The 4 Years of JCM Implementation in Indonesia and its evolution towards sustainable low carbon growth scheme

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Coordinating Ministry
for Economic Affairs
Republic of Indonesia

Flashback of JCM development

Its started by a piece of paper on 2010

That turn to an informal discussion of Bilateral Offset Mechanism or BOM

The BOM change to Bilateral Offset Credit Mechanism after formal discussions were established

And finally we change the name of BOCM to Joint Crediting Mechanism or JCM when we signed the MOU

And now we are the top runner among 17 JCM countries in the world!!!

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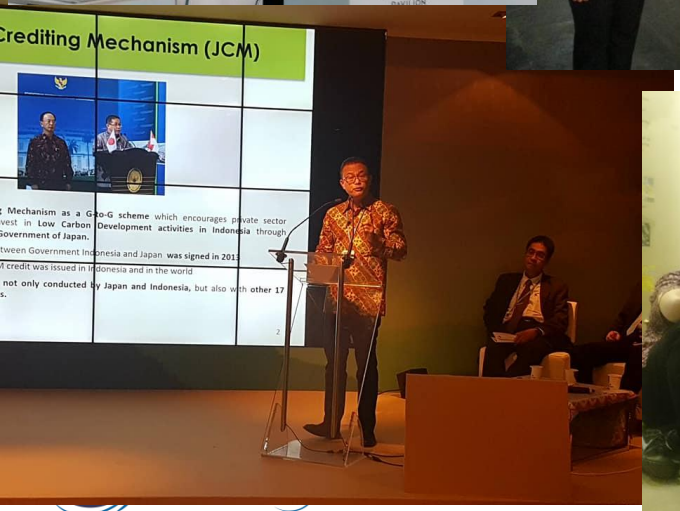
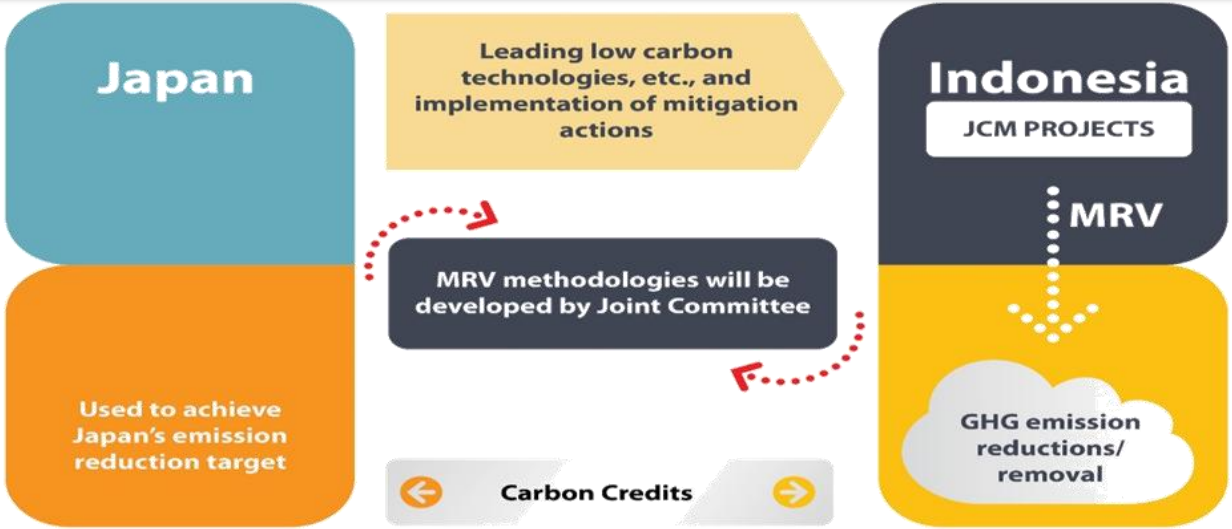
Many things were happen, many experiences in 4 years



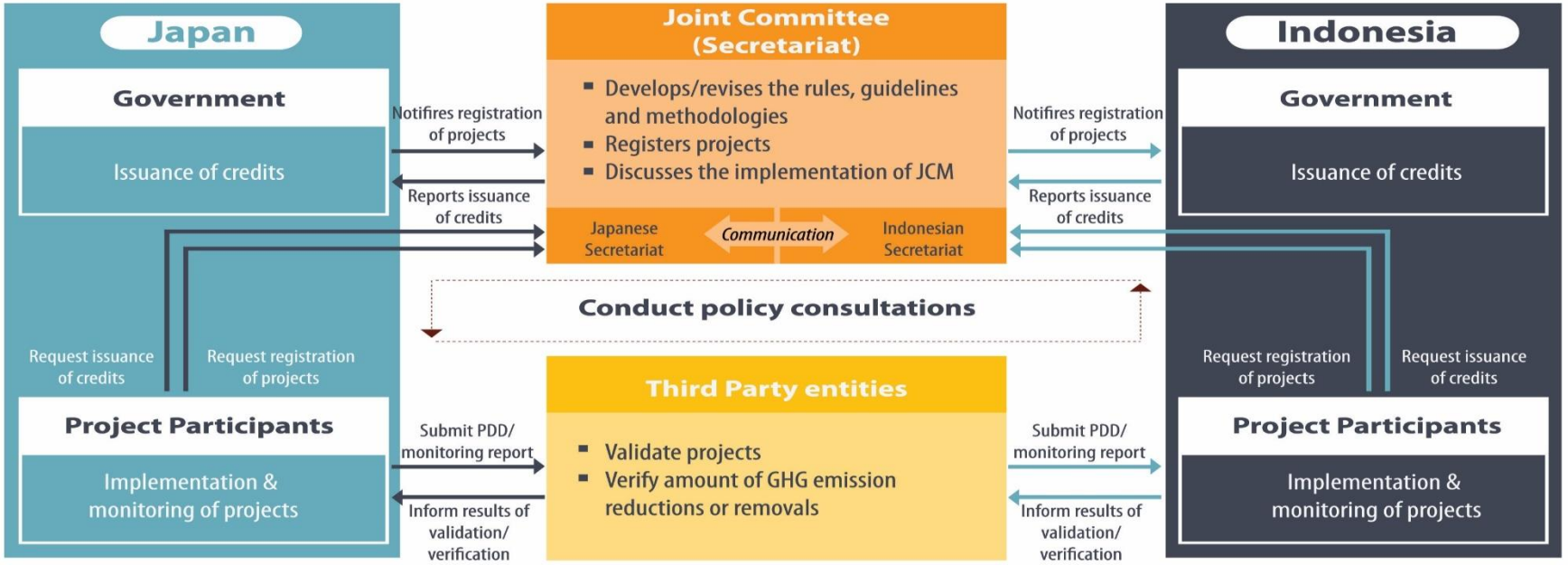
Basic concept of JCM



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

The JCM cooperation scheme



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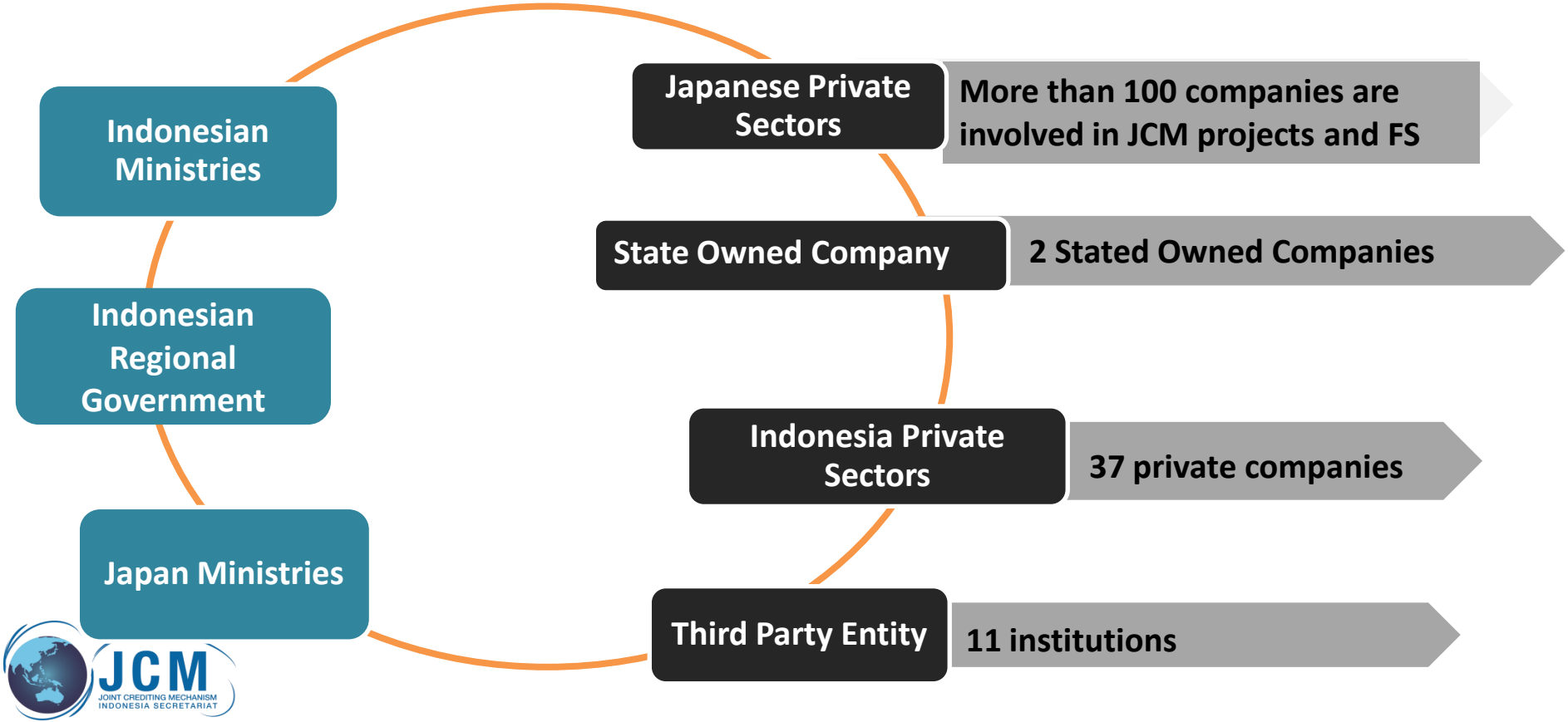
Institutions related to JCM implementation



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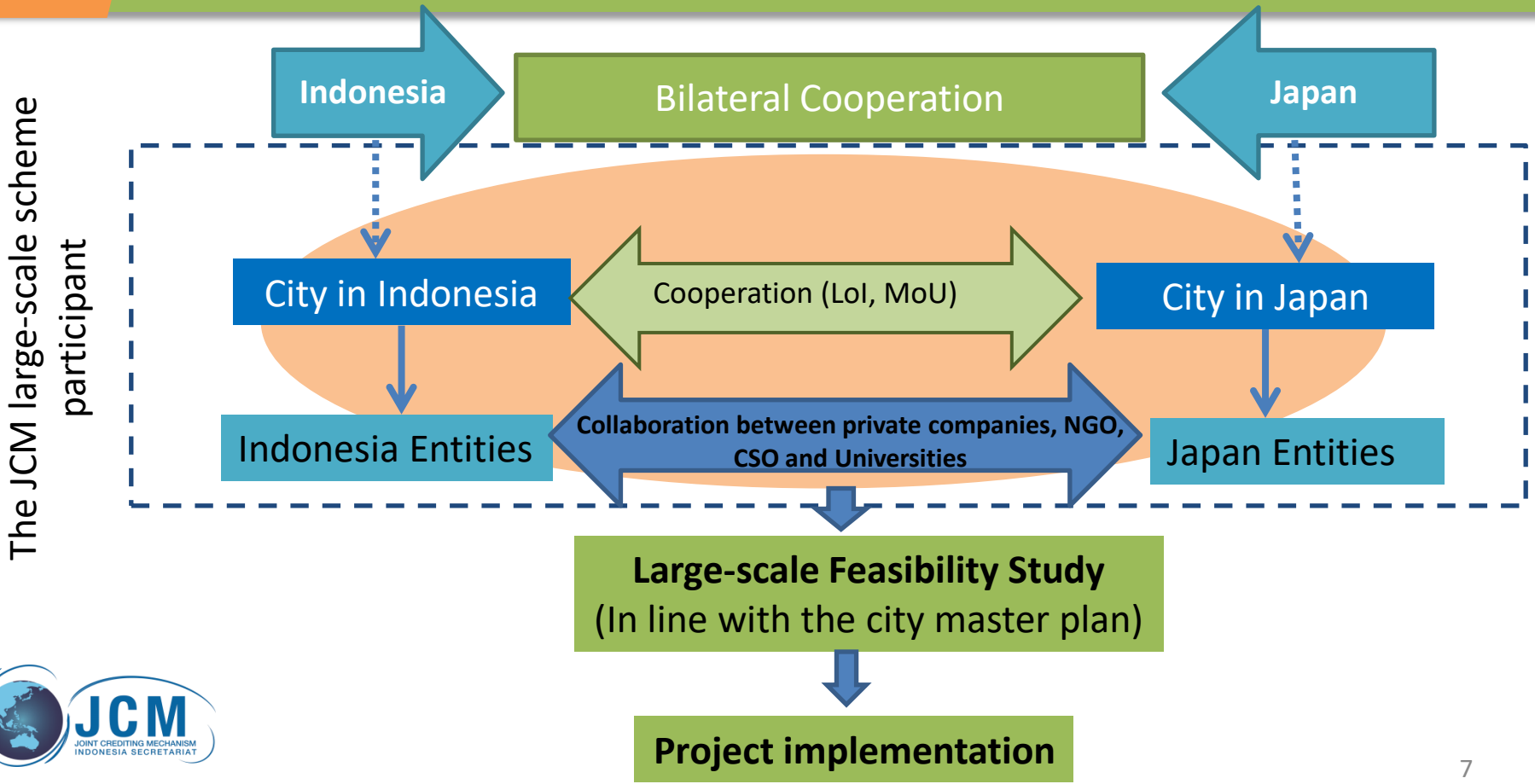
JCM City-to-City scheme



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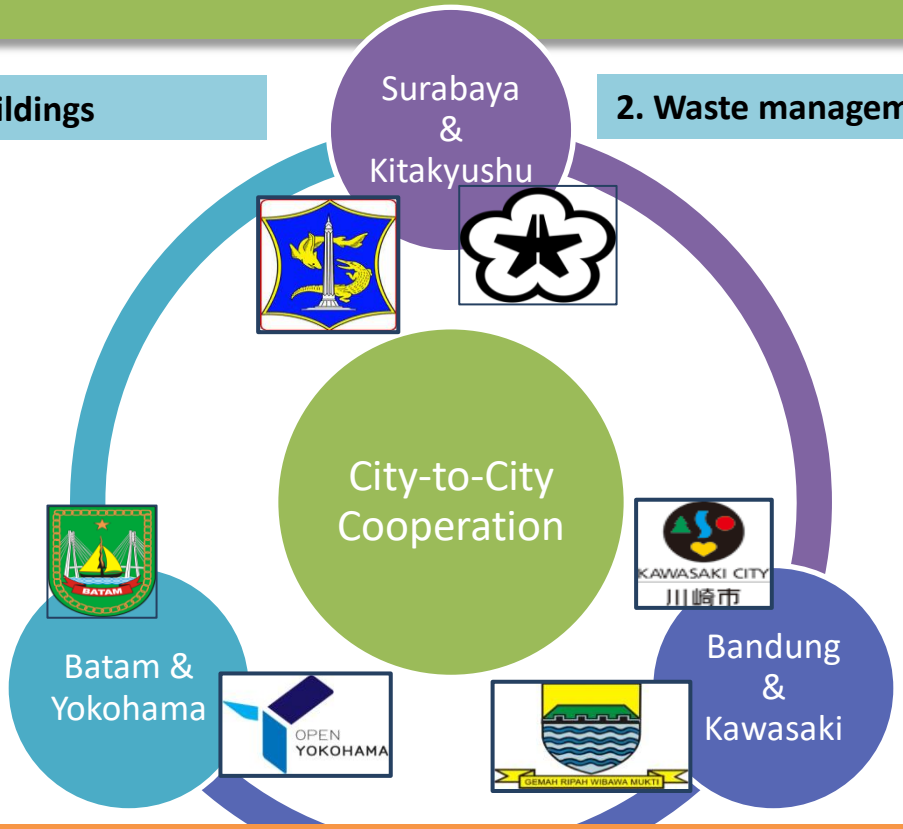
City-to City Cooperation

1. Energy management in buildings

2. Waste management



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

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Financing scheme

Model Project

Subsidized by MOE | Investment by Participants

50% | 50%

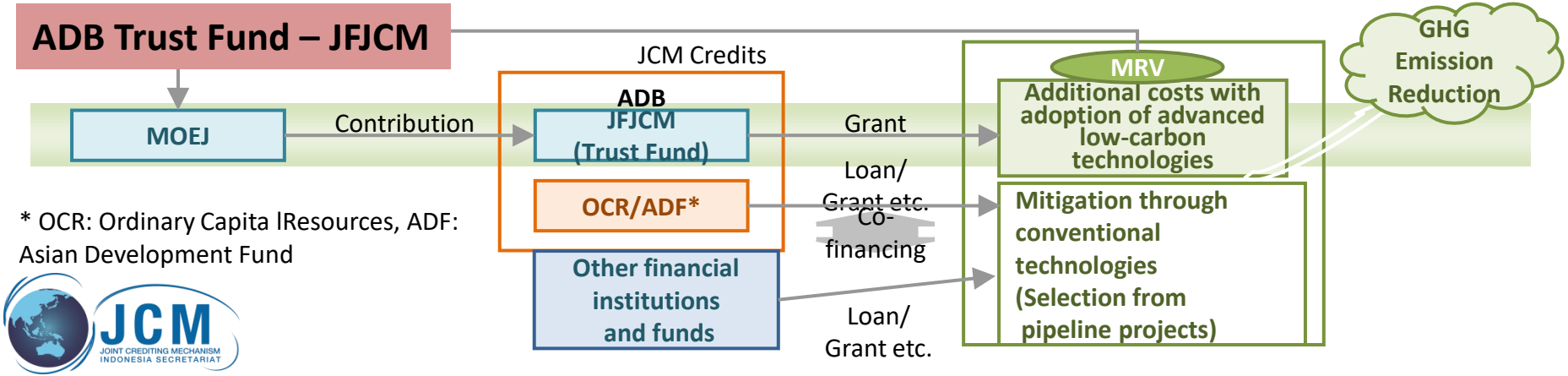
Total Cost of the installation

Demonstration Project

Subsidized by METI | Investment by Participants

Up to more than 50%

Total investment is discussed and negotiated with METI



* OCR: Ordinary Capita lResources, ADF: Asian Development Fund

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Total investment of JCM implementation in Indonesia

1 Grant for Feasibility Study **10 mio US$**

Study and Partnership with several institutions in Japan and Indonesia

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

37 Mio US$ of Government of Japan Subsidy

113 Mio US$ of Project Participants investment

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sustainable development and emission reduction

Some challenges on Indonesia JCM implementation

Reliability of New Technology
Because of most of the technologies are new, it requires more analysis in risk management, feasibility and other impact of implementing the technology. A success story or a demo project is very helpful in this situation.

Environmental Awareness
The awareness and attention to environmental issues has to be well develop in Top Management before the decision to do CDM, JCM or other Environmental Friendly initiatives.

Relationship & Trust to Partner
In many cases, the partner should have proven achievement to convinced the management, but that is not enough. The Partner should also convinced that the Local company will also enjoy the result and benefit of the projects.

High Initial Capital Costs
Environment friendly technology usually more pricey than conventional one. In some cases cash flow is more important than Economic value.

Currency Risk
Indonesia has experienced currency crisis in the past, this has actually have serious impact on some companies/project during that times. This situation forced the Top Management to be more cautious in the decision making.

Arbitration Rules
International Cooperation agreement usually have certain rules of arbitration that has to be well understood by Top Management, typically using third country as an Arbitration place.

Technical Barrier
The management have to assess the integration of new technology to their existing equipment & system.

Carbon Credit Sharing
The Management need time to understand and analyze the rights of carbon credit since this is new thing for them. Also possibility to claim ownership of the credits could be an issue.

Share Holder Acceptance
Top Management has to be sure that they have enough facts and analysis to convinced the shareholders. It will be more difficult in State Owned Enterprise cases.

Clarity of future Cost & Responsibilities
The Management has to be sure that the future liability, responsibilities, or other consequences doing the projects is already identified and clearly stated who will bare the cost/responsibility.

Procurement Risk
Indonesia is still in the development stages of Procurement Practices especially in Government and State Owned Enterprises.

Regulatory Barrier
Both participant have to be sure that the implementation is comply with all related regulations & policies, including that related to the new national and international climate policies.

Communication and JCM

Most of the challenges were caused by **lack of communication between stakeholders and lack of capacity**. In this regard, Indonesia government, supported by JCM Secretariat and JICA, developed **communication strategy** as well as communication activities to solve the challenges and promote JCM scheme.

Indonesia JCM scheme communication strategy was developed in 2014 to fulfill the communication gap and to do JCM promotion. **Communication activities and materials** were developed based on this strategy.

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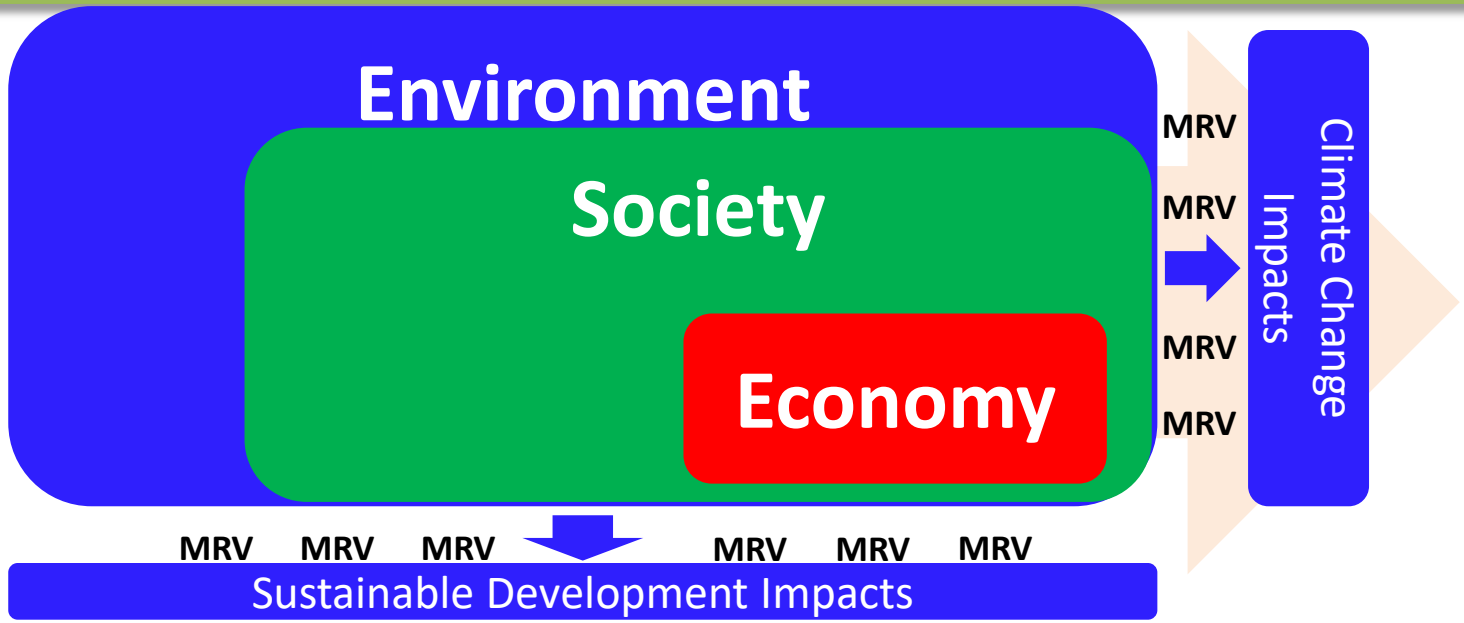
Not only the emission reduction that we delivered



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.**

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JCM may contribute to SDG goals achievement

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- 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:
13 methodologies of energy efficiency and renewable energy have been developed

Registry system

ISO 14065 based

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

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**

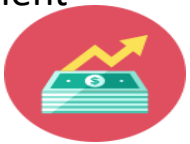
7 sustainable development items considered in JCM:

Environmental Impact Assessment

Pollution control

Safety and health

Natural Environment and Biodiversity



Economy

Social Environment and Community Participation

Technology

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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.

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Learning from JCM experiences

- Good financing scheme for climate change mitigation!
- A methodology is a must!
- Transparent procedures is the key
- Communication strategy must be good
- Good and transparent infrastructures and processes
- Sustainable development is the one of the evaluation criteria
- Good cooperation among stakeholders
- MRV that based on international standards
- Based on good FS and actual condition
- Real emission reduction program that can be duplicated

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Energy Saving at Convenience Stores

PT. MIDI UTAMA INDONEISIA Tbk

LAWSON, INC

Expected carbon emission reduction
28,5 ton CO_2/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

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Installation of Solar Power System and Storage Battery to Commercial Facilities

AEON MALL INDONESIA

ITOCHU CORPORATION

Expected carbon emission reduction **549 ton CO_2/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

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Power Generation by Waste-heat Recovery in Cement Factory

PT. SEMEN INDONESIA Tbk

JFE Engineering Corporation

Expected carbon emission reduction **122.000 ton CO_2/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.

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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_2/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

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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_2/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

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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.

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Thank you! Terima kasih!

Our website: http://jcm.ekon.go.id

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Sekretariat JCM Indonesia

Gedung Kementerian Koordinator Bidang Perekonomian Lt.2

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