Clean Asia Initiative

CAI Newsletter

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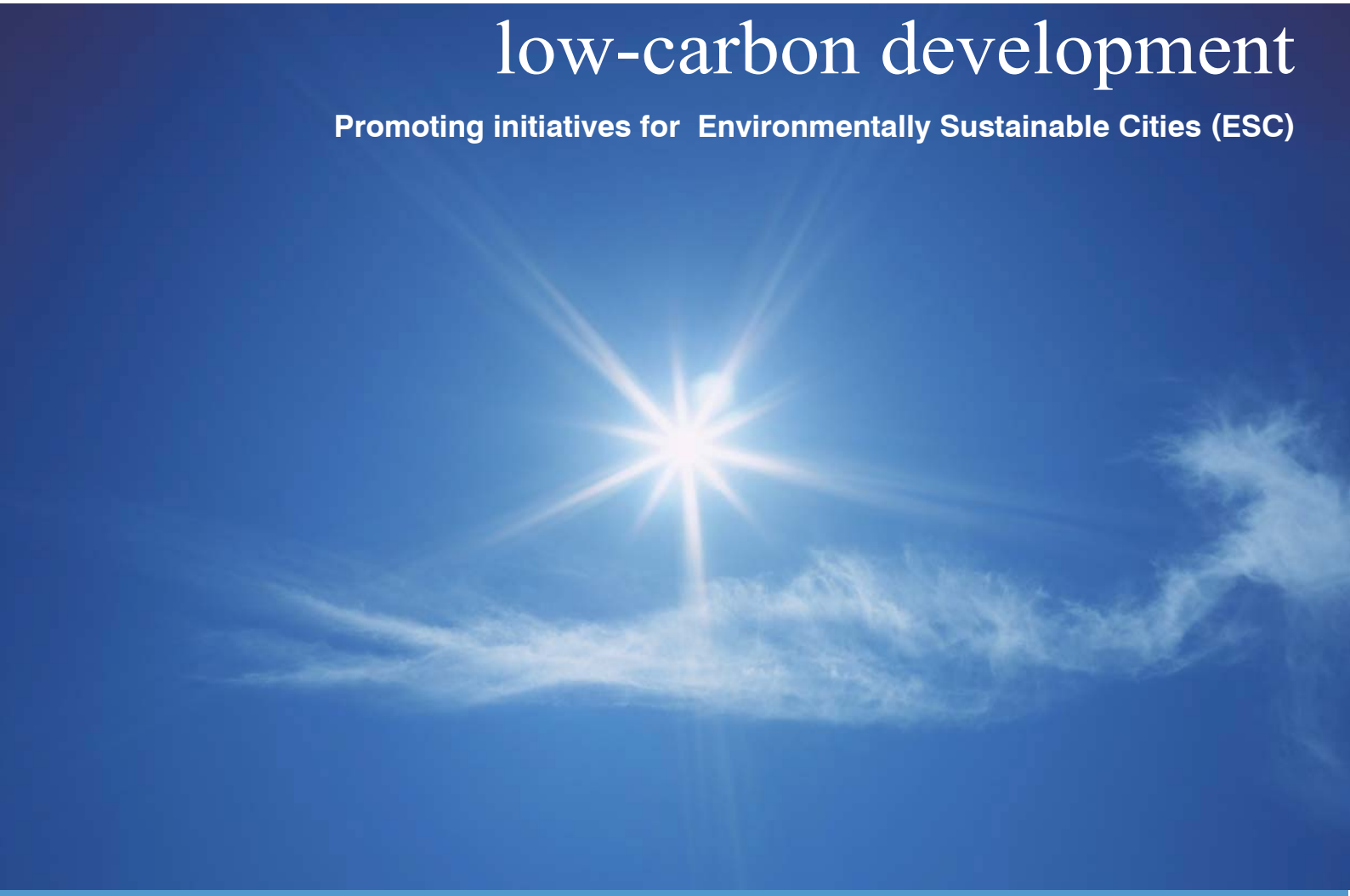
Achieving the next stage of growth in Asia with low-carbon development

Promoting initiatives for Environmentally Sustainable Cities (ESC)



Contents

ASEAN ESC Model Cities Programme

The environment in Asia is undergoing significant change on the back of rapid industrialization, rising populations, and remarkable growth and development in cities. The Government of Japan stands firmly committed to supporting its neighbors in ASEAN through the important ASEAN ESC Model Cities Programme, which seeks to promote environmentally sustainable cities in the region.

What is the ASEAN ESC Model Cities Programme?

Various initiatives are currently conducted in the ASEAN region to promote "environmentally sustainable" development. The ASEAN ESC Model Cities Programme is one of those initiatives and Japan as a supporter continues to encourage its cause financially using the Japan ASEAN Integration Fund (JAIF*.)

The programme aims to support ASEAN countries in the creation of model cities to serve as examples across the region of how local governments can take the lead in pursuing sustainable development at the local level. The programme supports ASEAN cities which posess the following characters.

- Possession of long-medium term and short-term goals/targets towards becoming an ESC
- Achievement of the goals are supported by innovative and concrete strategies and action plans
- Strong commitment at the high level (Mayor etc.) to participate in this programme
- Good performance in existing national sustainable city award schemes or rating programmes
- Possession of replicable good practices/policies for ESC

Under the programme, local governments from ASEAN take the lead in creating and proposing their unique ideas and vision for ESC. Cities that are committed to capacity building through the implementation of ESC measures are referred to as model cities. These model cities implement projects together with the national government in their respective country in order to encourage the adoption of their proposal at the national level. Sharing knowledge, best practices, initiatives and views of model cities in ASEAN is also helping to promote and strengthen collaboration among stakeholders.

To contribute to these activities, the Government of Japan advocated the ESC High Level Seminar, which was first held in 2010. Since then, these seminars have been conducted annually where ESC activities are reported.

Environmentally Sustainable Cities (ESC): There is no rigid definition for Environmentally Sustainable Cities (ESC). Due to the diversity of ASEAN, member states are expected to have different interpretations of what 'ESC' should represent. Nevertheless, some common points and principles for ESC state that cities should deliver urban environmental services that are "pro-poor, low carbon, environmentally sound, resource efficient and renewable". It was further suggested that ESC "should be a sustainable model of urban development capable of securing economic, social and ecological progress in a inclusive way". Based on the above, the programme is being implemented in each country based on the local environmental strategy.

* Japan-ASEAN Integration Fund (JAIF): JAIF was established in March 2006 to support ASEAN's efforts towards the realisation of the ASEAN Community and also to strengthen ASEAN-Japan relations. JAIF has funded various projects on youth exchanges, economic integration, and improving disaster response, among others.

ESC High Level Seminars

ESC High Level Seminars invite officials from central governments, local governments, international agencies, aid agencies, research institutions, and NGOs to gather together to share knowledge, best practices, policies and views on model cities in order to encourage and expand collaboration among stakeholders for the promotion of ESC in Asia. The 6th High Level Seminar will be held in Johor Bahru, Malaysia in February 2015.

	1st High Level Seminar	2nd High Level Seminar	3rd High Level Seminar	4th High Level Seminar	5th High Level Seminar
Held	March 2010	March 2011	March 2012	March 2013	March 2014
Location	Jakarta, Indonesia	Kitakyushu, Japan	Siem Reap, Cambodia	Hanoi, Vietnam	Surabaya, Indonesia
Participants	140	140	230	200	180
Participating countries	12	12	14	15	15
Local governments	24	19	39	21	36
Participating international agencies, NGOs and private sector	26	18	27	29	31
Summary of discussions	- Recommendation of five working level activities - Proposal for the ASEAN ESC Model Cities Programme	- Confirmation of the ASEAN ESC Model Cities Programme	- Confirmation of results from year one of the ASEAN Model Cities Programme	- Discussed lessons learned from the ESC Model Cities Programme and proposals for future activities	- Announced implementation of year two of the ASEAN ESC Model Cities Programme

Implementation Flow

National steering committees established in each country evaluate whether an ESC candidate fulfills requirements based on its programme proposal and track record. Only cities with programmes that fulfill the criteria are adopted as ESC. Employees of the newly adopted ESC receive technical and skills training from the Japan International Cooperation Agency (JICA), United Nations Environment Programme (UNEP) and the Economic and Social Commission for Asia and the Pacific (ESCAP) and others to promote activities as an ESC.

◆ Programme Achievements

Summary of Activities and Achievements from Year 1 [2011 to 2012]

Year one of this programme (April 2011 to March 2012) focused on improving solid waste management, water and public hygiene, greenery in cities, and low-carbon development in 14 ESC model cities in eight countries (see pages 4 and 5).

First, funding from JAIF was used to commence activities supporting ESC related measures planned or already being implemented by the national government in each country. In Cambodia, assistance was given toward creating guidelines and hosting workshops for the Green City Campaign being implemented in 24 states by the Ministry of Environment and Ministry of Tourism. In Viet Nam, funding was provided for basic research on ESC indicators being created by the national government. Partial funding and technical assistance was also given to aid local government capacity building efforts.

Proactive efforts were made to encourage collaboration among cities with the goal of sharing experiences and best practices. For example, Kuching, Nonthaburi and Kitakyushu shared knowledge about garbage composting. Information exchange about waste banks between Yogyakarta, Malang, Surabaya, and Palembang resulted in Surabaya adding an addition 50 waste banks (see Surabaya on P5).

The 3rd ESC High Level Seminar confirmed year one achievements and lessons learned (held in Siem Reap, Cambodia in March 2012)

Summary of Activities and Expected Achievements for Year 2 [2014 to 2015]
-Programme Points Planned based on Year 1-

Based on the experiences from year one, the ASEAN Secretariat believed that linking domestic programs from each country with a regional initiative such as the ASEAN ESC Model Cities Programme is strategically effective. Such linkages will identify best practices and policies for ESC realization, help spread these to other cities in the ASEAN region in an economical and efficient manner.

This has made it easier for the Programme Secretariat to identify cities with strong potential and faculties suited for the ASEAN ESC Model Cities Program. Next, the Programme Secretariat utilizes nationally administered awards programmes and platforms of each country to pursue further sharing of knowledge among cities in the region. If there is no awards programme in place, such as the case with Cambodia, Lao PDR, Myanmar and Viet Nam (CMLV), funding provided by the programme and mutual aid provided by the ministries and agencies of other ASEAN member nations can be utilized to set up a new domestic platform, fostering greater collaboration between central and local governments.

Based on the above, year two of the programme will focus on providing the following forms of assistance.

1.Expand the awards programme for cities in ASEAN 6 (Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Viet Nam)
2.Establish awards programmes for cities in CMLV
3.Establish opportunities for ESC experiences and knowledge to be shared among ASEAN member countries

In year two 21 cities (see P4 and P5) were adopted as ESC model cities. These cities will now receive funding and technical assistance to improve their ESC initiatives and implement similar initiatives in other cities. The Programme Secretariat aims to create a registry of ASEAN ESC experts who have a wealth of experience in supporting ESC activities of local governments. Once completed, this registry is expected to have a positive impact on future achievements.

Year two will also see an expansion of the network and outreach functions to raise the visibility of model cities internationally and improve the framework for inter-city collaboration. By building new partnerships, this programme will be able to assist each city with implementing its long-term vision, goals, and projects in a sustainable manner.

Kitakyushu City has hosted an ESC training course for officials from Myanmar (September 2014)

Good Practices from Asian Cities

ASEAN ESC Model City Programme

Xamneua | Lao PDR |

There is no wastewater treatment facility in the town and the quality of wastewater discharged from households, commercial premises and offices hardly meets the national standard. With guidelines yet to be created, the installation of septic tanks has been left up to individuals and commercial premises. During the year 1 activities, a training course was offered on basic effluent and solid waste management in order to improve understanding about key technologies.The creation of a green area along the town's main river also raised understanding regarding the importance of town greenery.

Field study conducted to improve the local wastewater treatment system.

Yangon | Myanmar |

Due to an increase in the population and economic activities, water works are being extended and developed in Yangon on a large scale. Since Myanmar's development committees are facing constraints in terms of technology and lack of skills, a 10-member delegation of national and city officials underwent training on water distribution and quality management by Penang Water Utility (PBA) officials in Malaysia in during December 2011 in order to build their capacity for basic technologies.

Training in progress

Phitsanulok | Thailand |

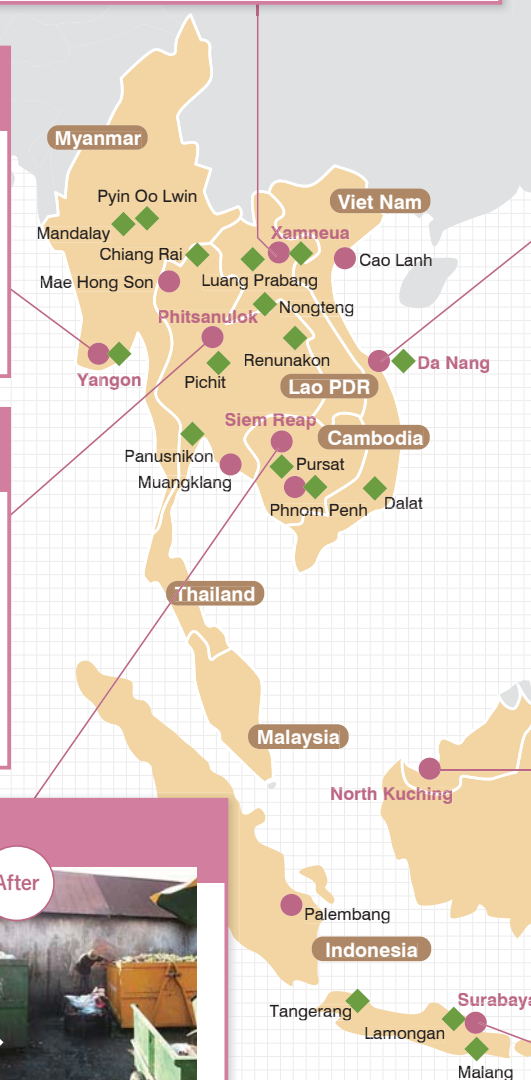
This programme promotes the adoption of Phitsanulok Municipality's solid waste management practices at other municipalities in Thailand. Part of these efforts included updating the curriculum for Phitsanulok Municipality's training course on Community-based solid waste management (CBM). During year 1,.Main activities during Year 1 were the followings: reviewing and enhance the curriculum of CBM training course, training new members of the training pool, and introducing the new curriculum to two local authorities and monitor the outcomes.

Instructor training

Siem Reap | Cambodia |

Waste reduction and improvement of waste recycling rates are among Cambodia's areas of priority, which is why Siem Reap conducted a pilot project under the leadership of the local government on waste segregation and composting. The activities included awareness raising campaigns on waste reduction at market places and shopping malls. Furthermore, a workshop with participation from the city government and business owners was held. An initiative promoting the reduction of plastic bags have also started.

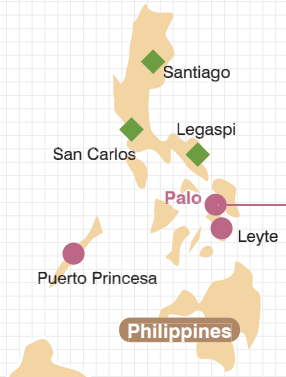
Garbage collection site



Country	Model Cities [Year 1]	Model Cities [Year 2]
Cambodia	Phnom Penh, Siem Reap	Phnom Penh, Pursat
Indonesia	Palembang, Surabaya	Balikpapan, Lamongan, Malang, Tangerang
Lao PDR	Xamneua	Luang Prabang, Xamneua, Nongteng
Malaysia	North Kuching	TBC
Myanmar	Yangon	Yangon, Mandalay, Pyin Oo Lwin
Philippines	Palo, Leyte (Puerto Princesa)	Legaspi, San Carlos, Santiago
Thailand	Mae Hong Son, Muangklang, Phitsanulok	Chiang Rai, Panusnikon, Pichit, Renunakon
Viet Nam	Cao Lanh, Da Nang	Dalat, Da Nang
Total: 8 countries	Total: 14 cities	Total: 21cities

A variety of initiatives are underway as part of the ASEAN ESC Model City Programme. Here, we will examine year 1 success stories from each city.

● Model Cities Year 1 ◆ Model Cities Year 2



Da Nang | Viet Nam |

Da Nang is implementing a pilot project for setting up environmentally friendly residential areas' in the city, including iraising awareness on the importance of town greenery based on the concept of sustainable city development. During year 1, two workshops were held for city employees and residents. The project has established action targets and is supporting resident-led clean-up activities in residential neighborhoods as a trial initiative.

Established autonomous environmental protection team

Palo | Philippines |

To realize Palo's aims of greater and improved solid waste management as well as promoting and implementing domestic wastewater treatment in pilot areas, the city is embarked on a programme of promoting and implementing home and large scale composting as well as using appropriate low cost technology for domestic wastewater treatment. During Year 1, the following activities were held: capacity building for local officials on composting and wastewater treatment, workshop on composting for target residential areas, house to house visit campaign, weekly monitoring of target households.


Learning about solid waste management from Puerto Princesa

North Kuching | Malaysia |

North Kuching is promoting and implementing home composting (using the Bokashi effective microorganisms composting method) and increasing the capacity of its existing composting center, with the aim of reducing waste generation. Support was provided to improve the capabilities of city employees through training on composting technology led by experts from Japan and Thailand, and field training conducted in Thailand. Thanks to these efforts, North Kuching opened a new composting center.


Learning about organic solid waste management from Thailand and Japan

Surabaya | Indonesia |

Improving solid waste management remains one of the major challenges facing fast-growing Indonesian cities. In addition to this programme, Surabaya has carried out various activities on waste reduction, such as seminars, training and workshops, thanks to the support received from Unilever, Jawa Post and other private sector companies. As a result, at least 50 waste banks have been established in Surabaya and 50 other waste banks will soon be established.

* Waste bank: Unwanted items brought in by people or organizations are purchased by intermediary vendors and proceeds from these transactions are deposited into the account of the person who brought the item. Waste banks are run as a non-profit organization.


Visiting a waste bank with a passbook

LoCARNet

A Network Platform of Researchers Contributing to Policymaking and Implementation for Science-based Low-Carbon Development in Asia

Low Carbon Asia Research Network "LoCARNet"

History

LoCARNet was proposed by the Government of Japan and the Institute for Global Environmental Strategies (IGES) at the ASEAN+3 Environmental Ministers Meeting held in Cambodia in October 2011. In April 2014, it was officially approved at the East Asia Low Carbon Growth Dialogue, and since then LoCARNet has reported the progress of its activities annually at the ASEAN+3 Environmental Ministers Meeting.

LoCARNet has encouraged policy dialogue between researchers, policy makers and related stakeholders. The network has carried out knowledge exchange as a means of creating plans and strategy for low-carbon development in Asia, with a focus on ASEAN. It has also been instrumental in creating research communities in Asian countries and offering training for capacity building assistance.

Activities

Policy Research aimed at Low-Carbon Development and Promotion of Dialogue between Researchers and Policymakers

Today, countries in Asia are steadily creating strategy and plans for low-carbon development underpinned by green economies. LoCARNet has worked together with the Asia-Pacific Integrated Model (AIM) team, comprising the National Institute for Environmental Studies (NIES), Kyoto University and Mizuho Research Institute, to carry out policy dialogue between researchers and policymakers in several Asian countries.

This policy dialogue has raised awareness among key decision-makers in each country about the importance of researcher involvement in their country's policymaking and has promoted science-based policymaking in each country.

Malaysia

Universiti Teknologi Malaysia (UTM), together with Kyoto University, NIES and other parties, is implementing a low-carbon development plan for the Iskandar region in southern Johor State with the Malaysian Investment Development Authority and Iskandar Regional Development Authority as part of the Science and Technology Research Partnership (SATREPS) program run by JICA and JST.

Given the positive results of these activities, LoCARNet organized an international symposium on how to form a Centre of Excellence for a low-carbon Asia that uses science as a basis for policy proposals at the inauguration ceremony for the UTM Low Carbon Asia Research Centre established in October 2013.

During the symposium, it was noted that several countries in Asia have since organized researchers, so providing a venue for these researchers to gather together is indispensible for effective and synergistic policy support involving regional cooperation. Opinions on the importance of finding ways to utilize collaboration between researchers and policymakers and capitalize on academic knowledge were also shared.

As such, the international symposium served the purpose of sharing important points of discussion on low-carbon development planning.

Improving Research Capabilities Supporting Low-Carbon Development Policy in Asia

Asia has yet to fully cultivate a research community that supports policy planning on low-carbon development. Given the need to reduce greenhouse gases, it is essential that a research community be built and reinforced based on the unique characteristic of the Asia region. Fully aware of this, LoCARNet held capacity building and reinforcement workshops in Indonesia, Cambodia, Laos, and Myanmar during fiscal 2013.

The countries of Asia are in the process of creating long-term strategy for a new framework beginning after 2020 in order to stabilize the future climate and move away from today's energy-dependent society. Policymaking focused on low-carbon development underpinned by green economies is absolutely essential for Asian countries, which continue to see strong economic growth.

Given this environment, Japan has taken the lead in establishing a community of researchers involved in policymaking and conducting a variety of activities to date. One such activity is the Low Carbon Asia Research Network. Abbreviated LoCARNet, this open, debate-focused network works to achieve science-based policymaking in Asia by sharing the latest in research results and knowledge among researchers, research institutes, policymakers, and other related stakeholders.

LoCARNet encourages effective policy research toward low-carbon development by supporting dialogue between researchers and policy makers. Additionally, LoCARNet promotes cooperation among researchers from each country in a way that allow them to take ownership, where research is conducted with due understanding of skills and knowledge unique to each respective country. The network also maintains a goal to remain independent and focused on not only South-North cooperation within Asia, but South-South cooperation as well.

Workshop Held for Cambodia, Lao PDR, and Myanmar

In February 2014, LoCARNet held a workshop in Phnom Penh, Cambodia for officials from Cambodia, Laos and Myanmar. The goal of this workshop was to quantitatively demonstrate the ability of each country to reduce its greenhouse gas emissions and to encourage more effective policymaking for a low-carbon development. The workshop promoted the organization of a research community in each country, establishing opportunities for dialogue between researchers and policymakers, and encouraging South-South cooperation where researchers from each country shared the results of each country's review to learn about one another's frameworks.

This workshop was attended by more than 70 people, including not only the research community, but policymakers and NGOs. The workshop was well received by officials from relevant government ministries and agencies in Cambodia and led to high expectations for the future. By continuing these activities in the future, LoCARNet hopes to see advancements in science-base policy planning.

Providing Opportunities to Share and Exchange Knowledge at Annual Meetings

LoCARNet's 3rd Annual Meeting was held from November 24 to 26, 2014 in Bogor, Indonesia. The plenary session on November 24 was attended by 171 people, the breakout sessions on November 25 by 120 people, and the breakout sessions and wrap-up session on November 26 by 84 people.

During the meeting, active discussions were held among participants on unique and urgent issues facing Asia, including verification of CO2 reduction effects using the Greenhouse Gases Observing Satellite (GOSAT), urban planning that integrates mitigation and adaptation, and the direction of research support in each country. Dialogue was held between researchers and policymakers to promote science-based policy planning and ensure research results are incorporated in policy. This dialogue also helped participants to reaffirm the need for collaboration between business and industry as major implementers and various other stakeholders, to ensure policies are viable.

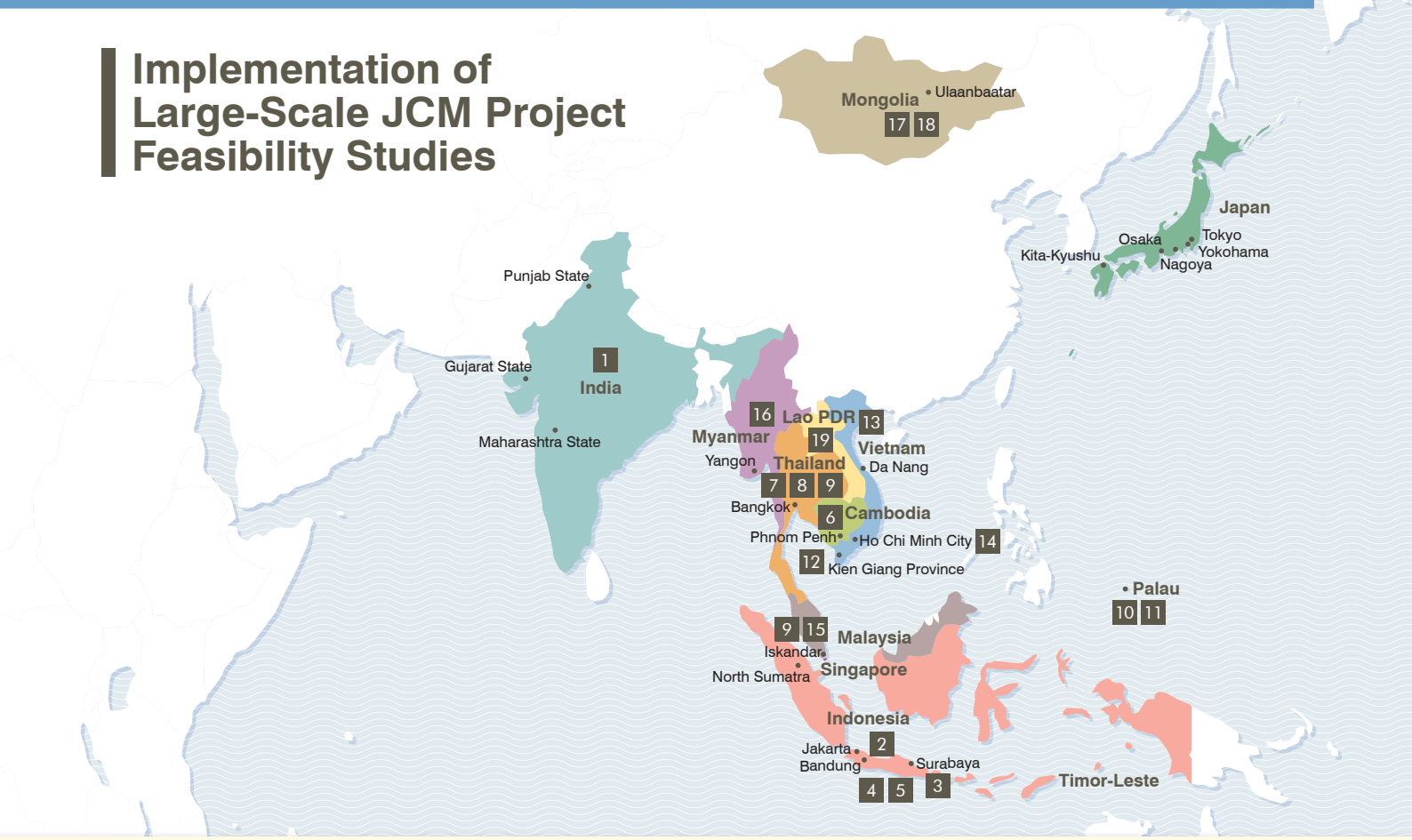
Based on the two days of discussions, on the final day the meeting was concluded with the Bogor Declaration, which calls for Asia to make ongoing preparations to proactively implement initiatives aimed at emissions reductions and climate stabilization.

The results of this meeting were announced and reported at a side event to COP 20 Climate Change Conference held in December 2014. The main views from the plenary session and summaries of each breakout session were compiled into an integrated report that has been actively distributed at various domestic and international conferences related to low-carbon society and low-carbon development.

The next annual meeting is scheduled to take place in the fall of 2015 in Johor, Indonesia.

Support and Frameworks for Realizing Low-Carbon Development in Asia

Implementation of Large-Scale JCM Project Feasibility Studies



Initiatives based on Collaboration between Local Government Authorities

The transfer of Japanese technology can play an effective role in the realization of low-carbon development by Asian cities. By making effective use of inter-city collaboration between cities in Japan and cities located in JCM signatory nations (and countries that are considering becoming JCM signatory nations), an environment can be created that facilitates effective coordination of a wide variety of different stakeholders in the two countries concerned, supports access to different financing sources, and permits successful transfer of Japanese know-how. Such support reduces tendencies for initiatives of this kind to be "one-off" activities, and allows more widespread extension of the results achieved.

Local government authority in Japan	Local government authority in the recipient country	Main content of the collaboration
Kita-Kyushu	Surabaya (Indonesia)	Support for low-carbon city planning
Kita-Kyushu	Haiphong (Vietnam)	Support for developing the Haiphong Green Growth Plan
Kita-Kyushu	Pasir Gudang (Malaysia)	Application of the "Kita-Kyushu Model," "Panasonic Fujisawa Sustainable Smart Town (SST) Model," and "ESCO business model" to a roadmap, formulated jointly by Japan and Malaysia, for the realization of the low-carbon society
Yokohama	Bangkok (Thailand)	Support for implementation of the Bangkok (Thailand) Master Plan on Climate Change
Kawasaki	Bandung (Indonesia)	Implementation of capacity building in relation to legal and regulatory frameworks needed for low-carbon city development
Osaka	Ho Chi Minh City (Vietnam)	Support the formulation of a climate change response implementation plan
Kobe	Kien Giang Province (Vietnam)	Realizing tourism development and economic development that contributes to both protection of the natural environment and development of a low-carbon society
Kyoto	Vientiane Prefecture (Lao PDR)	Sharing of Kyoto's experience in relation to regulation, planning and implementation, and provision of environmental technology, to support environmentally-friendly urban development
Kamakura, Kanagawa Prefecture	Siem Reap (Cambodia)	Sharing of know-how in relation to Japanese local government authorities' experience with urban planning, transportation and environmental policies.

With its rapid economic growth, Asia has a key role to play to help realize the goal of cutting global CO_2 emissions by half by 2050. The Ministry of the Environment of Japan (MOEJ) has launched a new mechanism, the Joint Crediting Mechanism (JCM), to properly assess Japan's contribution towards reducing overseas energy-related CO_2 emissions. In order to speed up the progress towards building a sustainable low-carbon society in Asia, a number of feasibility studies have been conducted to evaluate the possibilities for implementing large-scale JCM projects.

This programme funds research and verification performed on whether specific Japanese technologies and systems can be used in cities and regions after some adjustments are made with due consideration for the local conditions. Furthermore, consideration is offered on whether operation and maintenance management systems can be developed on site, to determine when, and to what extent, sectoral projects (targeting particular cities or regions) and large-scale, packaged projects can be implemented.

In FY2014, the 19 feasibility studies listed below have been conducted in 11 Asian countries.

● List of Projects for FY2014

	Project name	Country	Region/City
1	The feasibility study to promote Low Carbon Technology Application in India	India	Gujarat, Maharashtra, Punjab
2	Feasibility Study on Financial Scheme Development Project for Promoting Energy Savings in Indonesia	Indonesia	Jakarta City, Bali
3	Surabaya Low-Carbon City Planning Project	Indonesia	Surabaya
4	Feasibility Study on Eco-Auto Lease Scheme for Low Carbon Vehicle	Indonesia	
5	Developing a Low Carbon Society under collaboration between Bandung City and Kawasaki City	Indonesia	Bandung
6	Study for Developing Environmentally and Culturally Sustainable Cities through the JCM in Siem Reap	Cambodia	Siem Reap
7	Study on accelerating the Implementation of the Bangkok Master Plan on Climate Change through the JCM	Thailand	Bangkok
8	Automobile CO_2 emission reduction by exportingJapanese ELV engine Project in Thailand	Thailand	Bangkok
9	Strategic Promotion of Recovery and Destruction of Fluorocarbons	Thailand/Malaysia	Bangkok / Iskandar
10	Demonstration Project on Installing an Evacuation Shelter with Renewable Energy as a "Low-Carbon/Resilient Model for Small Island Countries"	Palau, Samoa, Fiji, Tonga, Vanuatu, Kiribati, Tuvalu	
11	Feasibility study on comprehensive resource circulation system for low carbon society in Republic of Palau	Palau	
12	The Feasibility study toward Eco-island between Kien Giang Province and Kobe City	Vietnam	Phu Quoc Island
13	Hai Phong Green Growth Promotion Plan Development in association with Kitakyushu City	Vietnam	Hai Phong
14	Ho Chi Minh City – Osaka City Cooperation Project for Developing Low Carbon City	Vietnam	Ho Chi Minh
15	Feasibility Study on a Large-Scale GHG Emissions-Reduction Project Development in Iskandar Development Region, Malaysia	Malaysia	Iskandar
16	Feasibility Study on Rice Husk Power Generation System for Low-carbon Communities in Ayeyarwady Region, Myanmar	Myanmar	Ayeyarwady
17	Study for the development of JCM projects for comprehensive improvements in the power generation, transmission and distribution systems in Ulaanbaatar City and on the possibility of nationwide horizontal application of the same improvement model in Mongolia	Mongolia	Ulaanbaatar
18	Feasibility study on a programme-type finance scheme for the JCM in Mongolia	Mongolia	
19	JCM Feasibility Study of GHG Mitigation Project contributing to Low Carbon Old Capital based on City-to-City Cooperation between Vientiane and Kyoto	Lao PDR	Vientiane

Topics

Smart City Week 2014

In collaboration with the Institute for Global Environmental Strategies (IGES), the MOEJ organized the "Corporate Seminar - Introducing Low Carbon Cities in Asia" and the "Seminar for Local Governments - Introducing Low Carbon Cities in Asia" , which were both held on October 29, 2014 during Smart City Week 2014 in Yokohama. Each seminar attracted over 100 participants, including representatives of overseas cities and domestic local government authorities, business enterprises, government agencies and research institutes, etc.

Corporate Seminar - "Introducing Low Carbon Cities in Asia

Three Japanese corporations gave presentations on case studies of the adoption of Japanese low-carbon technology in Asia by means of the JCM initiative, followed by discussions of the benefits the JCM scheme, as well as the challenges that it poses. The seminar also included a presentation on the Enterprise Platform that has been established with the aim of facilitating the provision of support by Japanese companies for projects of this sort.

"Corporate Seminar - Introducing Low Carbon Cities in Asia" – Panel Discussion

Seminar for Local Governments - Introducing Low Carbon Cities in Asia

Six Japanese local government authorities gave presentations on initiatives to support Low Carbon City projects in nine Asian cities through city to city collaboration, emphasizing the effectiveness of approaches that seek to provide benefits for both cities involved in such collaborative projects. The seminar also provided a venue for knowledge and information sharing about how cities in Japan and overseas can go about formulating practicable Low Carbon City plans, and about measures for the quantification of greenhouse gas emissions.

Participants at the "Seminar for Local Governments -Introducing Low Carbon Cities in Asia"

The three JCM funding mechanisms

In FY2014, the MOEJ launched a funding strategy to help realize the Low Carbon Society in developing countries by making effective use of Japan's outstanding low-carbon technology. Through this funding strategy, which will facilitate the widespread adoption of advanced Japanese technology that is highly effective in reducing greenhouse gas emissions, but which developing countries would previously have found it difficult to adopt because of the high initial costs, developing countries can receive support that will help them "leapfrog" to the forefront of the Low Carbon Society.

The funding strategy incorporates the following three mechanisms:

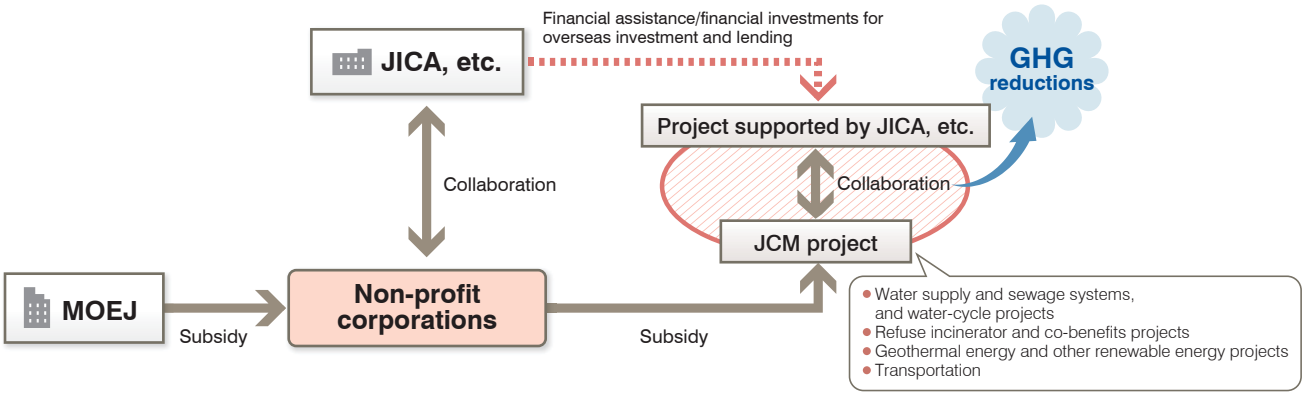
1 Financial support for leapfrog development
(funding support for projects implemented in collaboration with JICA, etc.)

Project outline

MOEJ will provide funding support for projects that involve collaboration with Japanese organizations and agencies such as JICA to reduce GHG emissions. Through this support, MOEJ aims to further the widespread adoption of the latest low-carbon technologies, which are highly effective in cutting emissions, but tend to have high initial costs. MOEJ is seeking to help cities and regions make the transition to a low-carbon society by developing low-carbon projects in various sectors. JCM projects are also expected to provide credits which will contribute to the meeting of GHG reduction targets in Japan.

Project framework

<Funding recipients> Non-profit corporations
<Funding ratio> Fixed-sum funding support
<Project implementation period> FY2014-2020



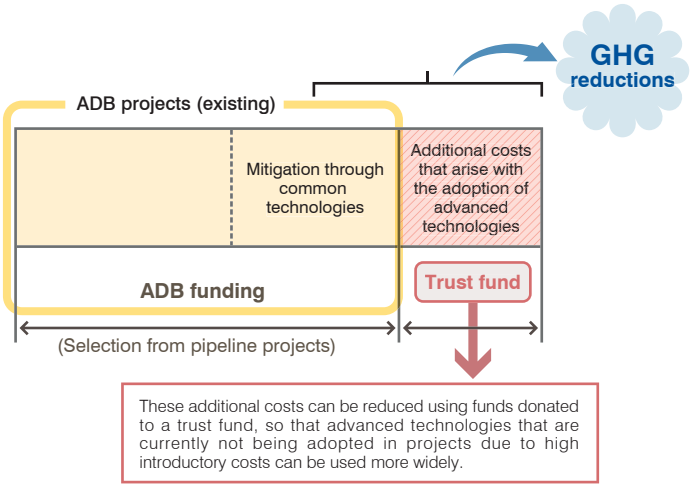
2 Financial support for leapfrog development
[contributions to Asian Development Bank (ADB)]

Project outline

Introducing advanced low-carbon technologies can give rise to additional costs. With support from the MOEJ, the ADB will create a trust fund to compensate for the disparity between the cost of advanced low-carbon technologies and the cost of conventional technologies, so that advanced technologies can be adopted in ADB projects. This financial support will tie development support from the ADB to assist leapfrog development toward low-carbon societies. The use of the JCM approach is also expected to provide credits which will contribute to the meeting of GHG reduction targets in Japan.

Project framework

<Contributions> Asian Development Bank Trust Fund
<Project implementation period> FY2014-2020



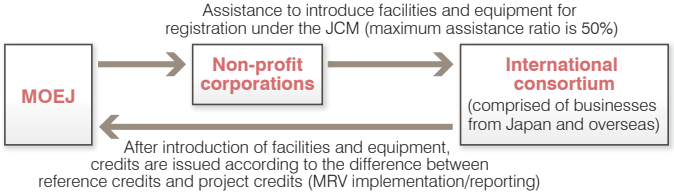
3 Introduction of facilities and equipment under the Joint Crediting Mechanism (JCM)

Project outline

In order to reduce energy-origin CO_2 emissions using state-of the-art technologies, subsidies are provided to introduce facilities and equipment into developing countries that have agreed to, or are expected to agree to, the JCM. JCM registration and measurement, reporting and verification (MRV) are carried out after the introduction of these facilities and equipment, and the difference between reference emissions and project emissions will be registered as JCM credits. The early provision of support (at the investment stage) can help to encourage the adoption of outstanding low-carbon technologies.

Project scheme

<Eligible for subsidy> International consortia comprised of businesses from Japan and overseas
<Subsidy rate> Maximum assistance ratio is 50%
<Project implementation period> FY2014-2020



Adoption results

The 7 equipment subsidy projects listed below were initiated in FY2014 in Vietnam and Indonesia.

Participating company	Project	Anticipated emission reductions (tCO_2/year)
Hitachi Zosen Corporation	Wholesale market organic waste methane fermentation and gas utilization project	3,355
Nihon Express Co., Ltd.	Eco-driving project using digital tachographs	310

Participating company	Project	Anticipated emission reductions (tCO_2/year)
JFE Engineering Corporation	Waste-heat power generation at cement works	122,000
Shimizu Corporation	Oil palm residue biomass electricity generation project	28,128
ITOCHU Corporation	Project for the adoption of solar power hybrid systems to power mobile phone base stations in off-grid areas	2,786
Toyotsu Machinery Corporation	Energy-saving through the adoption of regenerative burners for aluminum holding furnaces in automotive component factories	857
Ebara Refrigeration Equipment & Systems Co., Ltd.	Factory equipment cooling using energy-saving centrifugal chiller units	104

Topics Registration and approval of the first JCM project

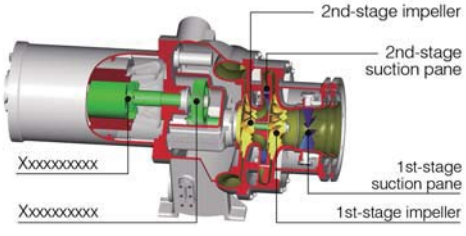
The registration of the first JCM project since the launch of the JCM scheme in 2013 was formally approved at the 3rd Japan-Indonesia JCM Joint Committee Meeting held in Bogor, Indonesia on October 31, 2014.

The project was named "Energy Saving for Air-conditioning and Process Cooling by Introducing High-efficiency Centrifugal Chillers" (Batang, Central Java Province). The project is being implemented by Ebara Refrigeration Equipment & Systems Co., Ltd., Nippon Koei Co., Ltd., and PT. Primatexco Indonesia.

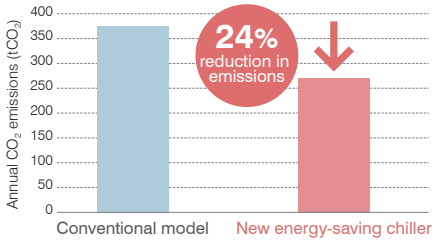
Indonesia's textile manufacturers expend a considerable amount of energy on factory air-conditioning in order to ensure high product quality. It is anticipated that, through the adoption of a new type of energy-saving chillers that make use of high-efficiency compressors, an economizer cycle and a super-cooling cycle, by 2020 it will be possible to reduce emissions by 799 tCO_2.

Japan believes that, through ongoing, effective implementation of JCM, it will be possible to combat global warming on a global scale through the use of first-rate low-carbon technology.

The new type of energy-saving chiller used in this project



Annual CO_2 emissions from a centrifugal chiller unit Air conditioning at commercial buildings (assuming 500-USRT annual operation) Comparison with conventional equipment (a ten-year-old Ebara cooling system)



Signatories of the Joint Crediting Mechanism

Japan has held discussions on the JCM with developing countries since 2011. As of December 2014, Japan has signed bilateral agreements with twelve countries (Mongolia, Bangladesh, Ethiopia, Kenya, the Maldives, Viet Nam, Lao PDR, Indonesia, Costa Rica, Palau, Cambodia and Mexico).

Japan has also formed joint committees with Mongolia, Bangladesh, Ethiopia, Kenya, the Maldives, Viet Nam, Lao PDR, Indonesia, and Palau.

The JCM Portal Sites

In order to provide support for large-scale JCM projects, the Ministry of the Environment of Japan (MOEJ) has established business platforms, local government platforms, and research platforms (for researchers and universities), to provide a venue for communication and the exchange of ideas between partner countries, cities and domestic stakeholders.

For more detailed information, please visit the platforms listed below.

Ministry of the Environment's Web Portal for Low Carbon Development in Asia

http://www.env.go.jp/earth/coop/lowcarbon-asia/english/

Main information

- Trends in international negotiations and related systems
- Governmental agencies in Asian countries
- Low-carbon/environmental policies in Asian countries
- Governmental support systems for overseas business development, other

Business Collaboration Support Website for Low Carbon Development in Asia

http://lowcarbon-asia.org/english/

Main information

- Introducing low-carbon technologies developed by Japanese companies
- Consultation services for overseas expansion
- Consultation information that offers support for the development of eco-businesses overseas, other

Information for local governments for low carbon development in Asia

http://www.env.go.jp/earth/coop/lowcarbon-asia/english/localgov/

Main information

- Support measures for international environmental cooperation
- International networks and collaborative activities of local governments
- Consortium information with businesses

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