. Introduction of Yokohama City and Its Development History
Overview of Yokohama City

- International port city
  - Opening of port of Yokohama in 1859
- Population: approx. 3.7 million
  - Largest municipality in Japan
- GDP: approx. 12.7 trillion JPY
- Approx. 20 minutes from Haneda Airport (Tokyo)
History of Yokohama’s Urban development

1853

Source: Yokohama archives of history

1867

Source: Yokohama archives of history

Mr. H. S. Palmer
British Engineer for Water Works

2016

Source: Port and Harbor Bureau, the City of Yokohama

Gas Lamp
City of Yokohama faced rapid urbanization during 1960s to 80s
Due to Rapid Growth

1960-80’s in Yokohama
The Lee Kuan Yew World City Prize is a biennial international award that honours outstanding achievements and contributions to the creation of liveable, vibrant and sustainable urban communities around the world.

In 2014, Yokohama was selected for Special Mention, and will be awarded during the World Cities Summit in June.

Yokohama was recognised for overcoming its urban challenges faced over the last 40 years through excellent partnership with its citizens and stakeholders. Also the Y-PORT programme was mentioned for its clever marriage of economic growth and international contribution by tying up with local businesses to export urban solutions to emerging cities.
2. Challenges for Global Warming in Yokohama
Yokohama city emitted CO2s more by household and commercial sector because of the largest population in Japan.

In Yokohama City:
- Transport: 20.0%
- Energy Industries: 22.8%
- Industries: 11.1%
- Home: 21.8%
- Commercial: 22.1%

Carbon dioxide emissions in FY2014*:
- Total: 21 (Million tCO2)

In Japan:
- Transport: 17.2%
- Energy Industries: 7.2%
- Industries: 33.8%
- Home: 15%
- Commercial: 20.9%
- Waste: 2.3%

Carbon dioxide emissions in FY2014*:
- Total: 1,266 (Million tCO2)

*Carbon dioxide emission value in the graphs shows preliminary results in 2014
Results (To FY2013) / Targets (FY2010-FY2014)
HEMS (Home energy management system) (4,200/4,000) PV (37MW/27MW) EV (2,300/2,000)

Yokohama Smart City Project (YSCP)

© Yokohama Smart City Project 2015
Yokohama Smart Business Association (YSBA)

Achievement of an “Energy - recycling City”

- Promote local energy production for local consumption
- Use BEMS to verify public facility demand response

Energy production
- Fuel cell
- PV
- Biomass
- CGS

Energy storage
- Heat exchange machine
- Heat storage tank
- EV
- Battery

Heat energy

Negative Watt aggregator

Power rates/demand: peak or peak cut

Power saving amount

Incentive
Main measures (5 pillars) of Energy Action Plan established in March 2015

- Development of energy management
- Use of renewable/unused energy
- Use of hydrogen
- Introduction of energy-saving technology
- Integration with urban development
3. Our Efforts to Develop JCM Projects through City to City Collaboration (Y-PORT Project)
Yokohama Partnership of Resources and Technologies

It is essential to provide not simple products but solutions through combining technologies and knowhow of the public and private sectors

Enhancement of international technical cooperation

Support from central government
Technological capacities of firms in the city
Knowhow and technologies of the City of Yokohama

Y-PORT Project

MOU with JICA
MOU with ADB

Lol with the City of Batam in May, 2015
Master Plans which the City of Yokohama has worked together with Four Cities under City-to-City collaboration

**Bangkok, Thailand**
- Bangkok Master Plan on Climate Change

**Da Nang City, Vietnam**
- Da Nang Urban Development Forum (Making Urban Development Action Plan)

**Batam City, Indonesia**
- Project Mapping (planned) based on Batam Green Cities Program

**Cebu City, Philippines**
- Mega Cebu Roadmap 2050

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- JICA Report
  "Technical cooperation project on the Bangkok master plan on climate change 2013-2023 in the Kingdom of Thailand" (1) [http://libopac.jica.go.jp/images/report/P1000025878.html](http://libopac.jica.go.jp/images/report/P1000025878.html)
  (2) [http://libopac.jica.go.jp/images/report/P1000025879.html](http://libopac.jica.go.jp/images/report/P1000025879.html)

- JICA Report

- JICA Report
Making Master Plans and Action Plan

Bangkok Master Plan on Climate Change 2013-2023

Capacity buildings through working together for city’s plans

Implementation with Private Sector

Project Implementation for Sustainable Urban Development

(JCM Finance)

BMA

Yokohama
Flagship Projects by City to City Collaboration in Four Cities

**Bangkok, Thailand**
- Introduction of high efficiency pumps in the water purification plant by Yokohama Water Co., Ltd.

**Da Nang City, Vietnam**
- Rooftop solar power system and advanced EMS for power supply in Factory by Finetech CO. Ltd.

**Batam City, Indonesia**
- Energy Saving for Air-Conditioning Utility System in the airport terminal by iForcom Tokyo Co., Ltd.

**Cebu City, Philippines**
- Efficient dewatering process of septage sludge by Amcon INC.

*Expected CO2 Emission Reductions (tCO2/year)*

- JCM 1,344\(*_{tCO2/year}^t\)
- JCM 1,145\(*_{tCO2/year}^t\)
- JCM 533\(*_{tCO2/year}^t\)
- Waste plastic recycling by Mansei Recycling Systems Co., Ltd.
Framework of City-to-City Collaboration with Batam in this Year

Bilateral Relationship

Cooperative agreement between the cities

Task Force

City of Batam

City of Yokohama

Government of Indonesia

Government of Japan

Private and academic sector

Regional Development Assistance Organization such as ADB and JICA

Contribution to vitalize a "Smart Green Island" in Batam
Phase approaching by JCM in Batam City

**Generation 1**
- Energy-saving A/C System for the Airport terminal

**Generation 2**
- Energy-saving at Ferry terminals
- Energy-saving at Hospitals
- Energy-saving at Hotels

*Preliminary approval by GEC/MOEJ with JCM Financial Support*

*Feasibility studies are on going in JFY 2016*
Aiming to spread benefit over whole of the City

- From Flagship Model Project to wide-range fields of projects
- From “BtoG” to “BtoB” businesses
JOIN the 5TH ASIA SMART CITY CONFERENCE on 16th-18th November in Yokohama, Japan

Sharing best practices on smart urban solutions
Y-PORT CENTER – Knowledge hub for smart city management

Please visit our web site:

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Thank you for your attention