

# Japan' Supporting Activities: modeling/city twinning/market mechanism

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# How to promote NDC? ; MOEJ Initiatives

## Plan

1. Asia-Pacific Integrated Model (AIM) for promoting Low Carbon Society (LCS)

*\* It will be presented by Dr. Fujino, NIES*

## Do

2. City to City Collaboration JCM Feasibility Studies
3. Multilateral Cooperation for Environmentally Sustainable Cities (ESC)

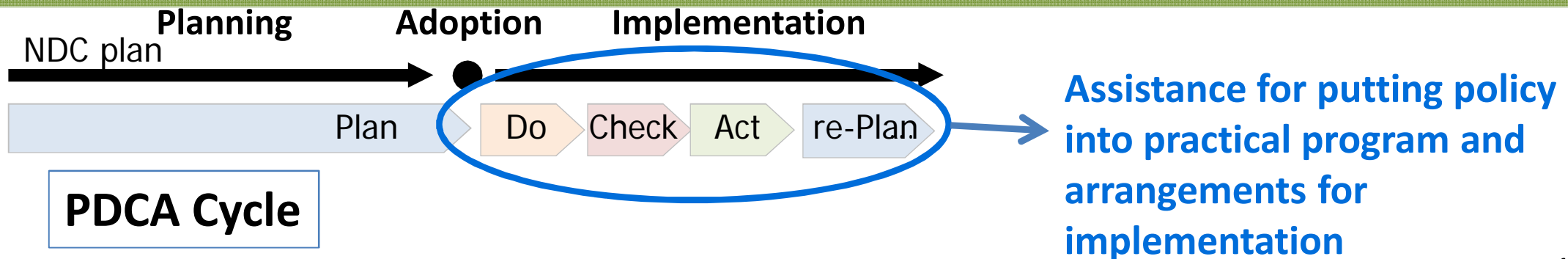
*\* See the Slide No. 4 and No. 14 in this presentation*

## Check

4. Transfer the know-how of the Carbon Reduction Reporting Program by Tokyo Metropolitan Government (TMG)

*\* It will be presented by Dr. Fujino, NIES*

## Action - Act (Re-plan and next action)





# 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



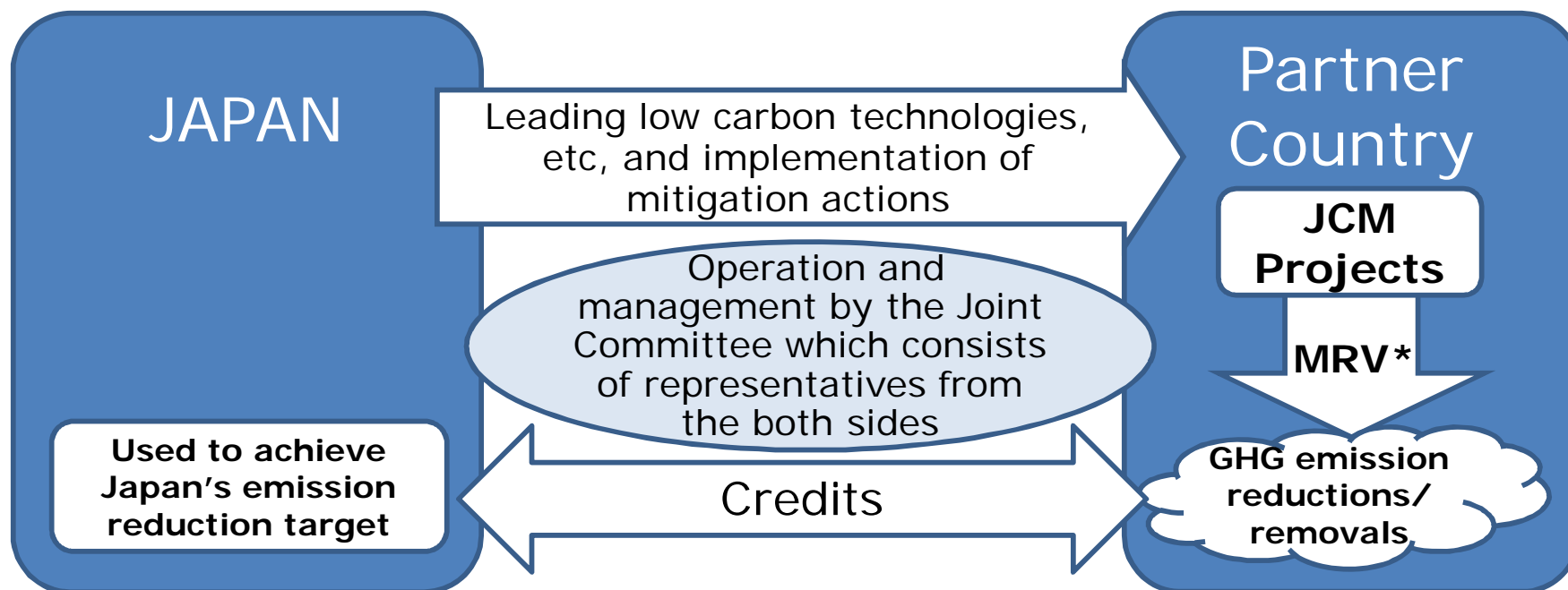
OECD/IEA (2008) World Energy Outlook 2008

# **1. City to City Collaboration JCM Feasibility Studies (FS)**



# What is the Joint Crediting Mechanism (JCM) ?

- Facilitating diffusion of leading low carbon technologies, products, systems, services, and infrastructure as well as implementation of mitigation actions, and contributing to sustainable development of developing countries.
- Appropriately evaluating contributions from Japan to GHG emission reductions or removals in a quantitative manner and use them to achieve Japan's emission reduction target.
- Contributing to the ultimate objective of the UNFCCC by facilitating global actions for GHG emission reductions or removals.



\*MRV: measurement, reporting and verification





# JCM Partner Countries



Mongolia  
Jan. 8, 2013  
(Ulaanbaatar)



Bangladesh  
Mar. 19, 2013  
(Dhaka)



Ethiopia  
May 27, 2013  
(Addis Ababa)



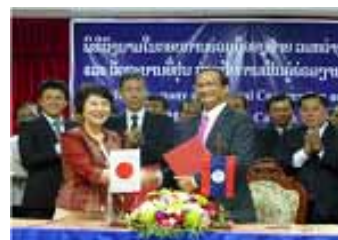
Kenya  
Jun. 12, 2013  
(Nairobi)



Maldives  
Jun. 29, 2013  
(Okinawa)



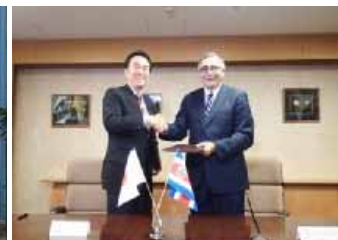
Viet Nam  
Jul. 2, 2013  
(Hanoi)



Lao PDR  
Aug. 7, 2013  
(Vientiane)



Indonesia  
Aug. 26, 2013  
(Jakarta)



Costa Rica  
Dec. 9, 2013  
(Tokyo)



Palau  
Jan. 13, 2014  
(Ngerulmud)



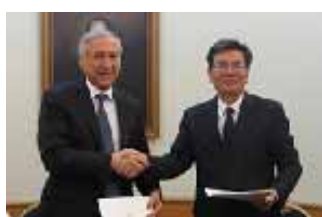
Cambodia  
Apr. 11, 2014  
(Phnom Penh)



Mexico  
Jul. 25, 2014  
(Mexico City)



Saudi Arabia  
May 13, 2015



Chile  
May 26, 2015  
(Santiago)



Myanmar  
Sep. 16, 2015  
(Nay Pyi Taw)



Thailand  
Nov. 19, 2015  
(Tokyo)

➤ In addition, the Philippines and Japan signed an aide memoire with intent to establish the JCM.



# 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. Kitakyushu city	: Siem reap province (Cambodia) 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.**





# 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



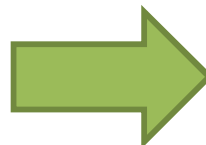
The Government of Japan emphasizes and supports the “city-to-city collaboration”

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

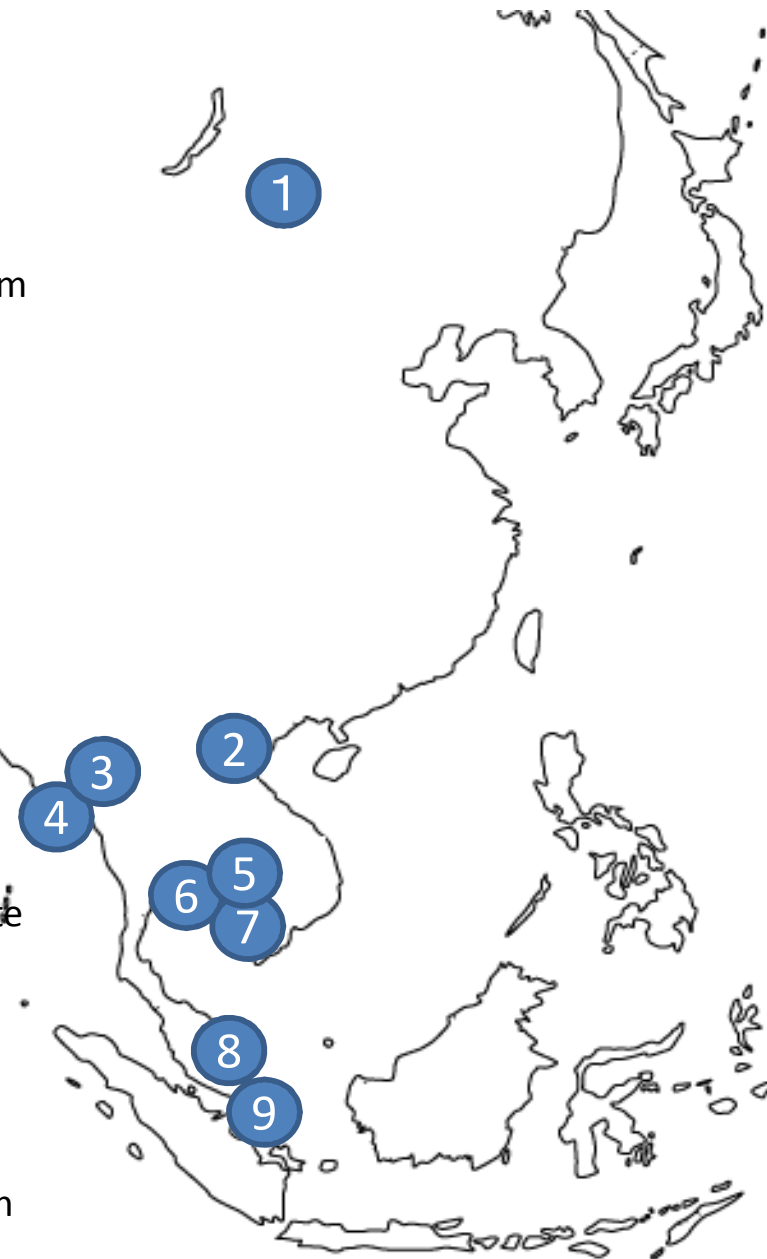
Win-Win Relationship



# 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



# Green Growth Promotion Plan of the City of Hai Phong

Hai Phong is aiming to create a **Green Port City** through self-implementing actions



**Hai Phong's Actions**

Residents

Government

Businesses

Settling on  
Broad Policies  
concerning Green Growth  
by Hai Phong City

**Green Growth  
Promotion Plan of the  
City of Hai Phong**

- ✓ Vision
- ✓ Basic policies
- ✓ Specific measures
- ✓ Pilot projects

**Hai Phong  
Green Port City**



The mayor of Hai Phong City was received this plan by the mayor of Kitakyushu on May of 2015





**Kitakyushu Model  
(Experience, Know-how)**



# Hai Phong Green Growth Promotion Plan



## Promoting 15 Pilot Projects

Waste	① Separation and composting of household waste		
	② Waste heat recovery power generation & utilization of industrial waste		
	③ Recycling of e-waste		
Energy	④ Energy savings and introduction of decentralized energy systems in factories & buildings		
Transportation	⑤ Introduction of low-emission buses		
	⑥ Promotion of the use of public transportation		
Cat Ba Island	⑦ Development of comprehensive resource recycling system		
	⑧ Energy savings and introduction of renewable energy and EV buses in Cat Ba Island		
Water & Sewage, Rainwater Drainage	⑨ U-BCF expansion project		
	⑩ Handicraft village wastewater measures		
	⑪ Introduction of sewerage registry system		
Environmental Protection	⑫ Restoration of Tay Nam canal		
	⑬ Development of air and noise monitoring systems		
Green Production	⑭ Installation of high-efficiency furnaces in foundries		
	⑮ Promotion of green agriculture		





# Conservation Projects on Cat Ba Island

## Demonstration run of EV bus in conjunction with solar power



**Low-carbon technical innovation creation project for developing countries**

**Demonstration period: Dec 2015 to Feb 2020**

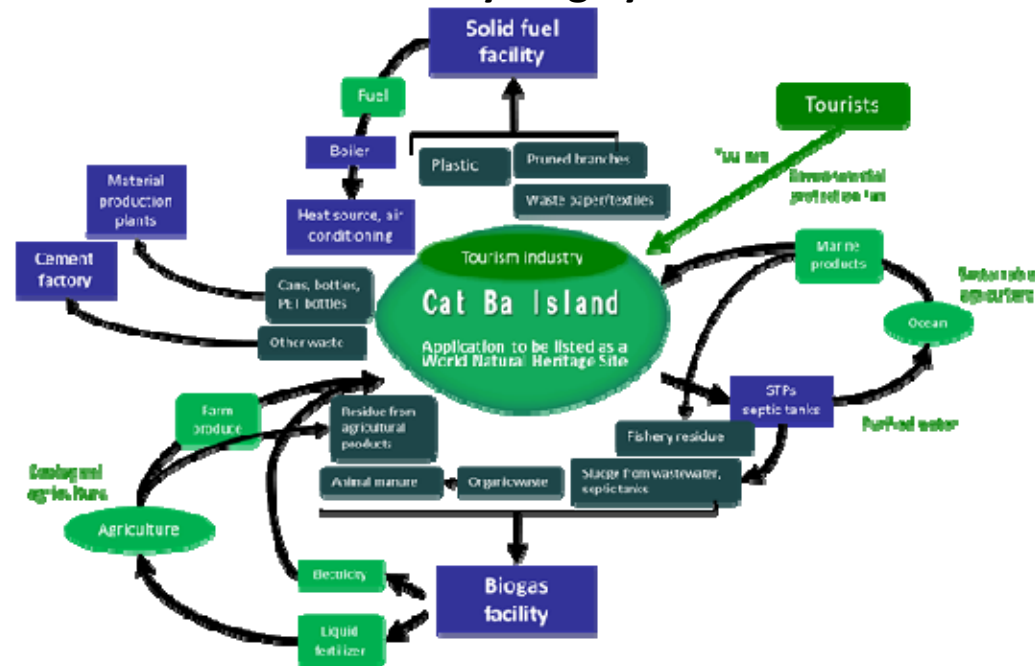
Joint development by local company, Soft Energy Controls, with a Chinese company (provider of technologies to control storage batteries)

Introduction of first EV bus in Viet Nam

- Temporary import measures → Approved by prime minister
- Demonstration run → Development of guidelines by the Ministry of Transport



## Development of Comprehensive Resource Recycling System



- Production of biogas from wet waste and sludge
- Ecological agriculture using liquid fertilizer
- Processing solid fuel from dry waste





## **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 (year1 & 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 (HLS) on ESC

1. Has Supported ESC High Level Seminars in collaboration with ASEAN Secretariat under the EAS framework.
2. Has Lead the 7<sup>th</sup> 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



7<sup>th</sup> 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



# MAIN OUTCOMES OF FORMER SEMINARS (2nd - 7th HLS)

MAR 2011	2 <sup>nd</sup> HLS	Welcomed the implementation of the ASEAN ESC Model Cities Programme (Year 1) (2011/12).	
MAR 2012	3 <sup>rd</sup> HLS	Shared the achievements, analysis of lessons learnt of Model Cities Year 1 and preparation for Year 2 activities.	
MAR 2013	4 <sup>th</sup> HLS		
FEB 2014	5 <sup>th</sup> HLS	Welcomed the implementation of the ASEAN ESC Model Cities Programme Year 2 (2014/15).	
FEB 2015	6 <sup>th</sup> HLS	Shared the achievements of ASEAN ESC Model Cities Year 2 and future directions.	
MAR 2016	7 <sup>th</sup> HLS	Recommended the 'new HLS' in line with the 2030 Agenda and other global trends (including the SDGs).	
FEB 2017 (t.b.c.)	8 <sup>th</sup> HLS	Renamed as 'EAS High-Level Seminar on Sustainable Cities' with potential theme: Towards Achievement of the SDGs'. (t.b.c.)	





# ASEAN ESC Model Cities since 2011

ASEAN ESC Model Cities is ASEAN's platform of 'frontrunner' green cities who implement innovative bottom-up practices (mainly on environmental improvement), thereby improving local quality of life and also contributing to national/global goals.



## List of Model Cities

Country	Model Cities
Cambodia	1) Kep <sup>3</sup> 2) Phnom Penh <sup>1,2</sup> 3) Pursat <sup>2,3</sup> 4) Siem Reap <sup>1</sup>
Indonesia	5) Balikpapan <sup>2</sup> 6) Banjarmasin <sup>3</sup> 7) Lamongan <sup>2</sup> 8) Malang <sup>2,3</sup> 9) Palembang <sup>1</sup> 10) Surabaya <sup>1</sup> 11) Tangerang <sup>2</sup>
Lao PDR	12) Luang Prabang <sup>2,3</sup> 13) Xamneua <sup>1,2</sup>
Malaysia	14) North Kuching <sup>1</sup> 15) Pantai Cunang <sup>3</sup>
Myanmar	16) Mandalay <sup>2,3</sup> 17) Pyin Oo Lwin <sup>2,3</sup> 18) Yangon <sup>1,2,3</sup>
Philippines	19) Davao <sup>3</sup> 20) Dipolog <sup>3</sup> 21) Legaspi <sup>2</sup> 22) Palo, Leyte <sup>1</sup> 23) Puerto Princesa <sup>1</sup> 24) San Carlos <sup>2</sup> 25) Santiago <sup>2</sup>
Thailand	26) Chiang Kian <sup>3</sup> 27) Chiang Rai <sup>2</sup> 28) Koh Kha <sup>3</sup> 29) Krabi Municipality <sup>3</sup> 30) Maehongson <sup>1</sup> 31) Muangklang <sup>1</sup> 32) Nongteng <sup>2</sup> 33) Panusikhom <sup>2</sup> 34) Phichit <sup>2</sup> 35) Phitsanulok <sup>1</sup> 36) Renunakon <sup>2</sup>
Viet Nam	37) Can Tho <sup>3</sup> 38) Cao Lanh <sup>1</sup> 39) Dalat <sup>2</sup> 40) Da Nang <sup>1,2</sup>

<sup>1</sup> Nominated in Year 1

<sup>2</sup> Nominated in Year 2

<sup>3</sup> Nominated in Year 3

Those highlighted pink indicate new cities nominated in Year 3



Currently 40 Model Cities in 8 countries, and with various sizes and geo-economic profiles.

- Very small (<20k population) (9 cities)
- Small (20k – 250k population) (20 cities)
- Big (250k – 1.5m population) (7 cities)
- Very Big (> 1.5m population) (5 cities)



# Examples of Model Cities activities in Malaysia & Viet Nam

Country		Year 3 Activities
Malaysia	NFP	Promote ESC and the SDGs through MURNInet and Green Neighbourhoods national platforms.
	Pantai Cunang	Establish Model Beach community with eco-friendly and sufficiency practices, including rainwater harvesting, solar energy, composting and mangrove protection.
Viet Nam	NFP	Organise a 'National Dialogue on Environmental Sustainable and Climate Change Adaptation Indices for Cities in Viet Nam'
	Can Tho	Establish a Model Community in Cai Rang district (for replication to other districts), focusing on improving SWM, sanitation and overall environmental protection, particularly through empowering the women association as a lead stakeholder for overall awareness raising.



**Pantai Cunang**, Kuala Langat, Malaysia aims to become more resilient and self-sufficient with solar energy, rainwater harvesting and mangrove conservation.



**Can Tho**, Viet Nam is a highly water-sensitive coastal city. Citizens still have inadequate sanitation and waste management infrastructure.





## 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/>

## 3. Asia-Pacific Integrated Model (AIM)

<http://www-iam.nies.go.jp/aim/index.html>

**Thank you for your attention !**