

MOEJ's Environmental Cooperation through City-to-city collaboration in Asia

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Importance of Cities in Environmental Cooperation

COP21 Paris Agreement and G7 Toyama EMM mention the growing importance of cities to tackle against climate change, and enhance momentum for implementation

COP21 (Nov. – Dec. 2015)

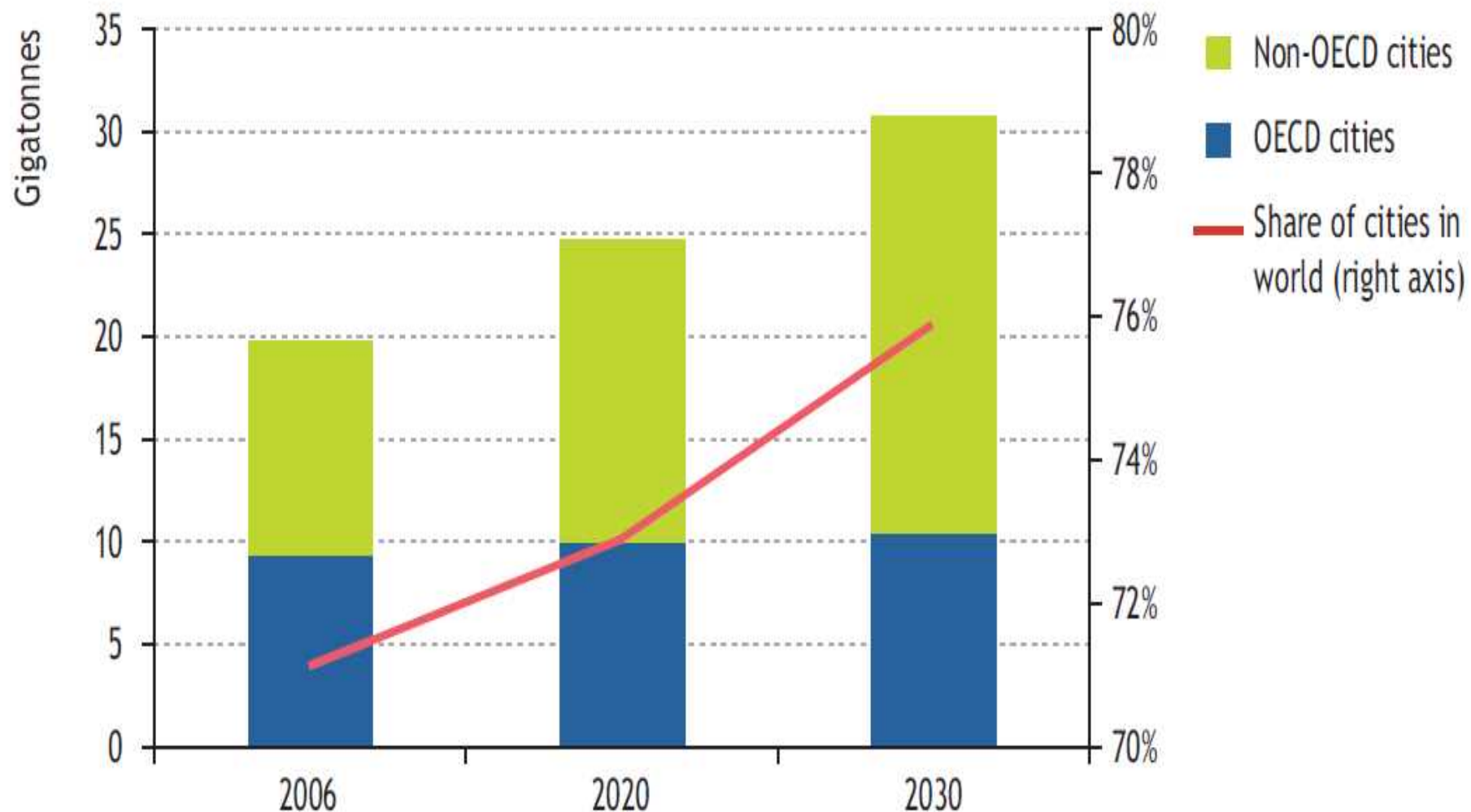
- **Acknowledge actions by Non-State Actors, such as cities and local governments**
“Welcomes the efforts of non-Party stakeholders to scale up their climate actions, and encourages the registration of those actions in the Non-State Actor Zone for Climate Action platform” (118, Paris Agreement IV “Enhanced Action prior to 2020”)
- **Facilitate further collaboration between national and local governments**
“Encourages Parties to work closely with non-Party stakeholders to catalyze efforts to strengthen mitigation and adaptation action” (119, Paris Agreement, ibid.)
- At event on Lima-Paris Action Agenda (LPAA), ministers, governors and mayors **discussed on roles of cities and local govt. tackling against climate change** where Brown (Governors of California), Royal (Minister, MEDDE, France), Al Gore (Former VP, US) etc., took part.

G7 Toyama EMM (May 2016)

- **Reaffirmed growing importance of the role of cities**, in promoting climate change mitigation measures and environment protection measures incl. adaptation.
- Unanimously agreed to **further facilitate advanced actions taken by local governments**, fully coordinating with actions taken by central governments.
- ✂ The parallel session on “The role of cities” was organized with participation of leaders of cities from G7 countries and discussions were summarized in the Chair’s summary



Importance of Cities in Environmental Cooperation



OECD/IEA (2008) World Energy Outlook 2008



Sustainable Cities in SDGs

SUSTAINABLE DEVELOPMENT GOALS



Sustainable Development Goal 11
Make cities and human settlements inclusive, safe, resilient and sustainable

1. JCM City-to-City Collaboration Feasibility Studies



City-to-City Collaboration for low-carbon development

- The role of cities was articulated at COP21 and G7 environment ministers meeting
- It is necessary to establish low carbon societies (LCS) in developing and emerging countries in order to globally reduce GHG emission to achieve 2 degree target.
- City-to-city collaboration can realize continuous diffusion of advanced low carbon technologies as well as transfer of knowledge and know-how to foreign cities from Japanese municipalities with long-term support



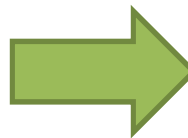
The Government of Japan emphasizes and supports the “city-to-city collaboration”

Advanced low carbon technologies



Transferred Japan's experience,
knowledge and know-how

- Overcome of pollution and establishment of LCS
- Operation experiences of institutions and infrastructures



Contribution to establishment of
low carbon societies
in developing countries

Win-Win Relationship



JCM City-to-City Collaboration Feasibility Studies

- Support project formation to realize low-carbon society based on City-to-City collaboration between a Japanese and a foreign municipality
- Japanese cities, having overcome environmental challenges in the past, can provide their knowledge and technologies

Cities in collaboration in 2014-2016 (9 Japanese Cities with 17 partner cities)

Yokohama city	: Batam city (Indonesia) Bangalore city (India) Da Nang city (Vietnam), Bangkok city (Thailand)
Kanagawa pref.	: Siem reap province (Cambodia)
Kitakyushu city	: Phnom Penh city (Cambodia) Rayong (Thailand) Haiphong city (Vietnam) Iskandar (Malaysia) Surabaya city (Indonesia)
Kawasaki city	: Yangon city (Myanmar) Bandung (Indonesia)
Fukushima city	: Ayeyarwady (Myanmar)
Sapporo city	: Ulaanbaatar city (Mongolia)
Osaka city	: Ho Chi Minh city (Vietnam)
Kyoto city	: Vientiane city (Laos)
Kobe city	: Phu Quoc island (Vietnam)

Achievements : the JCM Model Projects



Digital tachograph
(Vietnam)



Photovoltaics
(Malaysia)



Waste to Energy
(Myanmar)

Process towards project formation

Phase 1

Supporting Master Plan Development

Phase 2

Project Finding

Phase 3

Project Screening

Phase 4

Feasibility Study

JCM project formation

Advantages of city to city collaboration

-Japanese city with environmental experience support partner cities to **establish master plan** for low carbon development.

-**Local information** is provided by partner city to conduct project findings effectively.

-Partner city provides **local knowledge and data** to assess project potentials.

-**Permission** procedures are facilitated, if necessary, by partner city
-Resources for project implementation is arranged and provided by partner cities
-Applying successful cases to other locations and/or cities

City to City collaboration will facilitate low-carbon project formation efficiently.



FY2016 Feasibility Studies

Feasibility Study on JCM Project by City to City Collaboration

1. The study of high-efficiency heat pump installation projects for Energy-saving field and PV generation projects for RE* field in Mongolia
(Ulaanbaatar City-Sapporo City/Hokkaido Prefecture)
2. The study of cogeneration and exhaust heat recovery projects for RE field in Vietnam
(Hai Phong City-Kitakyushu City)
3. The study of PV generation projects for RE field and high-efficiency boiler installation projects for Energy-saving field in Myanmar
(Yangon City-Kawasaki City)
4. The study of water treatment system installation and WtE projects for RE field in Myanmar
(Patheingyi City-Fukushima City)
5. The study of biomass power generation projects and PV generation projects for RE field in Cambodia
(Siem Reap State-Kanagawa Prefecture)
6. The study of WtE, cogeneration and exhaust heat recovery for RE field in Thailand
(Rayong Province-Kitakyushu City)
7. The study of project formulation by assisting planning the action plan for the climate change strategy and projects for RE field and Energy-saving in Cambodia
(Phnom Penh city-Kitakyushu City)
8. The study of cogeneration projects for RE field and high-efficiency air conditioning system installation projects for Energy-saving field in Malaysia
(Iskandar Development Region-Kitakyushu City)
9. The study of high-efficiency air conditioning system installation and heat desorption unit installation projects in Indonesia
(Batam City-Yokohama City)

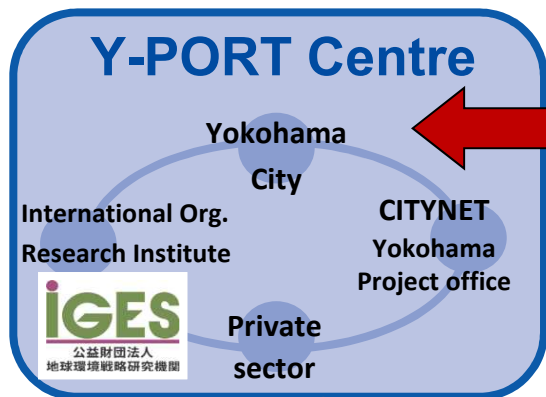


*RE : Renewable Energy



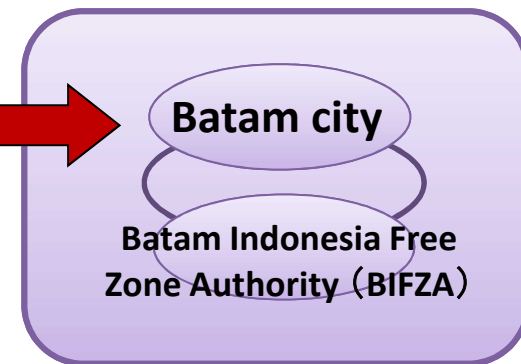
Yokohama-Batam Collaboration in FY2016

Japanese side



Letter of Intent on technical cooperation (May 2015)
Task force team (Jan 2016)

Indonesian side



Co-organizing workshops Energy Sector

Nippon Koei Co., Ltd.

Support for JCM project development
Methodology Development
Workshop arrangement etc.

Facilitation

Technical support

iFORCOM Tokyo Co., Ltd.

A/C Eco-operation

Public Buildings, Hospitals, Private Hotels

FINETECH Co., Ltd.

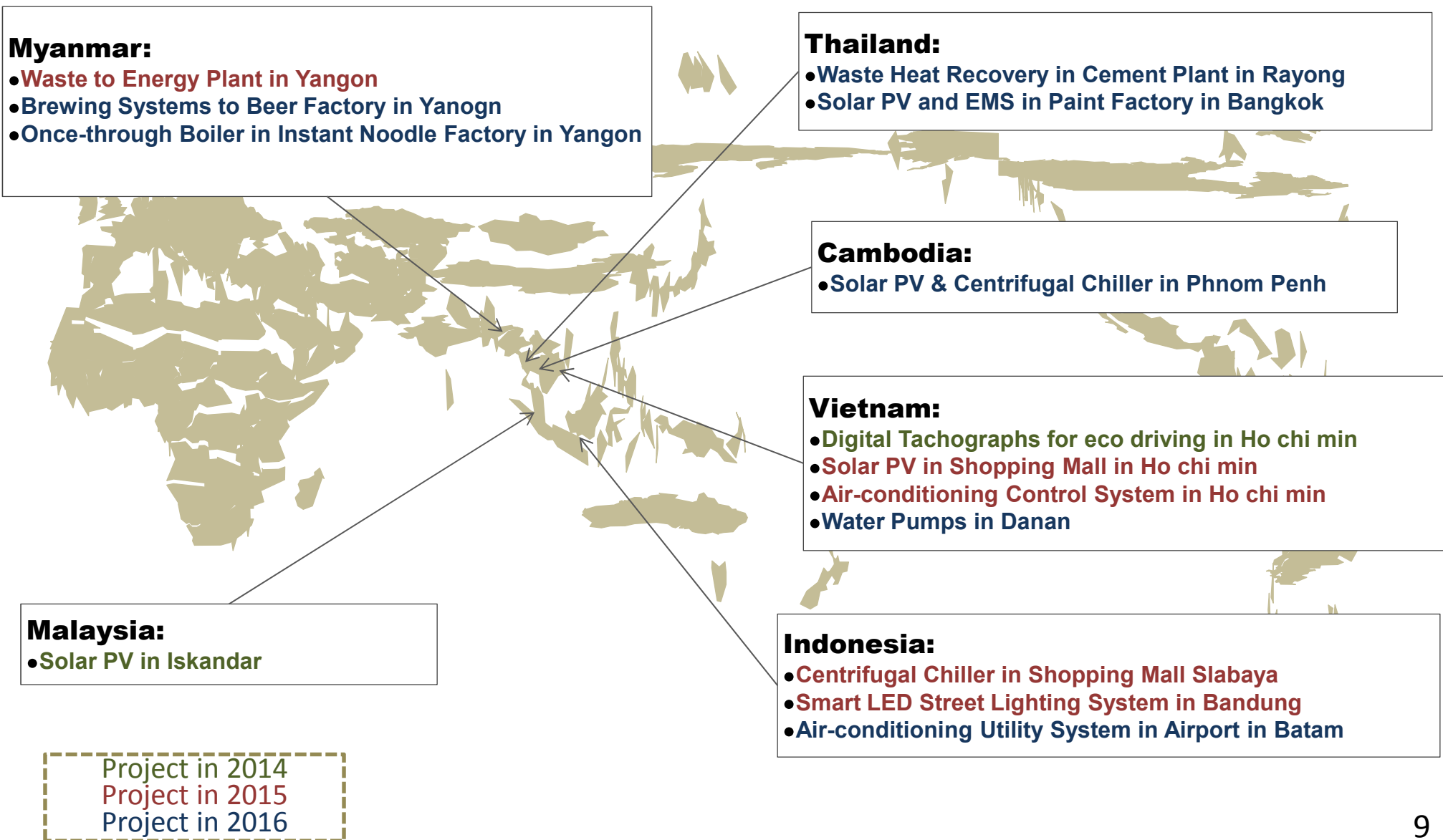
Energy efficiency

High efficiency thermal desorption unit
(PT Mega Green Technology)



JCM projects established from city to city collaboration

The following map shows the areas of JCM projects established from city to city collaboration study

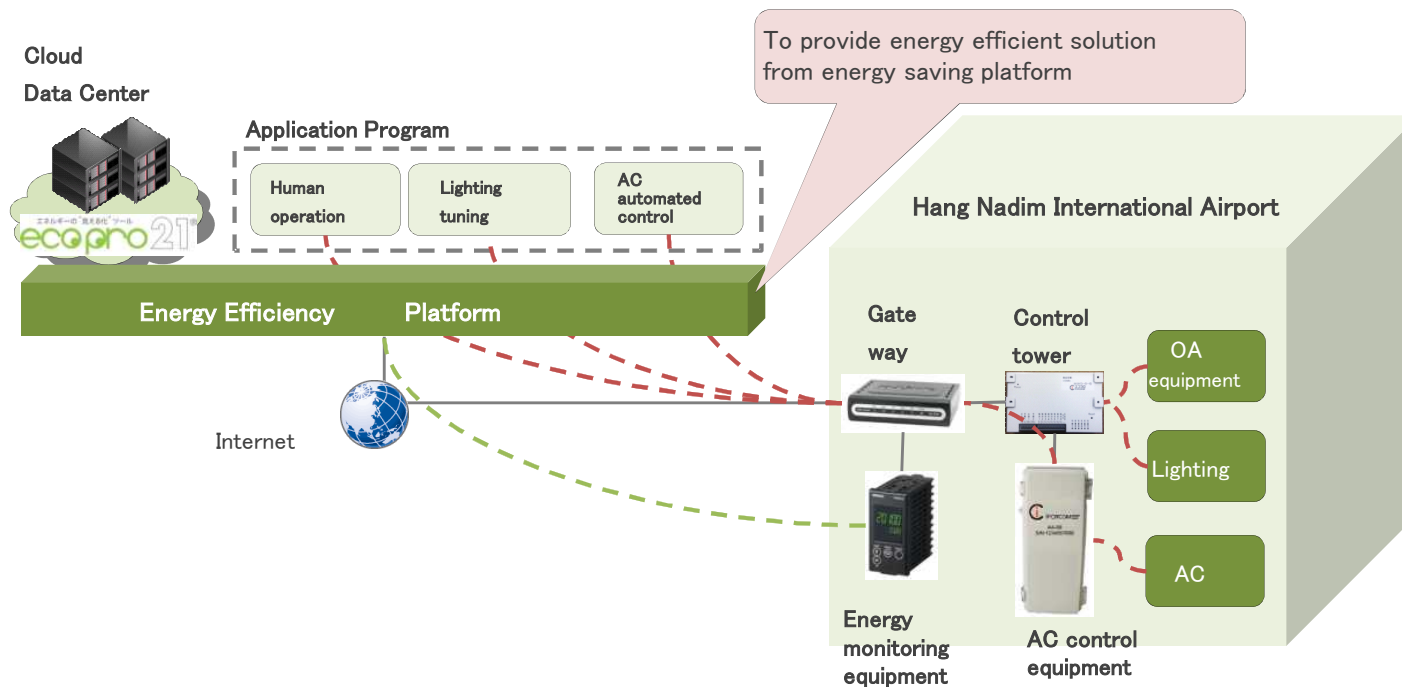




Air-conditioning Utility System in Airport in Batam

Outline of GHG Mitigation Activity

- Introduction of utility systems in the airport terminal in Batam Hang Nadim
- Installation of chiller in light of the proper environment construction, tuning of the air conditioner (AHU), the inverter control of the start-stop control and pump for the chiller



Expected GHG Emission Reductions

533tCO₂/year

← (reference power consumption - project power consumption) X grid electricity coefficient

2. High-level Seminar and ASEAN ESC Model City Program



Multilateral Cooperation for Environmentally Sustainable Cities (ESC)

- **East Asia Summit Environmental Ministers Meeting in 2008** agreed that ‘**Environmentally Sustainable Cities**’ (ESC) shall be an immediate priority area for initial collaboration.
- Japan has been supporting ESC related activities, in collaboration with ASEAN, by ESC Model Cities Program and High Level Seminar.

ASEAN ESC Model Cities Program

1. Has Supported ASEAN ESC Model Cities Program (year 1 & year 2) by JAIF (Japan-ASEAN Integration Fund)
2. Start to support the year 3 Program this year. The program plans activities regarding the implementation of SDGs

Outline of Year 3 Program

High Level Seminar on ESC

1. Has Supported ESC High Level Seminars in collaboration with ASEAN Secretariat under the EAS framework.
2. Has Lead the 7th Seminar in 2016 to the new direction of SDGs implementations by Cities.

New Direction of HLS

Year 3: Agreed Common Framework of ‘Model Cities’

Evaluation of environmental performances by SDGs indicators



7th High Level Seminar on Environmentally Sustainable Cities

Redesigning toward the 2030 Agenda

HA NOI, VIET NAM
3-4 MARCH 2016

- Reports on the progress and initiatives of each country and city as well as shares good-practices activities for SDGs

- Promotes cooperation among cities both within and outside ASEAN, and collaboration with international aid agencies and EAS Member States, etc.

Consideration of new supports by MOEJ

- Towards supports for cities activities based on City-to-City network
 - ~ Image of the Network ~
 - Formulation of loose network of cities whose activities include providing opportunities to visit Japanese cities
 - Mutual discussion to solve environmental-, social- challenges
 - Sharing of past experience, practical technologies, system and Know-how

Potential Cooperation Area:

3R/ Waste Management, Air Pollution, Prevention, Waste Water Treatment, Low Carbon Cities

(Reference) Examples of past programs



Siem Reap (Cambodia)
Introduced a waste sorting collection system



Kuching North (Malaysia)
Activities for the recycling of organic waste

Learning about organic waste management from Thailand and Japan



ASEAN ESC Model Cities Overview

Who:

Established with support by the Japan-ASEAN Integration Fund (JAIF) since 2011, **ASEAN ESC Model Cities** is **ASEAN's platform of 'frontrunner' cities** who implement **innovative bottom-up practices (mainly on environmental improvement)**, thereby improving local quality of life and also contributing to national/global goals.



How:

- Provide support (seed funds) for pilot projects
- Let cities to learn from each other (within each country and across countries, i.e. North-South, South-South)
- Recommend high-potential cities for additional opportunities (e.g. projects and training by other organisations)

∞ 40 Model Cities

∞ 200++ Activities

👤 8 Countries

👤 55,000++ People Engaged

∞ 1 ASEAN Community

∞ ~50% matched government contributions



List of Model Cities

Country	Year 1	Year 2	Year 3
Cambodia	Phnom Penh, Siem Reap	Phnom Penh, Pursat	Pursat, Kep
Indonesia	Palembang, Surabaya	Balikpapan, Lamongan, Malang, Tangerang	Banjarmassin, Malang
Lao PDR	Xamneua	Luang Prabang, Xamneua	Luang Prabang
Malaysia	North Kuching	--	Pantai Cunang
Myanmar	Yangon	Yangon, Mandalay, Pyin Oo Lwin	Yangon, Mandalay, Pyin Oo Lwin
Philippines	Palo (Leyte); Puerto Princesa	Legaspi; San Carlos (Negros Occidental); Santiago	Davao, Dipolog
Thailand	Mae Hong Son, Muangklang, Phitsanulok	Chiang Rai, Nongteng, Panusnikon, Pichit, Renunakon	Chiengkean, Kohkha, Krabi
Viet Nam	Cao Lanh, Da Nang	Dalat, Da Nang	Can Tho

There are currently **40 Model Cities in 8 countries**, and with various geo-economic profiles.

- **Very small** (<20,000 population) (*9 cities*)
- **Small** (20,000 – 250,000 population) (*20 cities*)
- **Big** (250,000 – 1.5 million population) (*7 cities*)
- **Very Big** (> 1.5 million population) (*5 cities*)

The total population in all Model Cities is about **20 million citizens** (about 3% of total ASEAN population).



Framework and Criteria for Selecting Model Cities

QUALITIES

- 1 ASPIRATION**
Visions are unique.
Goals either meet or exceed expectations. Resources are allocated to meet goals.
- 2 INNOVATION**
ESC Practices/policies in the 'Model Cities' have some aspect of novelty/creativity'
- 3 CONTRIBUTION**
'Model Cities' reflect their contribution to addressing national, regional and global issues into local actions.



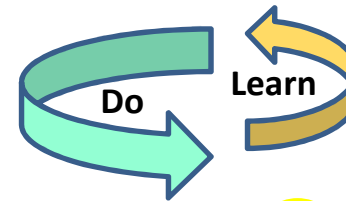
ACTIONS

All Model Cities are able to implement these actions, regardless of city size and profile.



- 1 ENVIRONMENTAL EDUCATION**
Teach environmental issues and sustainability in schools/institutes of learning and also involve the general public

- 2 INNOVATE & EXPERIMENT**
'Establish Islands of Excellence' within the city, such as Model Homes/Villages, Model School/University, Model Green Private/Public Building, Model Public Spaces (Park, Museum, Library etc.)



- 3 NETWORKING**
Government, citizens, businesses, academic, artists know each other and work together to overcome challenges. Specific committee tasked with oversight.

- 4 COMMUNICATIONS**
Effective and beautiful PR services and systems for citizens and non-citizens (tourists, international organisations etc.)

RESULTS

- 1 QUALITY LIVING & WELL BEING**
for citizens.

- 2 IMPRESSIVE & INSPIRING**
to other cities and visitors (tourists etc).



Activities by Model Cities in Indonesia (Year 1 – 3)

The National Focal Point (Ministry of Environment & Forestry) facilitated the nationwide policy of replicating and scaling up 'Waste Banks' in Model Cities. Selected Model cities are shortlisted from the top-performing winners of the national Adipura Green City Awards programme.

Cities		Activities/Results
Year 1	Palembang	- Established 2 pilot waste banks in Surabaya and 5 pilot waste banks in Palembang which will serve as a model for scaling up/replication within the two cities. - Trained city officers and residents trained in composting and recycle centre management - Supported two national seminars for the nationwide network of waste bank operators, consolidated, from existing networks at the provincial and city level.
	Surabaya	
Year 2	Balikpapan	Balikpapan and Lamongan developed new models of 'Waste Bank Plus' (traditional waste banks with additional service of health insurance) targeting the lowest-income segment of society
	Lamongan	
	Malang	Malang trained local volunteer 'environmental cadres' and schools on gender sensitivity and operating community-based wastewater management (recognized globally and nationally as a replicable model in Indonesia).
Year 3	Banjarmasin	Plans to scale up citywide replication of waste banks to achieve the goal of at least 50 new community waste banks established in one year.
	Malang	Plans to establish a local 'Data Revolution' in Malang City by training at least 30 schools on Measurement, Reporting and Verification (MRV).



How a Typical Waste Bank Works

Waste segregation at source is performed by households.



Customer brings separated waste to Waste Bank to be 'deposited' and is served by a 'teller'.



The 'teller' records the weighs, records and stores the deposit. Customer receives a receipt.



Deposited wastes are sold to recyclers and craftspeople.



Revenue is used to fund the Bank's operations (15%) and the balance is distributed to customers (85%).



Craftspeople refashion waste into useful products (left pictures), which are sold at the 'distro' (distribution outlet operated by the Waste Bank, thus creating further income opportunities apart from sales of waste).



Waste Bank in Malang City

**Waste Bank of Malang City – ‘Economical, Clean, Bright, Professional’
Provides extra services such as payment of electricity and water bills.**





Multi-Stakeholder Collaboration for Waste Bank

Model Eco-School in Malang, Indonesia with on-site water supply



3-step composting



Community, decentralised wastewater treatment in Malang





Objective and Expected Results in Year 3

In Year 1 & 2, Model Cities have already demonstrated ability for transforming the spaces with innovative practices/policies.

In line with recent developments, Year 3 will focus on:

- **Promoting multi-stakeholder cooperation** (local government, schools/universities, CBOs/NGOs, media, private sector etc.)
- **Backing up these achievements with data and visible results, linked to the global Sustainable Development Goals (SDGs).**

15 Model Cities will set up a multi-stakeholder '**Model Cities Team**' to transform at least one '**Model Site**' within their city, using seed funds provided.

- Their achievements will presented at the '8th EAS High Level Seminar on Environmentally Sustainable Cities' (8LS ESC)(Feb/Mar 2017, Thailand) (t.b.c.)
- 8HLS ESC is jointly organised by Ministry of Environment of Japan, Ministry of Natural Resources & Environment of Thailand, ASEAN Secretariat and other ASEAN Member States.

3. Informative Links

For more information, please visit

1. JCM City-to-city Collaboration

<New Mechanism Information Platform>

<http://www.mmechanisms.org/e/index.html>

<Web Portal for Low Carbon Development in Asia>

<http://www.env.go.jp/earth/coop/lowcarbon-asia/english/index.html>

2. High-level Seminar and ASEAN ESC Model Cities Program

<http://environment.asean.org/asean-working-group-on-environmentally-sustainable-cities/>

<http://www.hls-esc.org/>

Thank you for your attention !

Terima kasih!