Coordinating Ministry
for Economic Affairs
Republic of Indonesia

Lessons learned from JICA-CMEA Project on Low Carbon Development and JCM

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Project of Capacity Development Assistance for
Low Carbon Development in the Republic of Indonesia

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Project of Capacity Development Assistance for Low Carbon Development in Indonesia (1/2)

Project Term:
2014 May-2017 December (3.5years)

Project Counterparts:
Coordinating Ministry for Economic Affairs (CMEA) and ministries/agencies related to JCM

Overall Goal:
Investment and deployment of low carbon technologies, products, services and infrastructure are promoted in Indonesia

Project Purpose:
Capacity of the Joint Committee Team and the Secretariat of Joint Crediting Mechanism (JCM) to effectively perform the duties as stated in the Deputy Minister Decree 01/2014 is strengthened

Project of Capacity Development Assistance for Low Carbon Development in Indonesia (2/2)

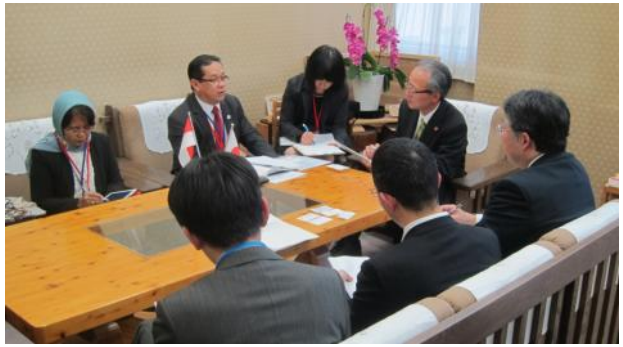
Outputs

1. To operationalize Indonesia JCM Secretariat
2. To promote JCM for low carbon growth to potential project proponents and other related parties/stakeholders, and enhance their capacities
3. To enhance the capacity to monitor and evaluate the implementation of JCM
4. To enhance additional capacities to assess policy issues relevant to JCM for low carbon growth

Project Progress (1/4)

Output 1: JCM Secretariat operationalization

- Indonesia JCM Secretariat was launched
- Secretariat's business plan and mid-term strategy for sustainable operation were developed
- Support for smooth operation of JCM project appraisal and registration process
- Facilitation of JCM-related process including inter-ministerial coordination meeting and dialogues in order to enhance JCM sustainable operation
- Japan visit conducted in February 2017 for further facilitation



Project Progress (2/4)

Output 2: Information Dissemination and Capacity Building on JCM for stakeholders

- Information dissemination and capacity development plan prepared
- Outreach materials such as booklet and Indonesia JCM website were prepared and maintained
- Activities on information dissemination conducted such as:
  - Business Forums and relevant meetings/seminars
  - Media briefing was held in February 2017
  - Participation in domestic and international conferences and seminars such as COP 21, COP 22, COP 23

Project Progress (3/4)

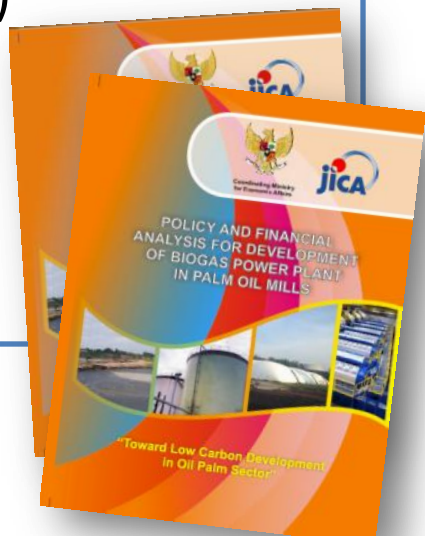
Output 3: Monitoring and Evaluation of JCM

- Monitoring and evaluation plan of JCM scheme & project levels
- Regular site-visit in order to secure monitoring and evaluation of JCM projects
- Periodical reports on monitoring and evaluation of JCM in both scheme and project levels

Project Progress (4/4)

Output 4: Policy Assessment for Low Carbon Growth

- Policy assessment on linkage b/w JCM and national climate change policy and measures
- Assessment on benefit of JCM in terms of emission reduction calculation, technology, finance, capacity building and other aspects
- Policy assessment on options for implementation and replication of JCM projects / low carbon technology projects, by arguing financing barriers
- Policy assessment on palm oil industry (methane capture)



Policy Assessment

Key Questions

- How to ensure sustainability of JCM?
- How to replicate advanced low carbon technology projects, even without JCM subsidy?
- What kind of benefits obtained from JCM ?
- How to facilitate private sector and local government involvement for JCM and advanced low carbon technology projects ?

Component 1

Reviewing of JCM benefits

Review following aspects:

-Technology benefit
-Economic/financing benefit
-Social benefit

-Carbon emission reduction benefit

Component 2

Policy assessment for low carbon technology diffusion

Review followings and give recommendation:

-Analysis on regulatory barriers and policy Incentives (tariff)
-Procurement system
and other measures for low carbon technology diffusion and replication
-Financing situation (including challenges and barriers)

JCM benefits

- Financing/economic aspect
  - JCM subsidy may be a useful tool for introducing new / uninstalled technologies (not that technology was installed here) to encourage private sector to participate in mitigation actions. Payback period is shorter.
  - Some projects are replicated without JCM application. Reliability and credibility to JCM technologies are higher after implementation JCM project (PT Adib, PT ISTEM (Toray project)).
  - Operation & maintenance costs are reduced in JCM project.
  - JCM subsidy increase opportunities for obtaining further investment from JCM participants of both countries.

JCM benefits

- Technology aspect
  - Technologies used in JCM energy efficiency projects considered mostly innovative, advanced, efficient and reliable in general.
  - Technologies installed are proven energy efficient showing a significant reduction in electricity consumption
  - Some companies installed another projects without JCM subsidy
  - In some cases, spare parts for technologies are produced in Indonesia. In the case of Yamaha, the Indonesian participant has received assistance in the form of training and technical aspects of manufacturing spare part for the regenerative burner. Instead of importing all the equipment, part of equipment is manufactured in Indonesia.
    - For the case of Alfa midi, CO2 refrigerant should be imported since the technology installed were a model

JCM benefits

- Capacity building (CB), social aspects
  - Conducted many CB and information sharing activities on JCM in general by JICA, IGES, GEC, etc
  - At project level, project proponents/technology providers provided CB (on technologies) to staffs. Usually in the form of training in class and overseas trip for the company's employee.
  - Monitoring activities under JCM might enhance capacity related to MRV
  - In the case of City-to-City cooperation, some local government officials also conducted study trip to their partner city
  - Improving environment quality and health condition for workers (surrounding people potentially): i.e. reducing dusts in cement factory
  - JCM provided fora to expand networking among relevant stakeholders (new business entities, tech. providers, policy makers), and their knowledge and their potential contribution on reducing climate change impacts

JCM benefits

- Policy Relevance
  - JCM projects considered in general in line with government policies and programmes to enhance efficiency and environmental quality.
    - National Energy Policy, which promote renewable energy, energy efficiency, advancement of new and innovative technologies in energy sector
    - "10 Percent Energy Saving Movement", part of RPJMN programme on energy sector
    - Ministry of Industry Regulation 123/M-IND/PER/11/2010 on revitalization program and industrial development through machinery/equipment restructuration in the textile industry, textile products and footwear industry
      - 10% rebate of the machinery and equipment for advance technology
      - 15% rebate if the machinery contains high national content
    - Ministry of Industry Regulation 12/M-IND/PER/1/2012 on the road map of CO_2 emission reduction in cement industry. In this regulation, cement industry is obliged to reduce 3% of their emissions within the period of 2016-2020 based on the 2009 baseline

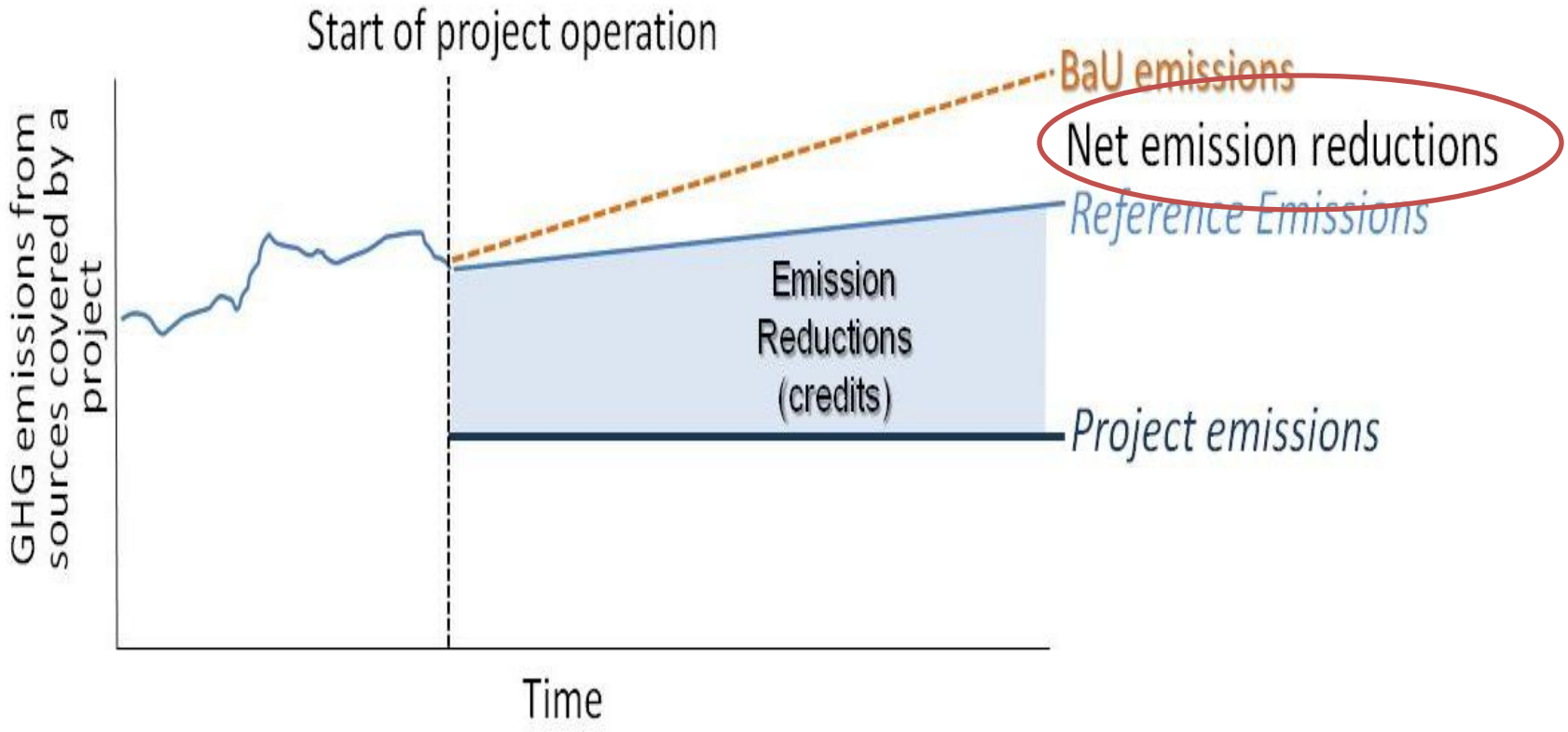
- Potential Policy Impacts
  - JCM experience and lessons could potentially contribute to:
    - National MRV and registry system: i.e. emission factors etc
    - Policy development for utilization of carbon market.
    - Considering ways to promote private participation in mitigation actions

JCM benefits

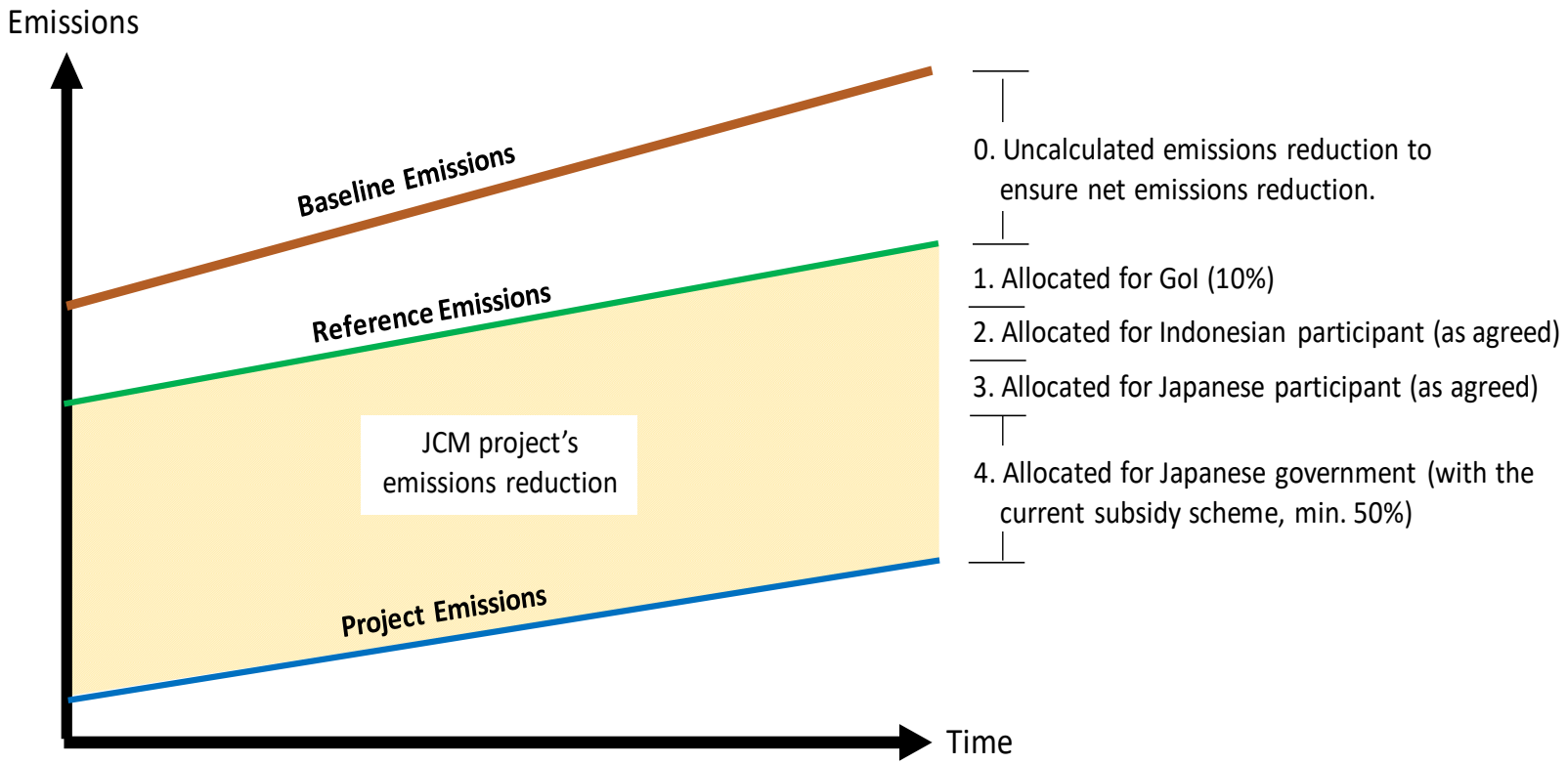
- Emission reduction
  - JCM total annual emission reduction for its 29 projects is 281,542 tCO2/year. → majority energy efficiency
  - Net emission reduction from JCM projects are not yet estimated. Net emission reduction can be used for achievement of NDC in Indonesia if appropriately calculate BAU emission for JCM projects

Baseline Approaches

JCM Baseline Approach: Reference Emissions



Accounting of Mitigation Results from JCM



0: Net emissions reduction (can be accounted as national emissions reduction)

1: National emissions reduction

2: National emissions reduction

3: Internationally transferred mitigation outcomes (ITMOs)

4: Internationally transferred mitigation outcomes (ITMOs)

Net emission reduction is not readily available from JCM methodology, thus have to be calculated separately by government. Net emissions reduction can be reported as national emissions reduction as well.

Issues for Upscaling JCM and Mitigation Actions Barriers in Indonesia

Indonesia is top runner of JCM partner country. However, how do we further promote JCM projects? It would be useful to investigate possible obstacles/barriers.

- Conducted several survey and interview studies on barriers/challenges
- Categories of barriers (example)
  - JCM policies and rules (international / domestic)
  - Carbon Market Barriers
  - Domestic policy Issues not specific related to CDM/JCM
  - Financing barriers
- Method (survey): apply analytic hierarchy process (AHP) to related stakeholders in Indonesia

Issues for Upscaling JCM and Mitigation Actions
Survey Results on Potential JCM Barriers in Indonesia

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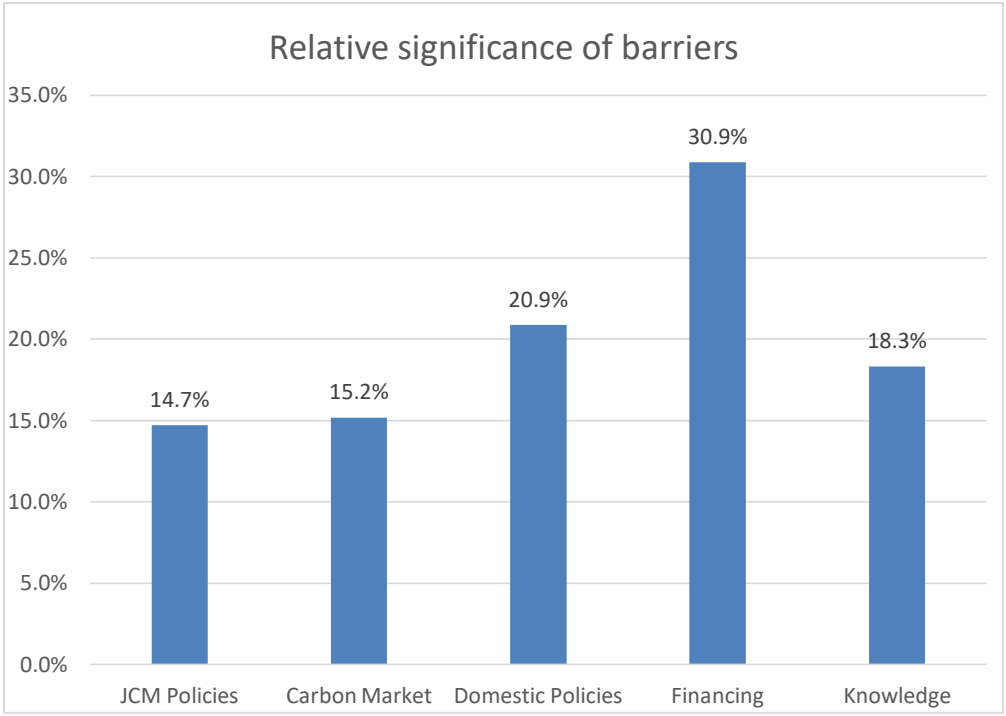


- Financing Barriers
- Domestic Regulatory Barriers (Domestic Policies and Rules not specifically related to JCM)
- Knowledge and Capacity Barriers

Issues for Upscaling JCM and Mitigation Actions
Financing Barriers (for EE) in Indonesia

- Financing issue is the most significant from our survey.
- Some of our initial findings from our study on barriers to implementing energy efficiency projects in Indonesia. are;
  - Regulatory barriers (i.e. related to financing institution)
  - Barriers related to financing institutions
    - Lack of technical capacity and experience in clean energy investment
    - High transaction cost for project assessment for financing
    - inadequate institutional support and lack of focus on green financing in institutions
  - Barriers related to project proponents and third parties
    - Limited capacity of raising funds invalidates the project by project developers
    - ESCO industry grows slow

Issues for Upscaling JCM and Mitigation Actions Procurement rules

- One of challenges is related to procurement rules
- It is challenging when local governments participate as a project proponent. Still many rooms for future JCM implementation with local governments. (i.e. City to city cooperation.) Why challenging?
  - 1) Mismatching budgeting plan cycle: Harmonizing process in Japan and Indonesia sides.
  - 2) Difference in Procurement System: Harmonizing system of Government of Indonesia and JCM system

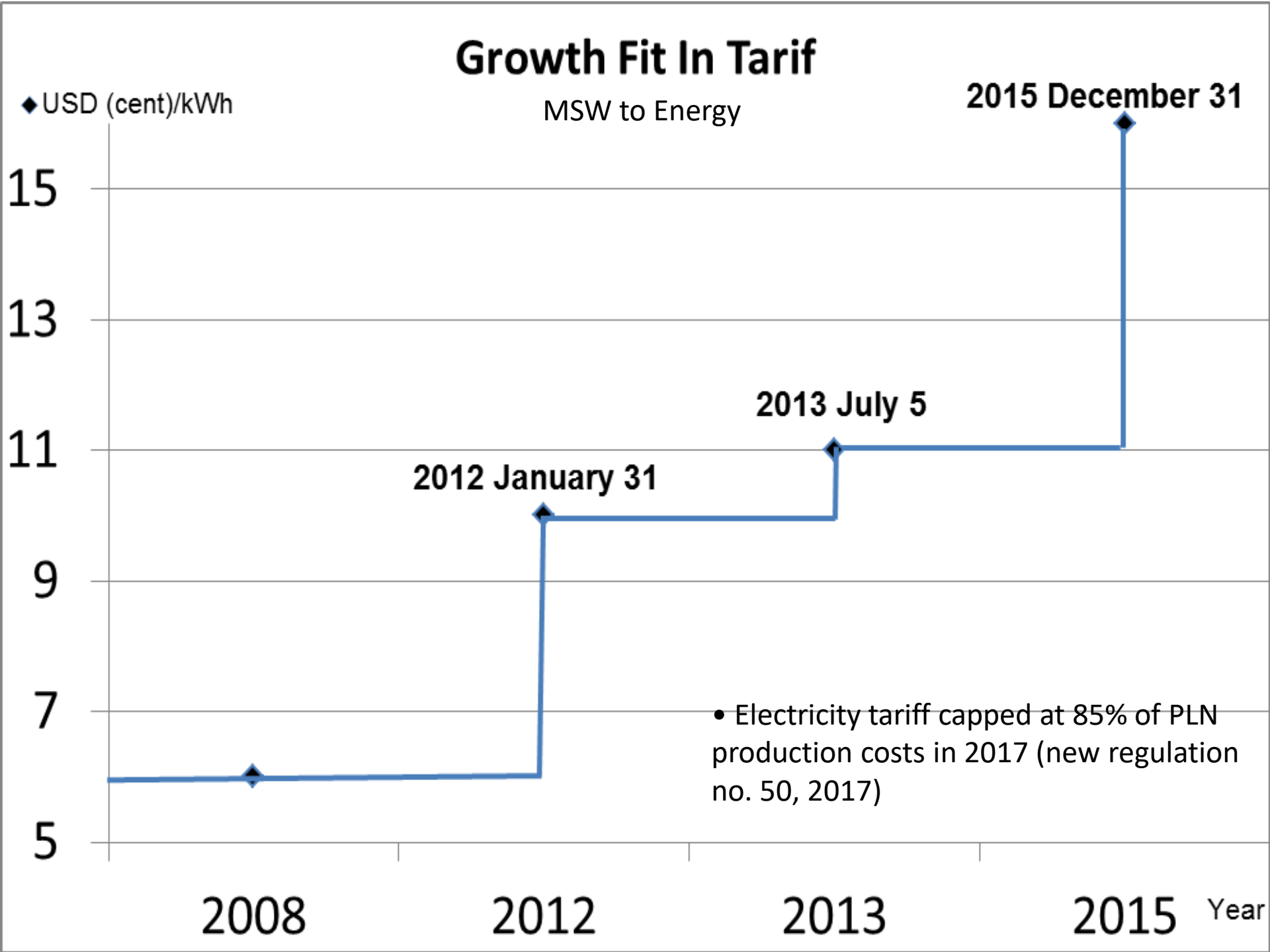
Issues for Upscaling JCM and Mitigation Actions Procurement rules

- Recommendation for 1) Mismatching budgeting plan cycle
  - In order to facilitate JCM Project that uses state budget as counterpart fund, Project proponents should recognize process of its rupiah counterpart fund/budget from Indonesia state budget (timing and availability). Then, make project plan / schedule

- Recommendation for 2) Difference in Procurement System
  - Basic rule is Prepres 54/2010. It required not to specify certain brand or manufacturer before procurement, while certain brand, manufacture of low carbon technology equipment and/or system might be pre-determined by Japanese partner. Also no country preference.
  - As it is possible for harmonisation of the articles under Prepres 54/2010 for Provision on Procurement of Good/ Service which funded either partly or wholly from Foreign Loan/Grant. It is suggested that the necessity of harmonisation can be argued and exercised far in advance by stakeholders such as both governments, cities etc.

Issues for Upscaling JCM and Mitigation Actions
Regulatory and other issues

- Another regulatory issues. Domestic incentives and pricing policies are crucial, for sustainability and feasibility of projects.
  - Parallel cost regulation (MEMR No.1/2017)
  - Regulation on revising tariff for Renewable energy (FIT ➔ price cap) (MEMR No.50/2017)


Growth Fit In Tarif
MSW to Energy
USD (cent)/kWh
2015 December 31
2013 July 5
2012 January 31
15
13
11
9
7
5
2008
2012
2013
2015
Year
• Electricity tariff capped at 85% of PLN production costs in 2017 (new regulation no. 50, 2017)

Financial analysis results for PLTBg 1.5 MW from POME with covered lagoon or tank CSTR

Criteria	Covered Lagoon	CSTR Tank
Total Investment (IDR 1000)	49,062,500	64,250,000
Operational cost (IDR 1000/ y)	3,434,375	4,497,500
NPV (df-12%) in IDR 1,000	5,479,838	(12,449,904)
IRR	14,18 %	7.80%
B/C	1.0946	0.8359
Payback Periods	Year 7	Year 10
Net income (IDR 1000) for 15	79,559,535	50,137,972

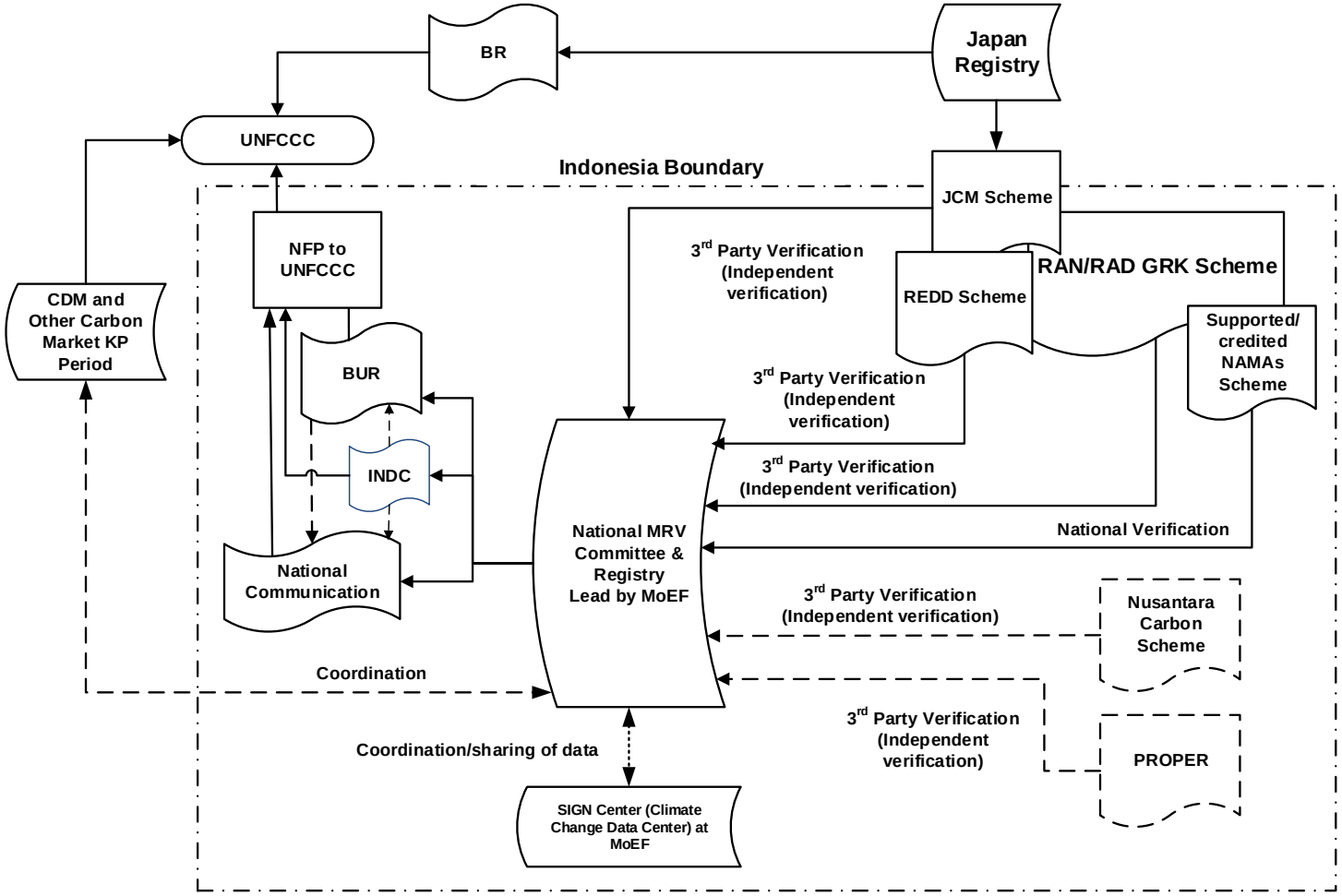
Issues for Upscaling JCM and Mitigation Actions
Regulatory and other issues

- Harmonize JCM with relevant domestic policies and regulations:
  - NDC / national mitigation plan
  - Policies and regulations in relevant sectors (i.e. energy policy, national plan in energy sector)
  - Domestic MRV and registry systems

➔Policy assessment and improvement are crucial

Integrated MRV system

Overall image of reporting system and process



Lessons learnt from JICA Cooperation

Lessons learnt on implementation of JCM in Indonesia:

- Strong ownership by host country and (unique) Institutional arrangement and development (Indonesia JCM secretariat) to bring early success:
  - Worked well for developing rules and guidelines
  - Raise awareness. Facilitate processes to project development and implementation

  * In Indonesia, the first JCM project registered, the first JCM credit issued among countries
- Utilization of Indonesian expertise and knowledge: i.e. rules and guidelines (SD), methodologies
- Continuous efforts for improving coordination with key stakeholders
- Monitoring & evaluation of JCM projects → Can identify obstacles/barriers for JCM project implementation → could be utilized for further improvement i.e. domestic regulatory reform
- Variety of activities on awareness raising and information dissemination. JCM became well known scheme in Indonesia.

Way forward: Possible Future Steps

- Enhance harmonization among domestic climate policies and measures such as JCM and NDC
- Continue policy assessment and further streamlining sectoral regulations related to JCM (NDC too). Address specific key issues/barriers
- Establish integrated and harmonized national MRV and Registry system
- Further capacity development to and coordination with key stakeholders including financing sector and local governments (Explore on the potential collaboration between JCM and other climate financing sources)