



Ministry of the Environment

City-to-City Collaboration for Low-Carbon Society and Joint Credit Mechanism

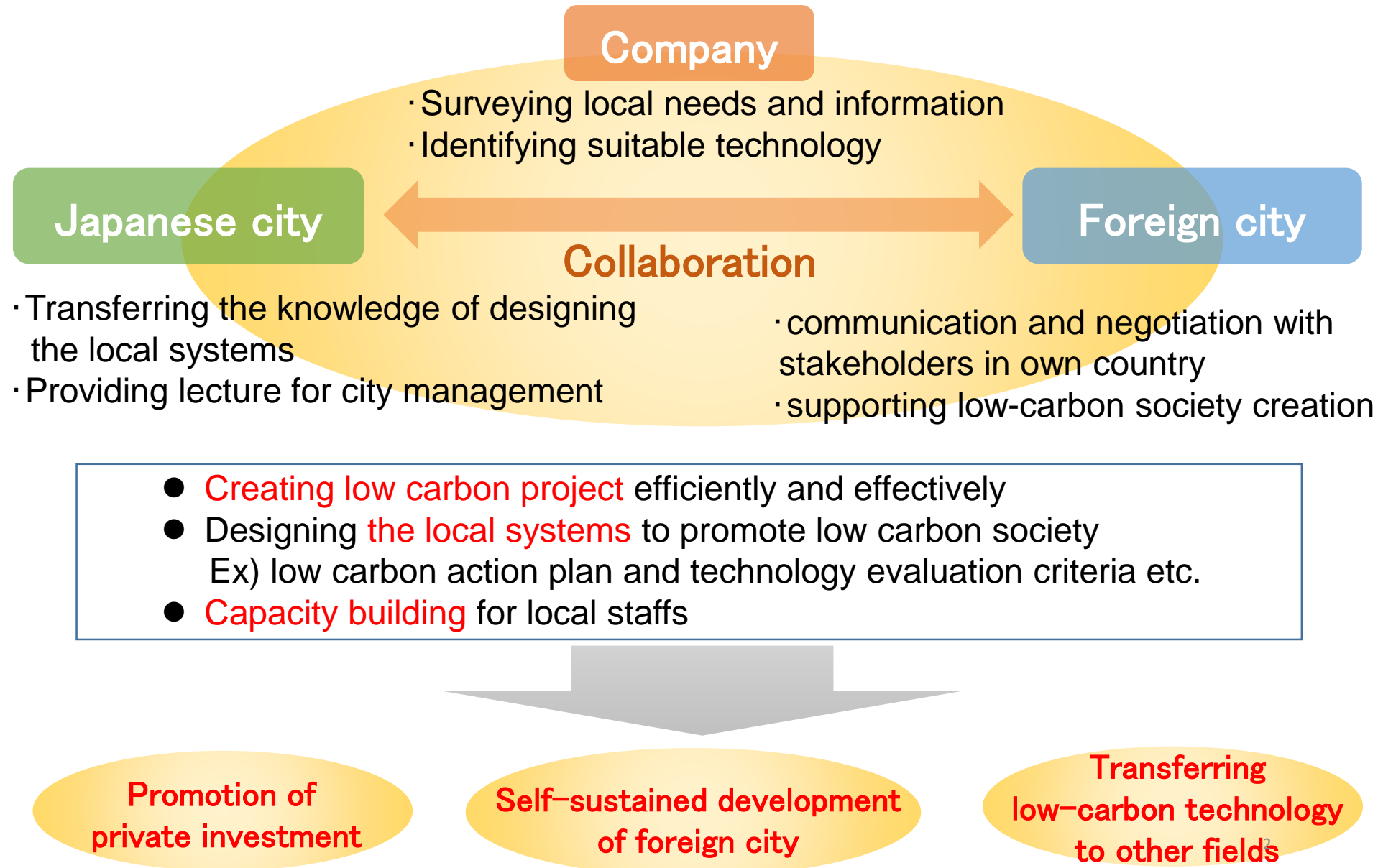
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ASCN WS5 Environment Oct 8 2019



Outline of city-to-city collaboration program





How effective is city cooperation for project establishment

Flow for project establishment

Phase 1

Planning low carbon strategy

Phase 2

Local survey

Phase 3

Describing the implementation detail

Phase 4

Implementation

Project establishment

Effect of city to city collaboration

Japanese city helps to design strategy with its own knowledge and experience

Foreign city provides the local needs

Foreign city provides local information (ex. location, vendors, investor etc.)

Foreign city supports for permission procedure.

Continuous project's establishment in the city

Transferring good practices to other area



Cities joining the city to city collaboration program FY 2013 - 2019

Lao PDR

Foreign city	Japanese city
Vieng chan	Kyoto

Myanmar

Foreign city	Japanese city
Yangon(region)	Kitakyushu
Yangon(city)	Kawasaki
Ayeyarwady	Fukushima
Sagaing	Fukushima
Mandalay	Kitakyushu

India

Foreign city	Japanese city
Bangalore	Yokohama

Thailand

Foreign city	Japanese city
Bangkok	Yokohama
Rayong	Kitakyushu
Chiang mai	Kitakyushu
Eastern Thailan(EEC)	Osaka

Cambodia

Foreign city	Japanese city
Phnom penh	Kitakyushu
Siem reap	Kanagawa pref.

Mongolia

Foreign city	Japanese city
Ulaanbaatar	Sapporo Hokkaido pref.

Vietnam

Foreign city	Japanese city
Hai phong	Kitakyushu
Da nang	Yokohama
Ho chi minh	Osaka
Kiên Giang	Kobe
Can Tho	Hiroshima pref.

Philippines

Foreign city	Japanese city
Quezon	Osaka
Davao	Kitakyushu

Indonesia

Foreign city	Japanese city
Denpasar	Tokyo union
Surabaya	Kitakyushu
Batam	Yokohama
Semarang	Toyama
Bandung	Kawasaki
Jakarta	Kawasaki
Bali	Toyama
Rokan Hulu	Kawasaki

Malaysia

Foreign city	Japanese city
Iskandar	Kitakyushu
Penang	Kawasaki
Kuala Lumpur	Tokyo Metropolitan Government

**Asia: 10 countries,
32 cities
Japan: 14 cities**

※New entry cities from FY2019



City collaboration –Yokohama city and Da Nang city-

City collaboration



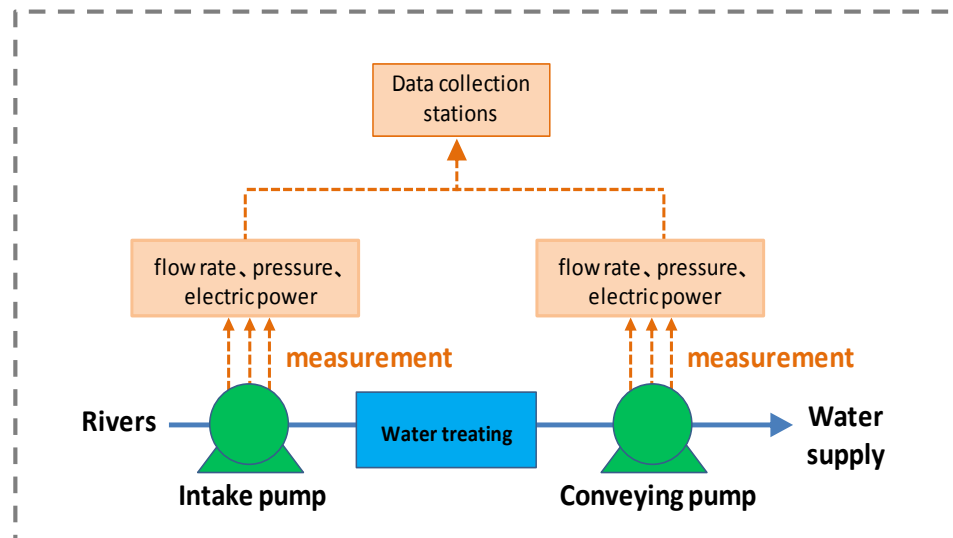
Outline of GHG Mitigation Activity

This project aims to replace existing conventional water pumps with high efficiency pumps in two water pump stations of the treatment plant owned by Danang Water Supply One-member Limited Company (DAWACO).

The pumps to be installed perform with high efficiency because pumps are customized to specific conditions and requirements of the recipient plants.

CO2 reduction ; 1,145 [tCO₂/year]

Introduction of High Efficiency Water Pumps in Da Nang City





JCM projects established from city to city collaboration

Myanmar:

- **Waste to Energy Plant in Yangon**
- **Brewing Systems to Beer Factory in Yanogn**
- **Once-through Boiler in Instant Noodle Factory in Yangon**
- **Rice Husk Power Generation in Ayeyarwady**

Thailand:

- **Waste Heat Recovery in Cement Plant in Rayong**
- **Solar PV and EMS in Paint Factory in Bangkok**
- **Energy Saving Equipment in Port in Bangkok**

Cambodia:

- **Solar PV & Centrifugal Chiller in Phnom Penh**

Vietnam:

- **Digital Tachographs for eco driving in Ho chi minh**
- **Solar PV in Shopping Mall in Ho chi minh**
- **Air-conditioning Control System in Ho chi minh**
- **Water Pumps in Da nang**

Malaysia:

- **Solar PV in Iskandar**

Indonesia:

- **Centrifugal Chiller in Shopping Mall in Surabaya**
- **Smart LED Street Lighting System in Bandung**
- **Introduction of CNG-Diesel Hybrid Equipment to Public Bus in Semarang**

Project in 2014
Project in 2015
Project in 2016
Project in 2017
Project in 2018



The Joint Crediting Mechanism

- Facilitating diffusion of leading low carbon technologies through contributions from Japan and evaluating realized **GHG emission reductions** or removals in a quantitative manner to use them for achieving Japan's emission reduction target.
- Japan will address the high initial cost barrier of **introducing advanced low-carbon technologies** in the partner countries through JCM



Waste heat recovery
in Cement Industry



Eco-driving with
Digital Tachographs



Energy saving at
convenience stores



High efficiency air-
conditioning and
process cooling



High-efficiency Heat
only Boilers



Upgrading air-saving
loom



Installing solar PV
system



Amorphous
transformers



Co-generation
system at factory



High efficiency air-
conditioning system



Solar PV System



Waste to Energy
Plant.



High efficient
refrigerator,



Regenerative
Burners in industries.



LED street lighting
system



JCM Model Projects by MOE

Budget for projects starting from FY 2019 is 9.9 billion JPY (approx. USD 99 million) in total by FY2021

(1 USD = 100 JPY)

Finance part of an investment cost
(less than half)

Government of Japan

※Includes collaboration with projects supported by JICA and other governmental-affiliated financial institute.

Conduct MRV and expected to deliver at least half of JCM credits issued

**International consortiums
(which include Japanese entities)**



- Scope of the financing: facilities, equipment, vehicles, etc. which reduce CO₂ from fossil fuel combustion as well as construction cost for installing those facilities, etc.
- Eligible Projects : starting installation after the adoption of the financing and finishing installation within three years.

Financing program to demonstrate decarbonization technology for realizing co-innovation

Target countries: Cambodia, Philippines, Laos

Demonstration for development and introduction of Electric Vehicle in Asian countries with reusing main components recovered from spent Hybrid Vehicle

Implementing organization: Toyota Tsusho Corporation

- ### Overview of renovation and demonstration
- ◆ Production of EV tuk-tuk by a local car maintenance company using scraped Prius
 - ◆ World's first EV tuk-tuk using Prius components
 - ◆ Remote monitoring verifies traceability and driver's safe driving
 - ◆ EV contributes:
- Environment:** Air pollution and CO2 reduction
- User:** Silence, exhaust gas inhalation reduction, safety improvement
- Society:** Improvement of Tourism value, traffic accident reduction
- Economy:** Addition to Value and income increase, skill improvement

3

GOOD HEALTH AND WELL-BEING

8

DECENT WORK AND ECONOMIC GROWTH

11

SUSTAINABLE CITIES AND COMMUNITIES

12

RESPONSIBLE CONSUMPTION AND PRODUCTION

13

CLIMATE ACTION

3.6 road traffic accidents

3.9 air

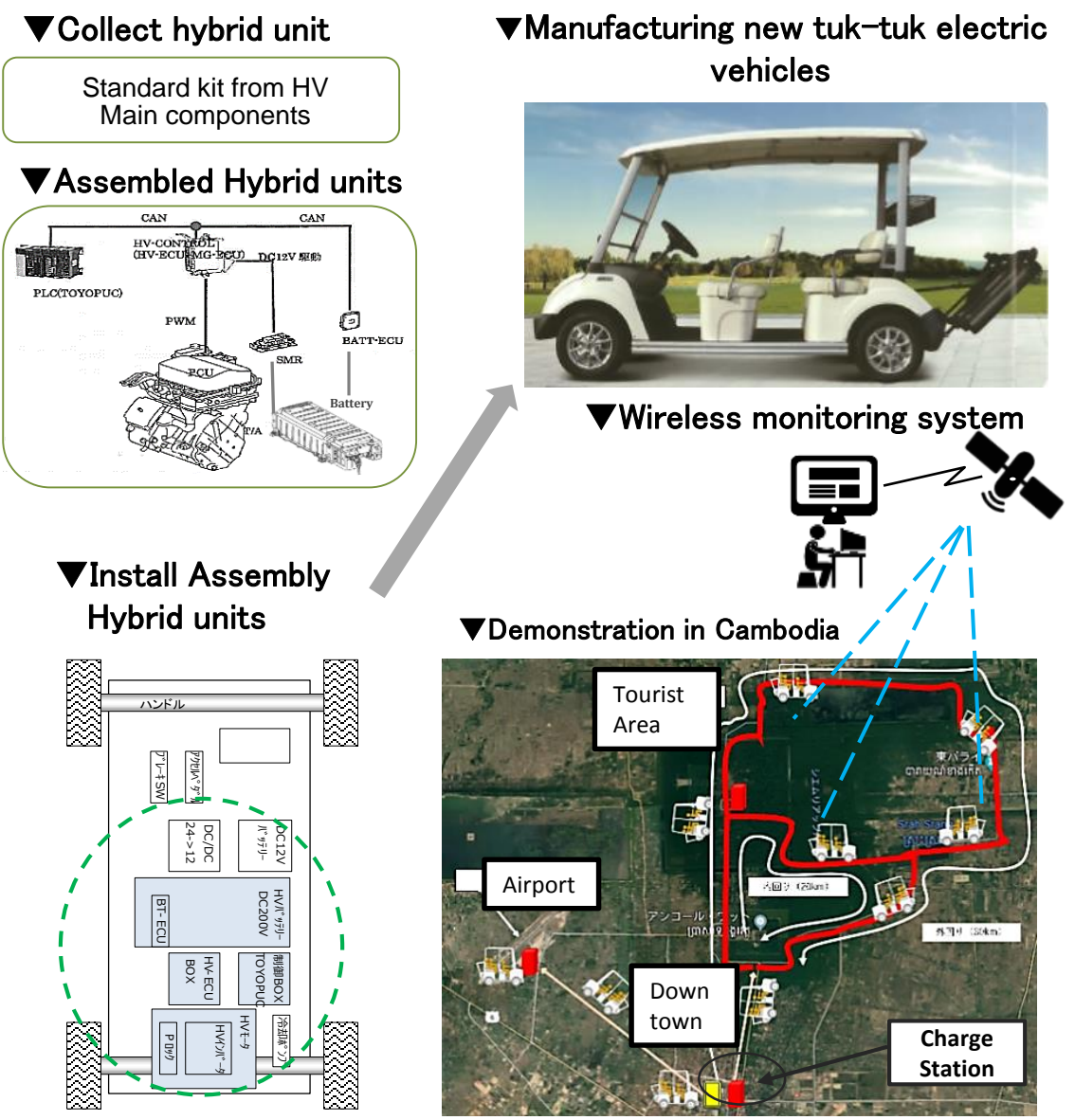
8.9 creates jobs

11.2 transport

11.6 air

12.5 reuse

13.3 climate change





Plastics
Smart

Thank you for your attention