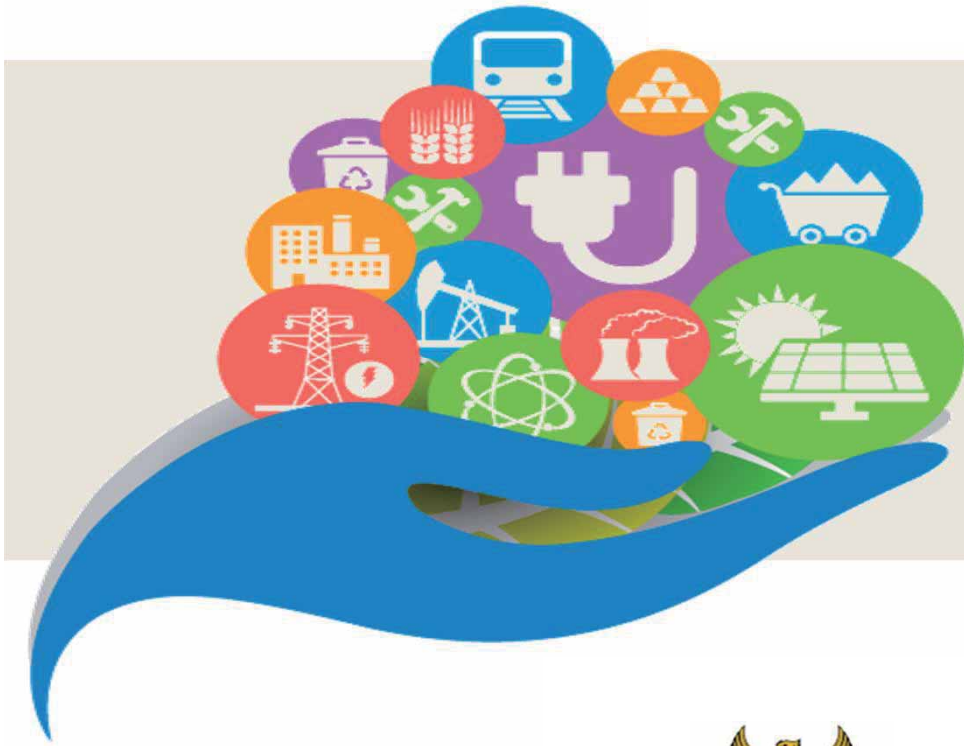
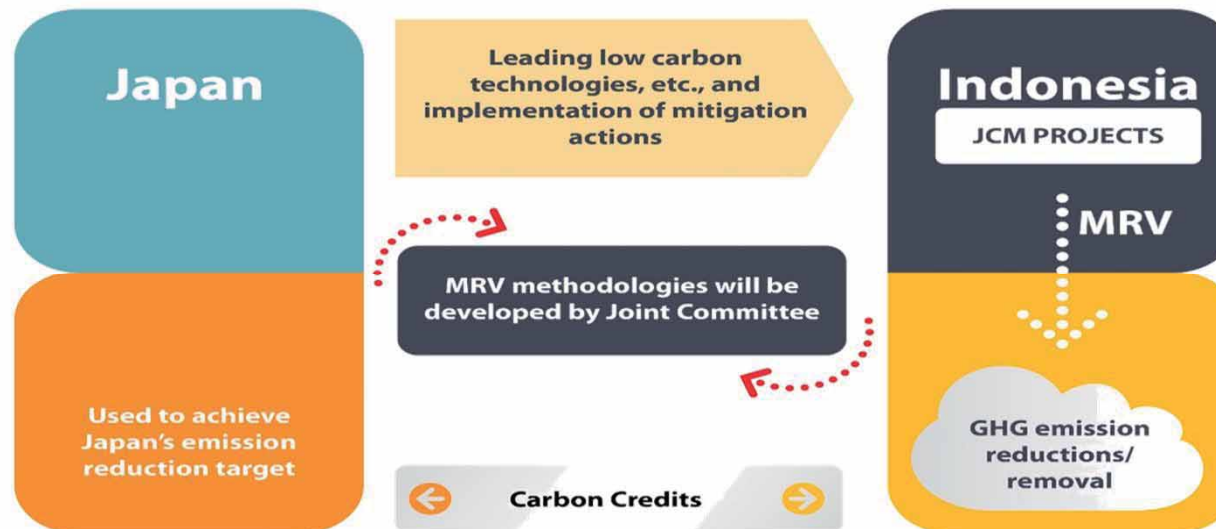


# The JCM Implementation in Indonesia and its evolution towards sustainable low carbon growth cooperation



**Dicky Edwin Hindarto**  
**Indonesia JCM Secretariat**

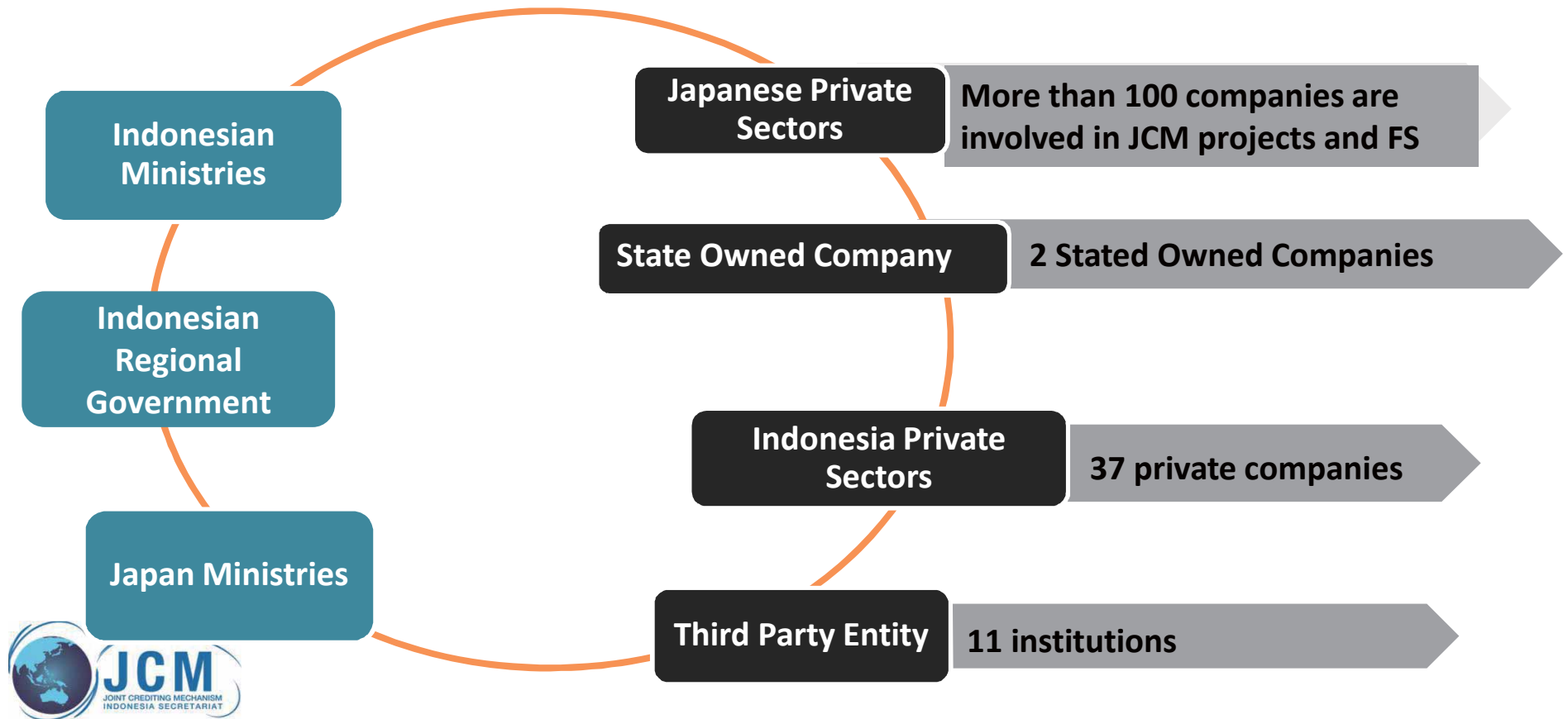
# Basic concept of JCM



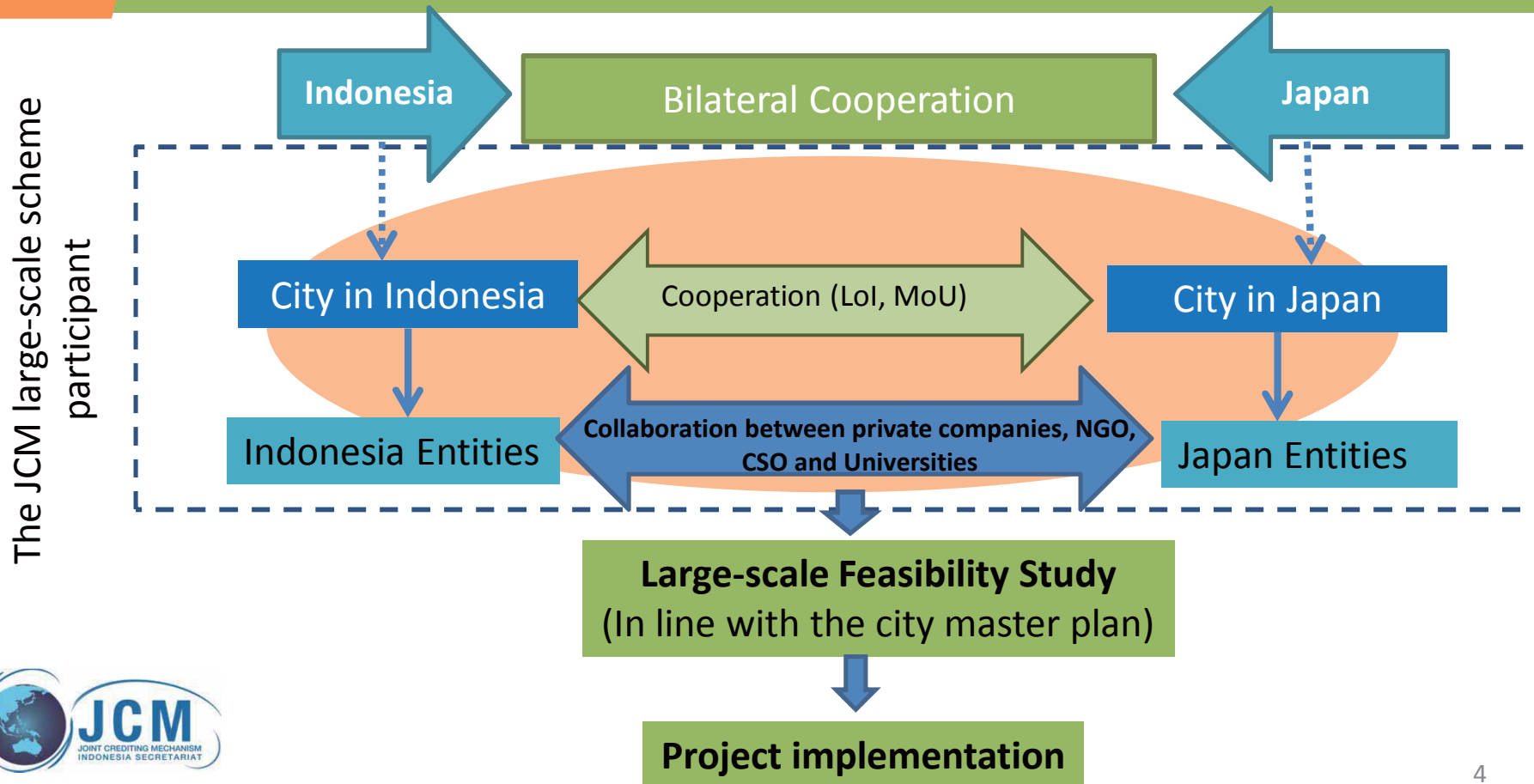
## The Objective of JCM

- Facilitate 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.
- Evaluate contributions to GHG emission reductions/removals from developed countries in a quantitative manner, through mitigation actions implemented in developing countries and use those emission reductions or removals to achieve emission reduction targets of the developed countries.
- Contribute to the ultimate objective of the UNFCCC by facilitating global actions for emission reductions or removals

# Institutions related to JCM implementation



# JCM City-to-City scheme



# City-to City Cooperation

1. Energy management in buildings

2. Waste management

Surabaya  
&  
Kitakyushu



City-to-City  
Cooperation



Batam &  
Yokohama



Bandung  
&  
Kawasaki



1. Energy efficiency in airport
2. Energy efficiency in WWTP
3. Biomass energy

1. Energy management in buildings
2. Waste Management
3. Street lamps



Upcoming Cooperation:  
Semarang and Toyama ; Jakarta and Kawasaki

# Total investment of JCM implementation in Indonesia

1

Grant for Feasibility Study  
10 mio US\$

2

Total investment of Projects Implementation  
150 Mio US\$ for 29 projects (12 of it had been accomplished)



Study and Partnership with several institutions in Japan and Indonesia



37 Mio US\$ of Government of Japan Subsidy

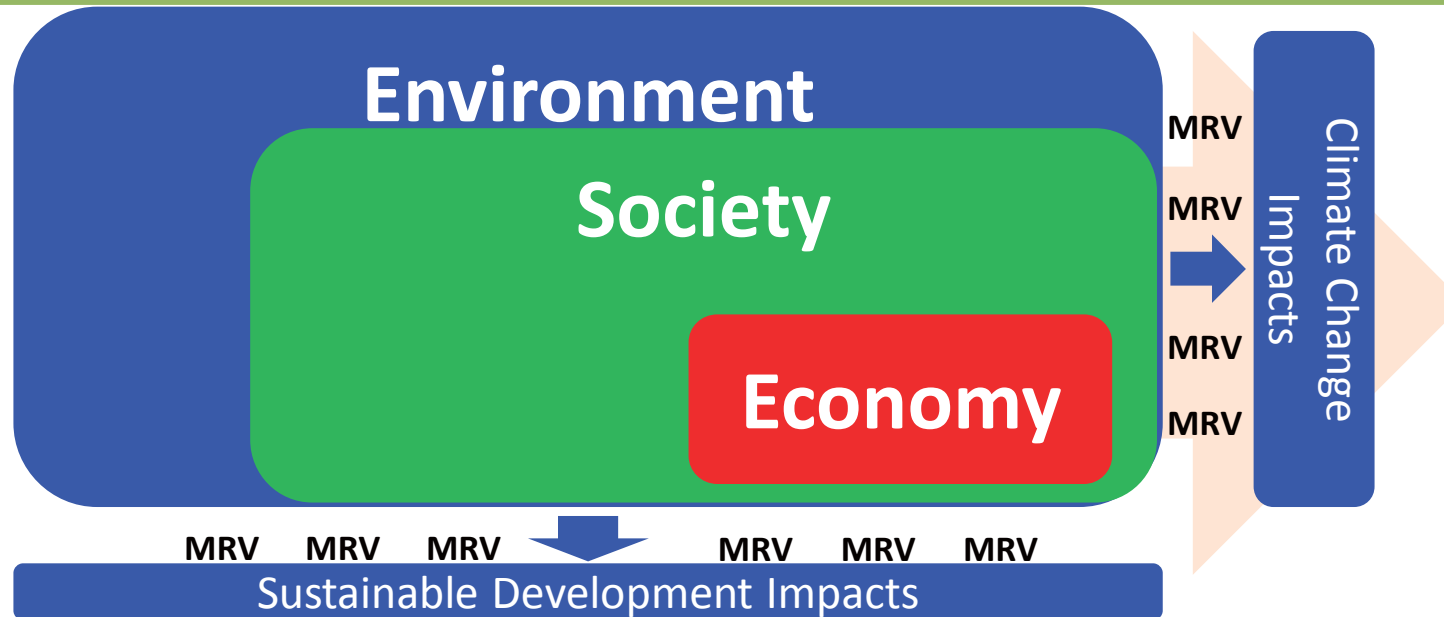


113 Mio US\$ of Project Participants investment



sustainable development and emission reduction

## Correlation between SD and emission reduction



Every JCM activities and projects not only for the emission reduction purposes but also must embedded with SD criteria that can be measured. In Indonesia, we develop a set of SD criteria MRV to ensure that every project will deliver positive impacts and enviromental integrity.

# SDG and market based mechanism



## Article 6.4 of Paris Agreement

A mechanism to contribute to the mitigation of greenhouse gas emissions and support sustainable development .....

Still many questions, e.g.:

1. Correlation between SDG and market based mechanism
2. How to achieve and implement SD criteria in the market based mechanism (MBM)
3. How to integrate SD implementation in the MBM to the national development



JCM and other market mechanism position???



# JCM may contribute to SDG goals achievement



- Every project delivers transparent and measurable achievement
- Sustainable development criteria must be embedded in every activities
- Direct SDG criteria could be achieved through our projects
- It is not an easy tasks, but it ensures the sustainability of the scheme.
- JCM, particularly in Indonesia, has its own SD criteria which shows the scheme's contribution to UN's SDG
- With these set of criterias, we are confident that JCM will deliver positive impacts to Indonesia in sustainable manner.

# JCM infrastructure in Indonesia

## Guideline:

1. Project Design Document
2. Proposed Methodology
3. Third Party Entity
4. Validation and Verification
5. Sustainable Development Implementation Plan and Report

## Rules:

1. Rules of Implementation
2. Rules of Procedure for JC

Procedure: Project Cycle Procedure

## Methodologies:

12 methodologies of energy efficiency and renewable energy have been developed

## Registry system

ISO 14065 based



*\*Methodology and guideline are the most important infrastructure for SD and emission reduction implementation\**

# Methodology in JCM

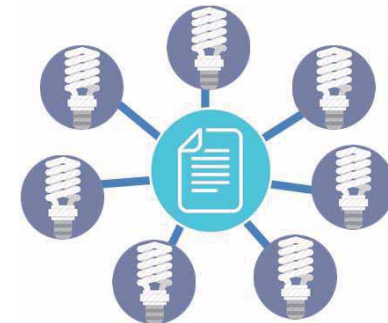
JCM methodologies should cover these 3 elements:

Eligibility criteria

Monitoring  
method

Emission reduction  
measurement  
method

The methodology is designed according  
to the type of applied technology



# SDIP and SDIR

**Sustainable Development  
Implementation Plan  
(SDIP)**

**Sets out a plan of the JCM project to contribute to sustainable development based on ex-ante analysis**

**Sustainable Development  
Implementation Report  
(SDIR)**

**Sets out the achievement of SDIP implementation for a particular monitoring method**

7 sustainable development items considered in JCM:



Environmental Impact  
Assessment



Pollution control



Safety and health



Natural Environment and  
Biodiversity



Economy



Social Environment and  
Community Participation



Technology



# The evolution of JCM scheme in Indonesia



**JCM implementation in Indonesia is an evolving scheme that allow us to enhance benefits and long term goals of implementation. The JCM implementation should be harmonized with national law and regulation as well as targets on emission reduction and sustainable development.**



## Energy Saving at Convenience Stores



PT. MIDI UTAMA INDONESIA

Tbk



LAWSON, INC

Expected carbon emission reduction  
**28,5 ton CO<sub>2</sub>/year per store**

In this project, 12 Alfa Midi stores installed a highly efficient cooler installation, air conditioning, LED lamp. Through the implementation of the project, they are able to reduce electricity consumption to up 25% of the total electricity demand.



12 ALFA MIDI AT GREAT JAKARTA AREA



## *Installation of Solar Power System and Storage Battery to Commercial Facilities*



AEON MALL INDONESIA



ITOCHU CORPORATION

Expected carbon emission reduction **549 ton CO<sub>2</sub>/year**

**500 KW Installation of Solar Power System and Storage Battery to Commercial Factory.** The recently-operated Rooftop Solar Power generates 500 KW electricity for lighting system in shopping center.



Aeon Mall at East Jakarta

## Power Generation by Waste-heat Recovery in Cement Factory



PT. SEMEN INDONESIA Tbk



JFE Engineering Corporation

Expected carbon emission reduction **122.000 ton CO<sub>2</sub>/year**

**32 MW Waste Heat Recovery Power Generation at Cement Factory.** 4 factory units at PT Semen Indonesia in Tuban are able to capture its flue gases emission which is a hot 400 degree celcius air to be used as boiler to generate electricity. This system enables to reduce electricity consumption up to 25% of the total electricity required in the factory.



PT. Semen Indonesia at Tuban Regency, East Java



## Installation of Gas Co-generation System for Automobile Manufacturing Plant



PT. TOYOTA MOTOR  
MANUFACTURING  
INDONESIA



TOYOTA TSUHO  
CORPORATION

Expected Carbon Emission  
reduction **20.310 ton CO<sub>2</sub>/year**

**8 MW cogeneration system** at PT. Toyota Motor Indonesia.

This cogeneration system is able to deliver 30% of the total factory electricity demand and also replaces the needs of utilizing the other two boilers.



PT. Toyota Mobile Manufacturing Indonesia, Karawang Regency, West Java

# City-to-City Cooperation

## Surabaya and Kitakyushu City-to-City Cooperation

*Energy Saving for Air-Conditioning at Shopping Mall with High Efficiency Centrifugal Chiller*



PT. PAKUWON JATI,Tbk



NTT FACILITIES,INC

Expected carbon emission  
reduction **966 ton CO<sub>2</sub>/year**

NTT Facilities and PT. Pakuwon Jati Tbk, worked together to implement a highly efficient chiller (*centrifugal chiller*). This chiller is able to reduce electricity usage of 1.136 MW/year. This chiller is utilized for the shopping center air-conditioner operational usage.

Mall Tunjungan Plaza, Surabaya, East Java



# City-to-City Cooperation

## Surabaya and Kitakyushu City-to-City Cooperation

### Nishihara: Waste Management Project

- A collaboration between Nishihara Co. with Dinas Kebersihan dan Pertamanan (DKP) Surabaya
- In 2013, the FS is registered under the JCM scheme. In the subsequent year it has no longer registered under the JCM however the collaboration is still continue until now.



#### Nishihara Depo

Handling 20 tons of waste daily whereby 85% of the waste is selected for resale. Currently the management is transferred to DKP



#### Nishihara Composting Center

Started its operation in 2015 with support from JICA. Handling 8 tons of waste from 4 traditional market and parks in Surabaya daily

**These projects were funded by JICA. The city to city scheme allows collaborations between cities in Indonesia and Japan even without involvement of JCM scheme.**



Coordinating Ministry  
for Economic Affairs  
Republic of Indonesia

# Thank you! Terima kasih!

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