JCM contribution in Indonesia INDC

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Indonesia target on GHG emission reduction pre and post Paris Agreement

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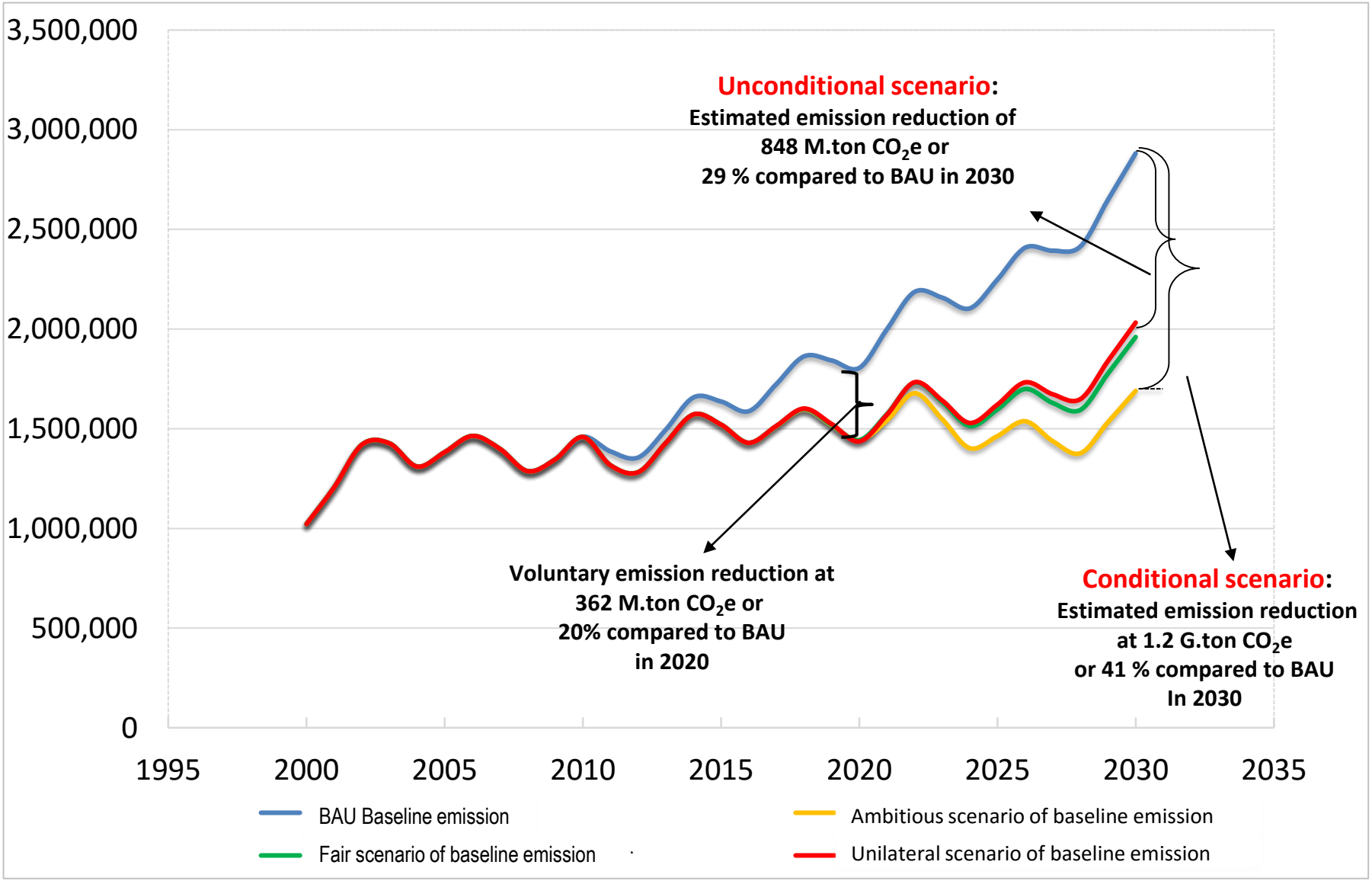

Source, Bappenas, 2015

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How Indonesia finance its GHG emission reduction activities

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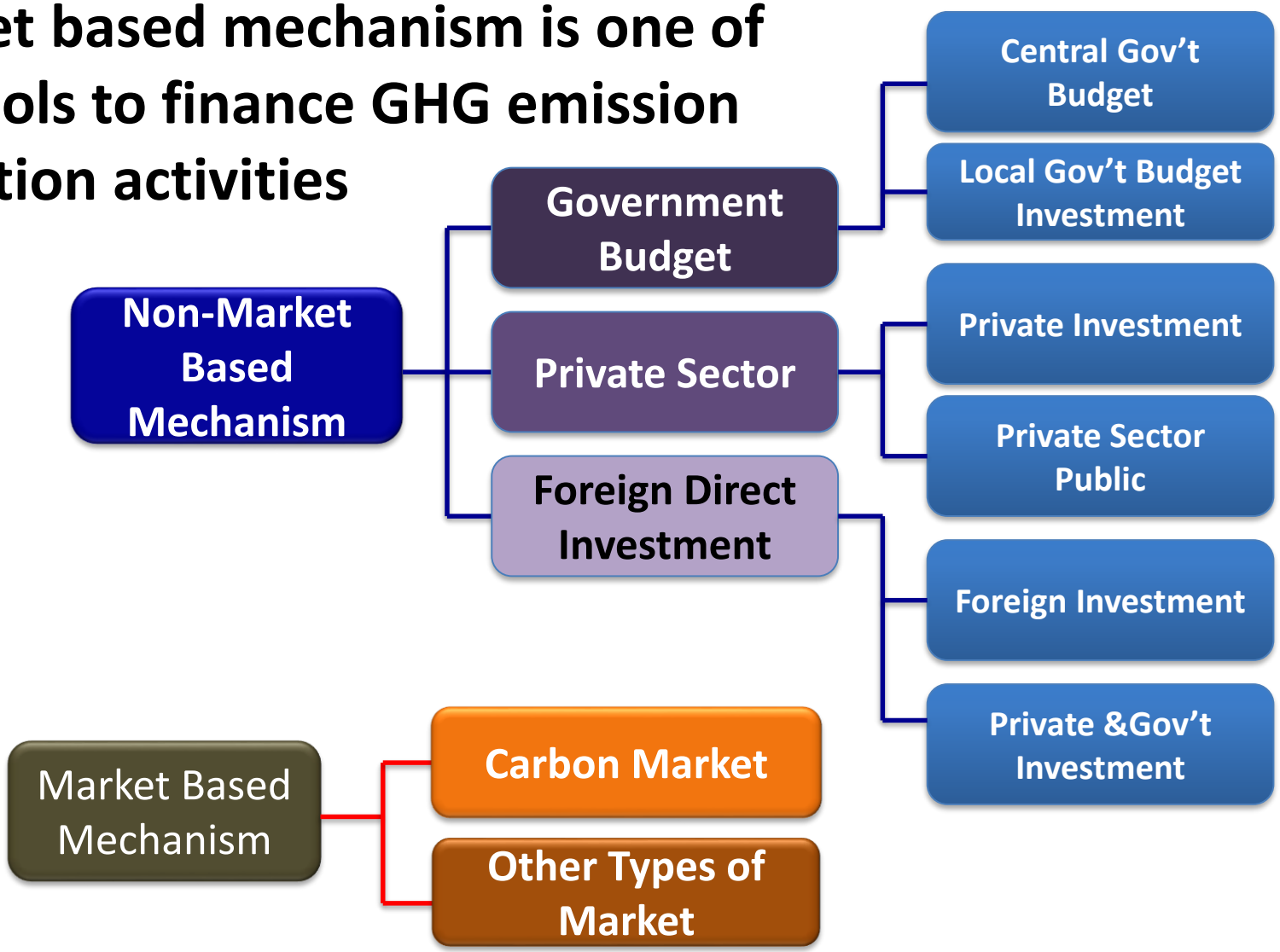
Market based mechanism is one of the tools to finance GHG emission reduction activities



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Unconditionality:

….Indonesia's is committed to reducing emissions by **29% compared to the business as usual (BAU) scenario by 2030**, as a fair reduction target scenario based on country's most recent assessment of the 2010's National Action Plan on GHG Reduction. The BAU scenario is projected approximately 2,881 GtCO2eq in 2030….

Conditionality:

As articulated in the aforementioned Unconditional Reduction Indonesia's target should encourage support from international cooperation, which is expected to help Indonesia to increase its contribution **up to 41%** reduction in emissions by 2030.

….Indonesia's additional 12% of intended contribution by 2030 is subject to provision in the global agreement including through bilateral cooperation, covering technology/ deployment and transfer, capacity building, payment for performance mechanisms, technical cooperation and access to financial resources…

…Indonesia will meet its unconditional commitments regardless of the existence of international market mechanisms. **Indonesia welcomes bilateral, regional and international market mechanisms** that **facilitate and expedite technology development and transfer, payment for performance, technical cooperation, and access to financial resources** to support Indonesia's climate mitigation and adaptation efforts toward a climate resilient future…

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JCM projects in Indonesia

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JCM Implemented Projects (from 108 Feasibility Studies)			Emission Reduction
Demonstration Project			
Remote Auto-Monitoring System for Thin-Film Solar Power Plant in Indonesia			1.433 tCO_2/tahun
Energy Saving by Optimum Operation at Oil Refinery			3.400 tCO_2/tahun
Utility Facility Operation Optimization Technology			58.000 tCO_2/tahun
The low carbonization of mobile communication's BTS by the introduction of TRIBRID system in Indonesia			163 tCO_2/tahun
Model Project			
Power generation by waste heat recovery in cement industry	122.000 tCO_2/tahun	Energy Saving for Industrial Park with Smart LED Street Lighting System	900 tCO_2/tahun
Energy Savings at Convenience Stores	372 tCO_2/tahun	Energy saving by introduction of high efficiency once-through boiler system in a film factory	428 tCO_2/tahun
Energy saving through introduction of regenerative burners to the aluminum holding furnace of the automotive components manufacturer	856 tCO_2/tahun	Introduction of high efficiency once-through boiler and RO pure water system in golf ball factory	380 tCO_2/tahun
Solar power hybrid System installation to existing base transceiver stations in off-grid area	2.786 tCO_2/tahun	Jakabaring Sports City Megasolar Power Plant Project	1.265 tCO_2/tahun
Energy saving by double bundle-type heat pump	170 tCO_2/tahun	Introduction of high-efficiency looms in weaving mill	1.317 tCO_2/tahun
Introduction of High efficient Old Corrugated Cartons Process at Paper Factory	14.884 tCO_2/tahun	Energy saving for industrial wastewater treatment system for rubber industry	546 tCO_2/tahun
Reducing GHG emission at textile factories by upgrading to air-saving loom	566 tCO_2/tahun	10MW Mini Hydro Power Plant Project in North Sumatra	42.700 tCO_2/tahun
Installation of Gas Co-generation System for Automobile Manufacturing Plant	20,439 tCO_2tahun	Introduction of LED Lighting to Sales Stores	2.617 tCO_2/tahun
Energy Saving for Shopping Mall with High Efficiency Centrifugal Chiller	925 tCO_2/tahun	Energy saving for air-conditioning utility system in the airport terminal by introducing high-efficiency operating system	585 tCO_2/tahun
REDD+ Model Project			
REDD+ Model Project in Boalemo district			100.000 tCO_2/tahun
Registered Project			
Energy saving for air-conditioning and process cooling by Introducing High-efficiency Centrifugal Chiller			114 tCO_2/tahun
Project of Introducing High Efficiency Refrigerators to a Food Industry Cold Storage in Indonesia (credit issued)			**29 tCO_2/tahun**
Project of Introducing High Efficient Refrigerator to a Frozen Food Processing Plant in Indonesia (credit issued)			**11 tCO_2/tahun**
Energy saving for textile factory facility cooling by high efficiency centrifugal chiller			118 tCO_2/tahun
Energy saving for air-conditioning and process cooling at textile factory			117 tCO_2/tahun

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Step by step of JCM scheme

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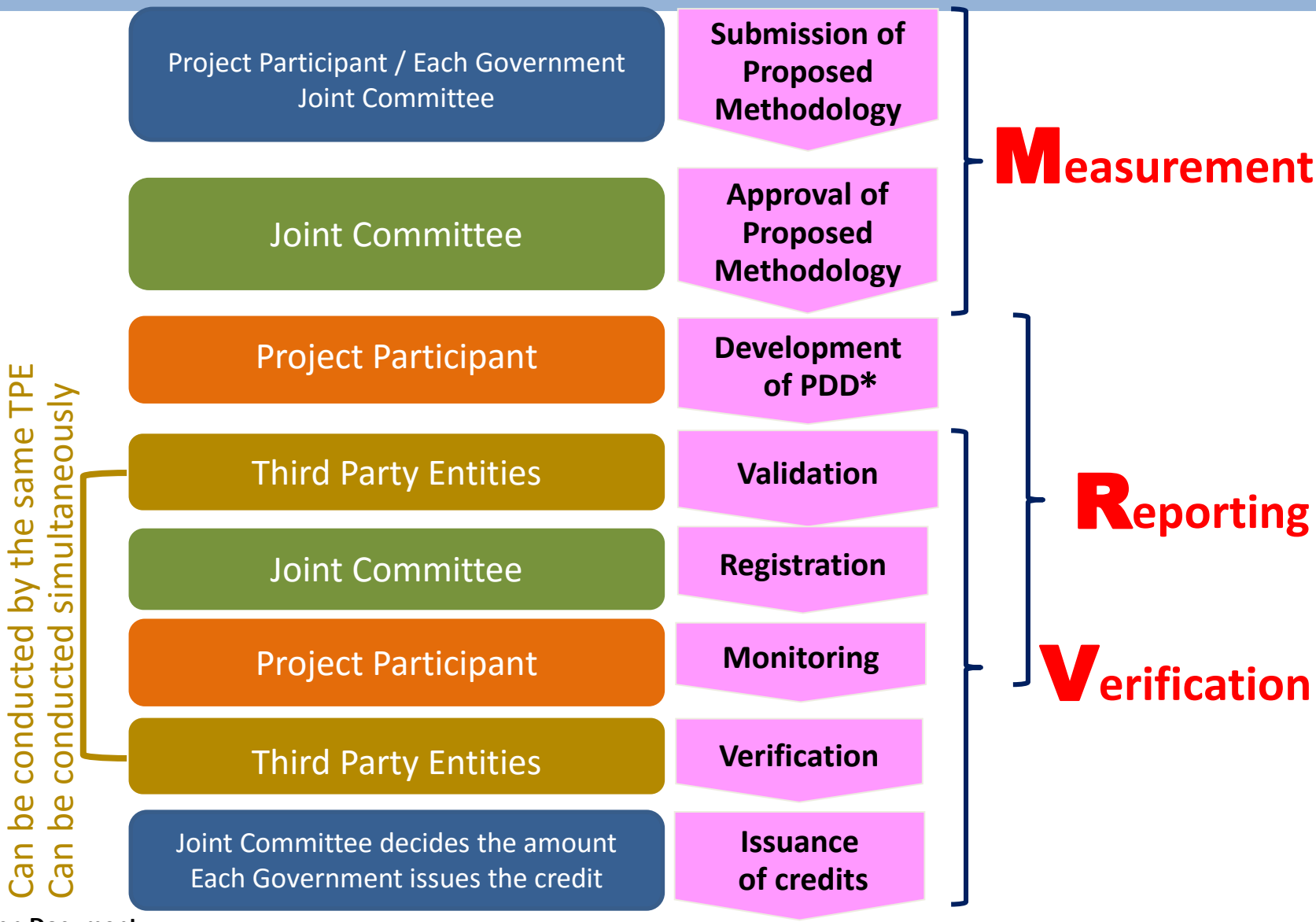

*PDD: Project Design Document

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Stakeholders in JCM

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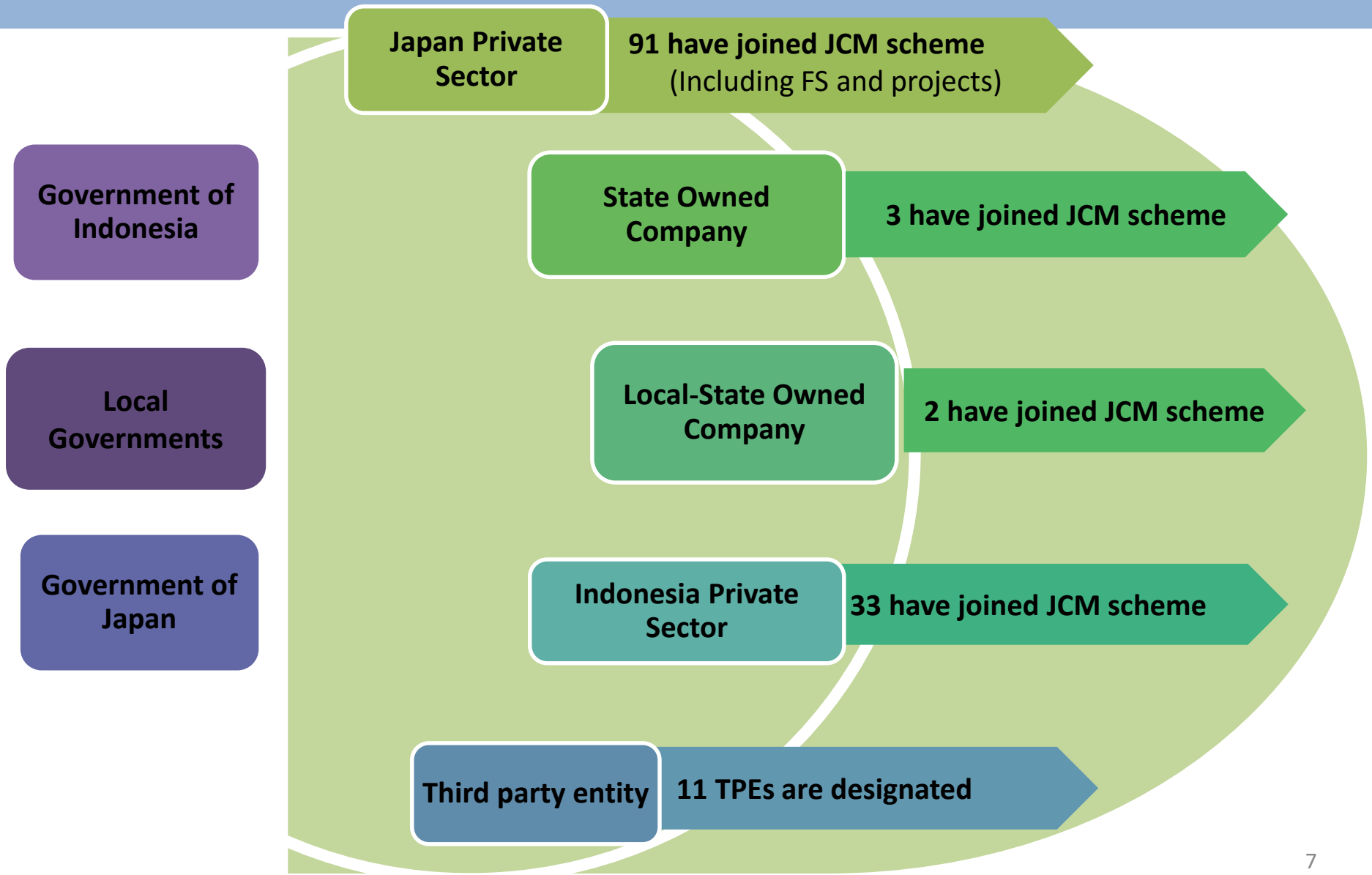

*As of July 2016

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City-to-City Cooperation scheme

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1. Building's energy management

2. Waste management

Surabaya & Kitakyushu

Batam & Yokohama

Bandung & Kawasaki

City-to-City

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

1. Building's energy management
2. Waste management
3. Street lightings

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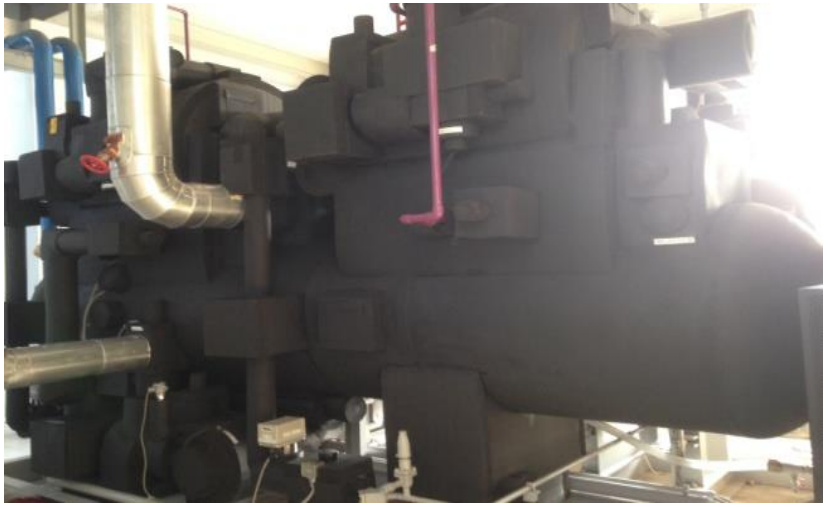
JCM project example 1: Energy efficient refrigerants to cold chain industry

The first two JCM projects to issued credits

Project participants: PT Adib Global Food Indonesia & Mayekawa MFG

Karawang site:

- Installed technology: Compressor (43 kW)and Intelligent Quick Freezer.
- By using Intelligent Quick Freezer, production capacity in Karawang site has increased from 2 tpd to 4 tpd.
- Total amount of credit issued: 11 tCO_2



Bekasi site:

- Installed technology: Compressor (2x43 Kw)
- The chillers were used for the cooling room purposes.
- For Bekasi site 20% reduction of energy consumption is expected than the reference scenario.
- Total amount of credit issued: 29 tCO_2

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JCM project example 3: The waste heat recovery power generation in cement industry

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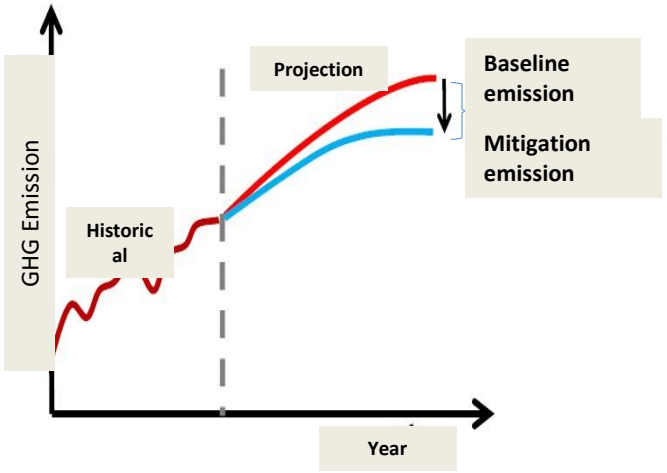
Project participant: PT Semen Indonesia Tbk & JFE Engineering

- PT Semen Indonesia Tbk (SMGR) began constructing the power plant by utilizing the exhaust gas (Waste Heat Recovery Power Generation / WHRPG) Tuban I - IV with a capacity of 30.4 MW, which utilizes waste heat produced by the 4 kilns inside the factory to generate steam for the power generator.
- Up to 122,000 tCO_2/year is expected to be reduced.
- Can save up to 85% of its electricity bill
- The project now is in its design and procurement of main equipment stage. This project is expected to finish on December 2016.

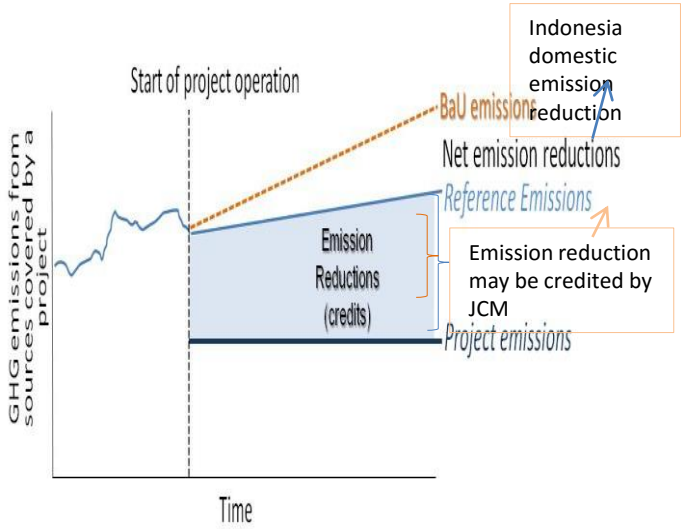
MRV comparison between JCM and other schemes

Baseline emission based calculation



Other mitigation project in Indonesia

Reference emission based calculation



JCM project

1. In the JCM, *emission reductions* to be credited are defined as the difference between **reference emissions** and project emissions.
2. *Reference emissions* are calculated below business-as-usual (BaU) emissions which represent **plausible emissions** in providing the same outputs or service level of the proposed JCM project in the host country.
3. JCM approach will ensure a net decrease and/or avoidance of GHG emissions.
4. *The value of Reference Emissions in JCM depends on the methodology. Therefore, the value can be equal or different with Baseline Emission.*

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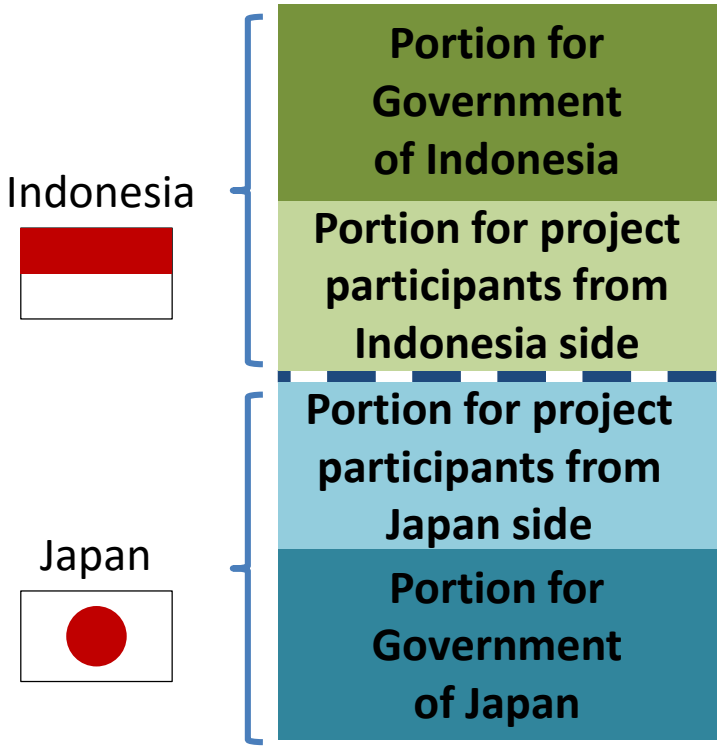
JCM emission reduction credit sharing



1. The government of Indonesia will cut its emission reduction sharing, minimal 10%.
2. The Indonesia and Japan participants will discuss among them about the emission reduction portions for every party.
3. The government of Japan will take their emission reduction credits from their project participants.

JCM Registry in Indonesia and Japan

1. Indonesia has developed JCM registry to register its JCM project and managed the emission reduction.
2. This is the first registry that established in Indonesia.
3. The registry will be connected to Indonesia National Registry system that still under development.

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Possible linkages between emission reduction schemes in Indonesia

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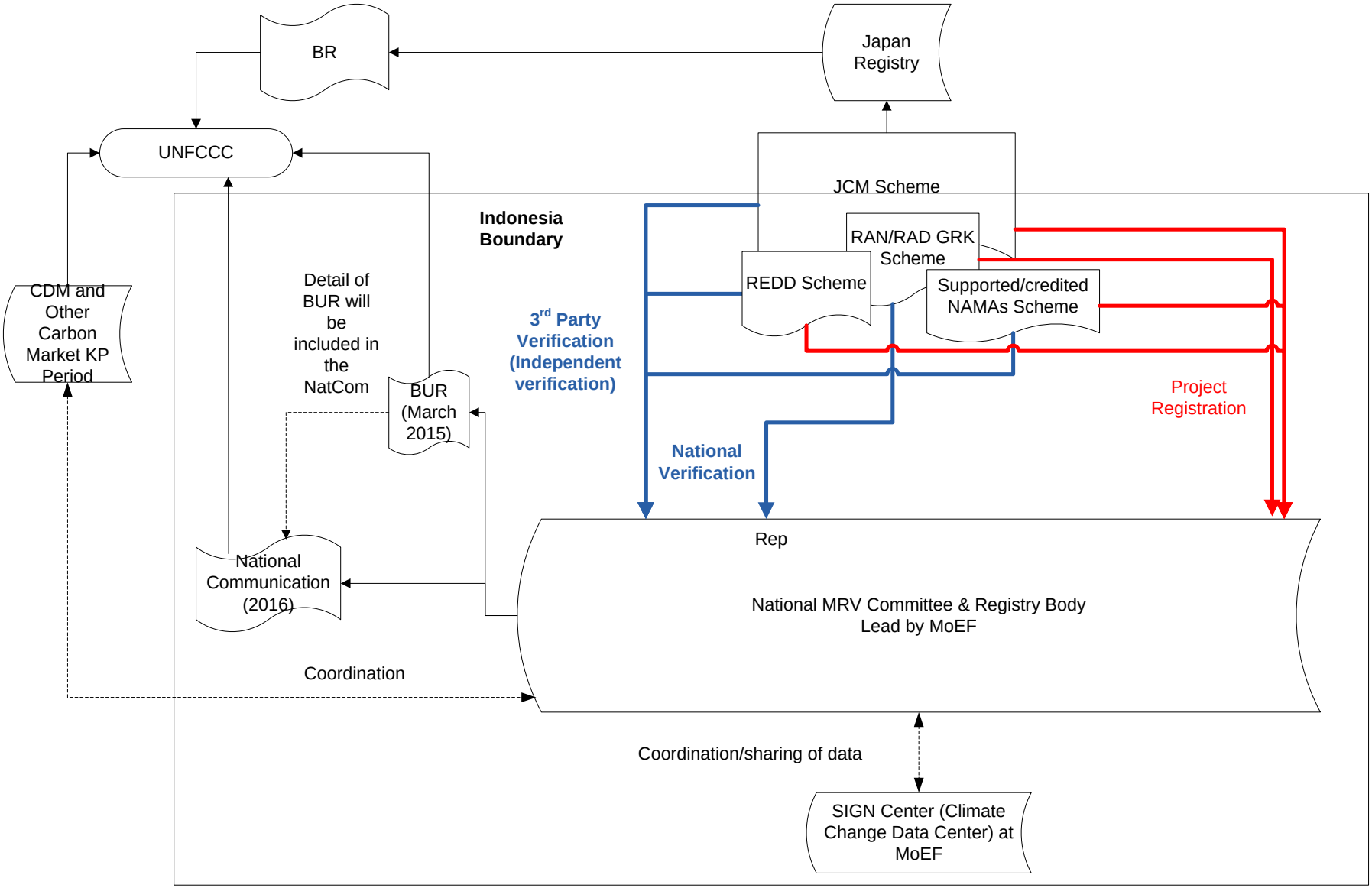

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Thank you! Terima kasih!

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