How Well Does the JCM Answers Private Sector Needs?"

Semen Indonesia Case (30,6 MW WHRPG Tuban Plant, up to 122,000 ton CO_2 is expected to reduce)

Durain Parmanoan
Rahadi Mahardika

PT Semen Indonesia (Persero) Tbk

Side Event JCM COP20
Lima, Peru

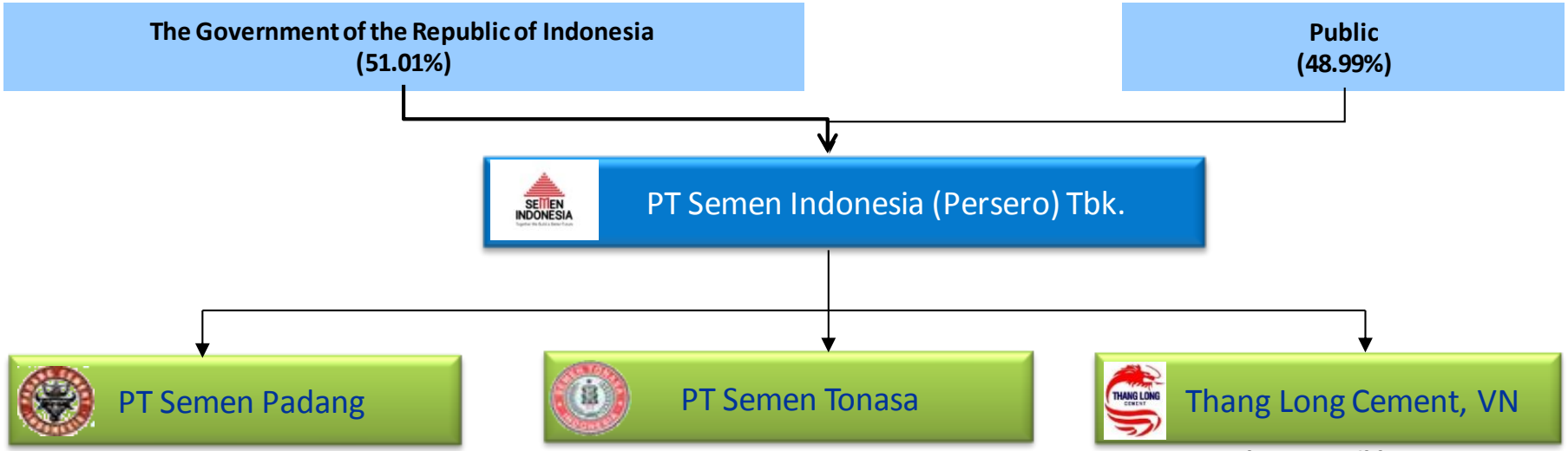
2 Desember 2014

COMPANY PROFILE

BRIEF HISTORY

- 1957 : Inauguration of Gresik I, installed capacity of 250,000 ton cement per annum
- 1991 : Initial Public Offering, Market Cap.: IDR0.63tn, resulting shareholding structure post IPO:
  - Government of Republic of Indonesia: 73%
  - Public: 27%
- 1995 : Acquisition of PT Semen Padang (Persero) and PT Semen Tonasa (Persero)
- 1998 : Cemex became a strategic partner, Market Cap.: IDR4.9tn
- 2006 : Blue Valley Holdings bought Cemex's 24.9% stake in SMGR, Market Cap.: IDR21.5tn
- 2010 : In March 31, Blue Valley Holdings sold all of its stake ownership in SMGR, Market Cap per April 30, 2010: IDR72.1tn
- 2012 : Acquisition of Thang Long Cement Vietnam, Total installed capacity of 2.3mm tons, Market Cap Dec 19th, 2012: IDR91.9tn
- 2013 : PT Semen Gresik (Persero) Tbk transformed by changing the corporate name to **PT Semen Indonesia (Persero) Tbk.**

OWNERSHIP STRUCTURE



INDONESIA'S CEMENT INDUSTRY

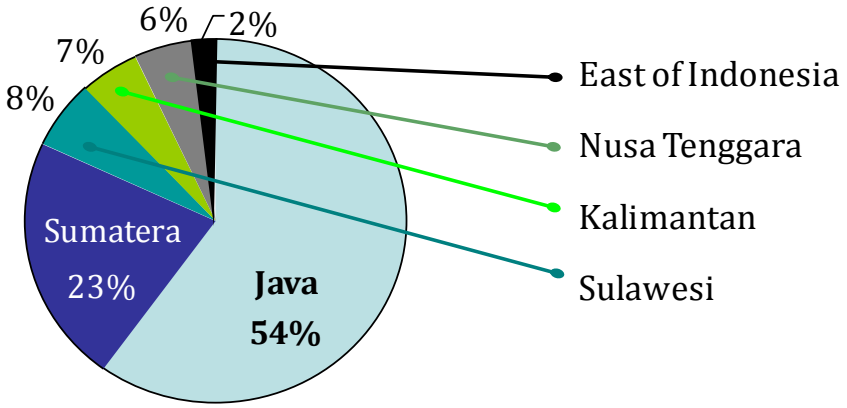
CEMENT INDUSTRY		2013	2014F [1]	2015F [1]
• Design Capacity	:	68.0 mio tons	71.5 mio tons	82.2 mio tons
• Production Capacity	:	55.2 mio tons	60.0 mio tons	69.8 mio tons
• Domestic Growth	:	5.5%	6.0%	6.0%
• Domestic Utilization	:	100%	100%	94%
•Supply				
➢ Domestic	:	58.0 mio tons	61.0 mio tons	65.8 mio tons
➢ Export	:	0.5 mio tons	0.5 mio tons	0.5 mio tons
➢ Import	:	3.3 mio tons[2)]	3.0 mio tons [3)]	3.0 mio tons[3)]

1) Based on the Company's forecast
2) Imported cement by PT Semen Andalas (1.0 mio ton) and clinker by Bosawa and Kupang
3) Imported cement & clinker

DOMESTIC CAPACITY (2014)	
1. SEMEN INDONESIA	29.5 mn ton
- Semen Padang :	7.3 mn ton
- Semen Gresik :	14.4 mn ton
- Semen Tonasa:	7.8 mn ton
2. Semen Andalas [2)]	1.6 mn ton
3. Semen Baturaja	1.3 mn ton
4. Indocement TP	20.5 mn ton
5. Holcim Indonesia	12.1 mn ton
6. Semen Bosowa	6.0 mn ton
7. Semen Kupang	0.5 mn ton
TOTAL	71.5 mn ton

DOMESTIC MARKET SHARE

Domestic Consumption – Java remains as the largest market*)

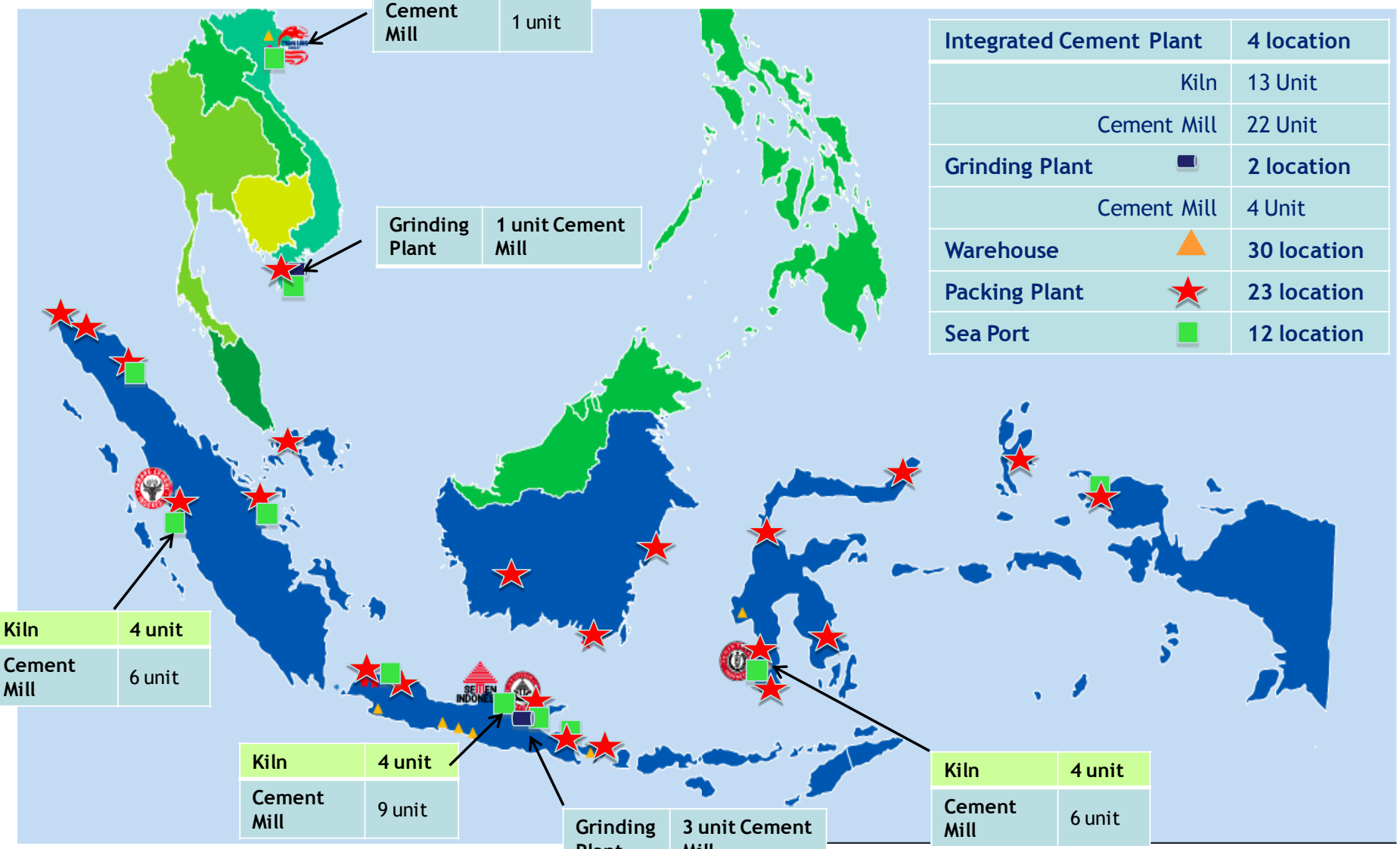


Domestic Market Share*)

REGION	MARKET SHARE (%)			
	SMGR	INTP	HOLCIM	OTHERS
1. JAVA	39.5	38.9	19.4	2.2
2. SUMATERA	47.0	14.9	8.0	30.1
3. SULAWESI	65.7	13.2	-	21.1
4. KALIMANTAN	58.9	25.0	6.4	9.7
5. NUSA TENGGARA	41.5	39.0	3.0	16.5
6. EASTERN IND.	78.2	11.9	1.3	8.6
TOTAL INDONESIA	**45.6**	**29.8**	**13.0**	**11.6**

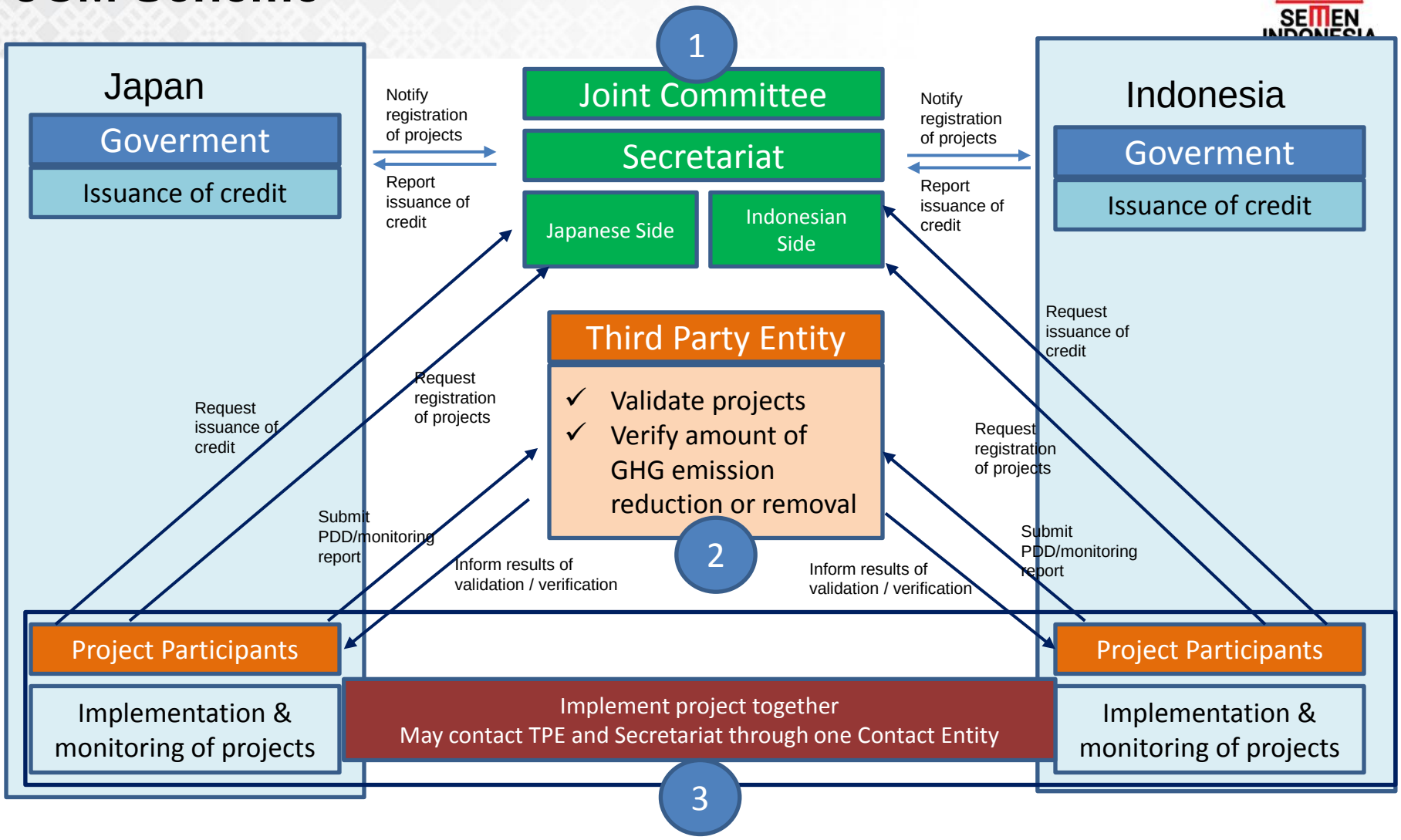
*) Source: ASI (Indonesia Cement Association)

COMPETITIVENESS OF SEMEN INDONESIA



Together We Build A Better Future

JCM Scheme



Base on indicator of 1 2 3 above, we try to discuss whether JCM can anwers Private Sector Needs satisfactorily

JCM Scheme

Private Sectors require simpler, more reliable, and faster scheme

JCM has pursued progressively some remarkable milestone regarding the setlement of term and conditions of JCM dissemination and implementation and always involve Private Sectors to:

- ❑ Develops/revises the rules, guidelines and methodologies,
- ❑ Registers projects,
- ❑ Discusses the implementation of JCM.

Evidence and Indicative Responses of Private Sectors by following the JCM Scheme:

- ✓ Private sectors have come to the same understanding and point of view regarding the JCM scheme → **Simpler**
- ✓ Private Sectors become more eager and optimist in achieving the GHG reduction target → **Reliable**
- ✓ Due to Private Sectors involvement since the beginning by JCM, the number of project increases from time to time → **Faster**

JCM Scheme is widely welcomed, accepted by Private Sectors

Only one issue left:

- ✓ How CO2 credit share should be calculated among both parties? Is it by the benefit earned by each party along the MVR time frame?

Time Frame

Tracking the process of the JCM, during one year, JCM success to bring JCM Scheme into action.

We may conclude that the process is fairly fast.

Recent Development (http://www.mmechanisms.org/e/initiatives/indonesia.html)

Oct 31, 2014	The Joint Committee (Japan and Indonesia) approved the first JCM project.
Oct 30, 2014	The Joint Committee (Japan and Indonesia) approved 2 JCM methodologies. Pertama di dunia, Proyek dalam Skema JCM disetujui pada Pertemuan Komite Bersama Ketiga Indonesia
Oct 16, 2014	Call for public comments on JCM proposed methodologies "GHG emission reductions through optimization of refinery plant operation in Indonesia" and "GHG emission reductions through optimization of boiler operation in Indonesia" (Oct 16, 2014 to Oct 30, 2014) * This call for public comment has been closed.
Sep 25, 2014	Call for public comments on a proposed JCM project "Energy Saving for Air-Conditioning and Process Cooling by Introducing High-efficiency Centrifugal Chiller" (Sep 25, 2014 to Oct 24, 2014) * This call for public comment has been closed.
Sep 10, 2014	Call for public comments on JCM proposed methodologies "Installation of Energy-efficient Refrigerators Using Natural Refrigerant at Food Industry Cold Storage and Frozen Food Processing Plant" and "Installation of LED Lighting for Grocery Store", "Installation of Inverter-Type Air Conditioning System for Cooling for Grocery Store" have been started. (Sep 10, 2014 to Sep 24, 2014). * These calls for public comment have been closed.
May 19, 2014	2nd Joint Committee in Surabaya. Joint Committee Approve Proposed Methodology on Second Joint Committee Meeting
May 01, 2014	Call for public comments on JCM proposed methodologies "**Power Generation by Waste Heat Recovery in Cement Industry**" and "Energy Saving by Introduction of High Efficiency Centrifugal Chiller" (May 1, 2014 to May 15, 2014) * These calls for public comment have been closed.
Dec 14, 2013	Joint Statement of the ASEAN-Japan Commemorative Summit
Oct 16-17, 2013	1st Joint Committee in Jakarta
Oct 8, 2013	THE 21ST APEC ECONOMIC LEADERS' DECLARATION
Aug 26, 2013	The Bilateral Document Signed by Indonesia and Japan

Semen Indonesia Case (30,6 MW WHRPG Tuban Plant)

March 25. 2013,
JFE - SMI Memorandum of Understanding (MoU) signed in JFE Tokyo Office, Japan

Aug 26. 2013
The Bilateral Document Signed by Indonesia and Japan

October 23. 2013
JFE-SMI has reached an agreement on "Strategic Collaboration Agreement "

April 8. 2014,
Joint Crediting Mechanism, Indonesia Joint Crediting Mechanism Secretariat in cooperation with Energy Nusantara has organized Joint Crediting Mechanism (JCM) Business Forum on Tuesday at Four Seasons Hotel, Kuningan, Jakarta

April 21. 2014,
Coordinating Ministry for Economic Affairs of Indonesia (CMEA Indonesia) and Japan International Cooperation Agency (JICA) has signed the cooperation agreement document : Capacity Development Assistance for Low Carbon Development at Coordinating Ministry for Economic Affairs office, Lapangan Banteng, Central Jakarta. Beside several representatives from JICA and CMEA Indonesia, the signing event was attended by some related stakeholders such as Embassy of Japan for Indonesia and Indonesia Joint Crediting Mechanism Secretariat

April 30. 2014,
JFE-SMI Consortium Signed

June 25. 2014,
JCM Secretariat, Coordinating Ministry of Economic Affairs, and Ministry of Energy and Mineral Resources visit PT Semen Indonesia, which is located at Tuban, East Java. During the visit, discussion on the last status update of JCM projects in PT Semen Indonesia was conducted.

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From Previous Page

July 15. 2014,
SMI-JFE, EP Contract signed in Jakarta for (Waste Heat Recovery Power Generation / WHRPG) capacity 30,6 MW;

October 22, 2014,
Ground breaking WHRPG at Tuban Plant 4 x @ 2 Boiler per Kiln on 4 lines x 3 mio tpa Cement Plants per lines (for max total electricity generated 30,6 MW)

October 22, 2014,
Project Hearing

November 17, 2014
EP Contract comes into force

This long process is due to the late action:

- **finalisation of the EP contract,**
- **subsidy notification and**
- **Advance payment by SMI**

2 MRV by Third Party Entity (TPE)

Regarding the TPE, Private Sectors still require some improvements and simplifications (should be simpler and lower price). A number of issues that should be adressed:

- ✓ The MRV project performance of CO_2 reduction will be done by TPE and the cost will be born by the project host along the MRV years,
- ✓ The TPE must be a verified and certified entity. At the end this cost will be supposedly become another cost to Private Sectors (indirectly). A "verified and certified" should not be "in complicated manner" → It will create additional cost,
- ✓ The number of TPE is limitied and no Indonesian entity registered so far,
- ✓ MRV cost is not included in project budget → part of the operational cost

However, In term of simplicity of MRV method, Private Sectors perceiption is positive.

Third Party Entity(TPE), Sectoral Scopes for the JCM

Number	Name	Sectoral scopes for validation	Sectoral scopes for verification	Designated date	
TPE-ID-008	TUV Rheinland (China) Ltd	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15	30 Oct 14	
TPE-ID-007	Deloitte Tohmatsu Evaluation and Certification Organization Co., Ltd	1, 2, 3, 4, 5, 8, 10, 12, 13, 15	1, 2, 3, 4, 5, 8, 10, 12, 13, 15	19 May 14	
TPE-ID-006	TÜV SÜD South Asia Private Limited	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15	19 May 14	
TPE-ID-005	Japan Management Association	1, 2, 3, 4, 6, 8, 9, 14	1, 2, 3, 4, 6, 8, 9, 14	19 May 14	
TPE-ID-004	JACO CDM., LTD	1, 3, 13, 14	1, 3, 13, 14	19 May 14	
TPE-ID-003	Japan Quality Assurance Organization	1, 3, 4, 5, 9, 10, 13, 14	1, 3, 4, 5, 9, 10, 13, 14	19 May 14	
TPE-ID-002	Lloyd's Register Quality Assurance Limited	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13	19 May 14	
TPE-ID-001	Japan Consulting Institute	1, 2, 4, 5, 9, 10, 13	1, 2, 4, 5, 9, 10, 13	19 May 14	withdrawn

1. Energy industries (renewable – / non-renewable sources
2. Energy distribution
3. Energy demand
4. Manufacturing industries
5. Chemical industry
6. Construction
7. Transport
8. Mining/Mineral production
9. Metal production
10. Fugitive emissions from fuels (solid, oil and gas)
11. Fugitive emissions from production and consumption of halocarbons and sulphur hexafluoride
12. Solvents use
13. Waste handling and disposal
14. Reducing Emissions from Deforestation and Forest Degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries (REDD-plus)
15. Agriculture

3 Implementing Project Together. Private Sectors have some notes:

- ✓ International agreement, applicable law: Must be Japan law?
- ✓ Project cost sharing should be more “balance”. It should not be looked like “Real B to B” but also should not be looked like “demonstration project”. The amount of subsidy may also “negotiated”
- ✓ For project host, the price of the equipment purchased must be more accountable → required price comparison from others supplier. Private sector (like SMI) is often questioned by the auditor regarding the equipments price.
- ✓ Supervision cost will be borne by the project host → Is it possible to be part of the subsidy and project cost?
- ✓ As Project Management and Execution practically is on project host responsibility, but he Consortioum Representative is Japan side. Looked like unmatch?.
- ✓ Capacity building to project host should be optimized and more attractive. For example: <u>The role of the project host to define and to involve during the equipment design and selection as well as to select the equipment supplier</u>

THANK YOU

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- the effects of competition;
- the effects of changes in laws, regulations, taxation or accounting standards or practices;
- acquisitions, divestitures and various business opportunities that we may pursue;
- changes or volatility in inflation, interest rates and foreign exchange rates;
- accidents, natural disasters or outbreaks of infectious diseases, such as avian influenza, in our markets;
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Attachements

SEMEN INDONESIA CDM PROJECT STATUS

SEMEN INDONESIA

2015 : Issuance CER

2011 : Approval for Registration from UNFCCC

2010 : Completeness check process

2014 : SCC Monitoring verification of CER

2010 : Registration request to the UNFCCC

2010 : Admission to the DNPI

2010 : Final Report for validation

2010 : Validation of CDM

2009 : Pre-Validation

2009 : Review of AMDAL Documents

2009 : Stakeholder consultation

2009 : Preparation of PDD

1 2 3 4 5 6 7 8 9 10 11 12

SEMEN INDONESIA CDM PROGRESS

- Approval for registration from UNFCCC :
  Tuban Plant = February 25 , 2011.
  Tonasa Plant = May, 2012
- Planning : Internal verification (from SCC) for monitoring,2014 / 2015
- Planning : External verification (from UNFCCC) for monitoring of step 1, 2015
- Approval of this project can be viewed on the web https://cdm.unfccc.int/Projects/registered.html

Indonesia JCM Secretariat and Related Ministries Visited PT Semen Indonesia

Tuban - On June 25 June 2014, JCM Secretariat, Coordinating Ministry of Economic Affairs, and Ministry of Energy and Mineral Resources visit PT Semen Indonesia, which is located at Tuban, East Java. During the visit, discussion on the last status update of JCM projects in PT Semen Indonesia was conducted.

PT Semen Indonesia together with JFE Engineering, as its Japanese partner, is running a project called **"Power generation by waste heat recovery in cement industry".** It is a 526 billion rupiah project, which utilize waste heat that is produced by the factory's activity to be fed to a boiler and produce steam to generate the power generator.

PT Semen Indonesia is interested in this project because not only it is environmentally friendly and reduces green house gas emission, but also it increases the factory's energy efficiency. With waste heat recovery, PT Semen Indonesia can save up to 85% of its electricity bill. Moreover, each year up to 122,000 ton CO2 is expected to reduce.
Now, the project is in its design and procurement of main equipment. This project is expected to finish on December 2016 (RKA).

Discussion between JCM Secretariat, Coordinating Ministry of Economic Affairs, Ministry of Energy and PT Semen Indonesia

Semen Indonesia Build Power Plant worth IDR638 Billion (October 22, 2014) by JCM Project Scheme

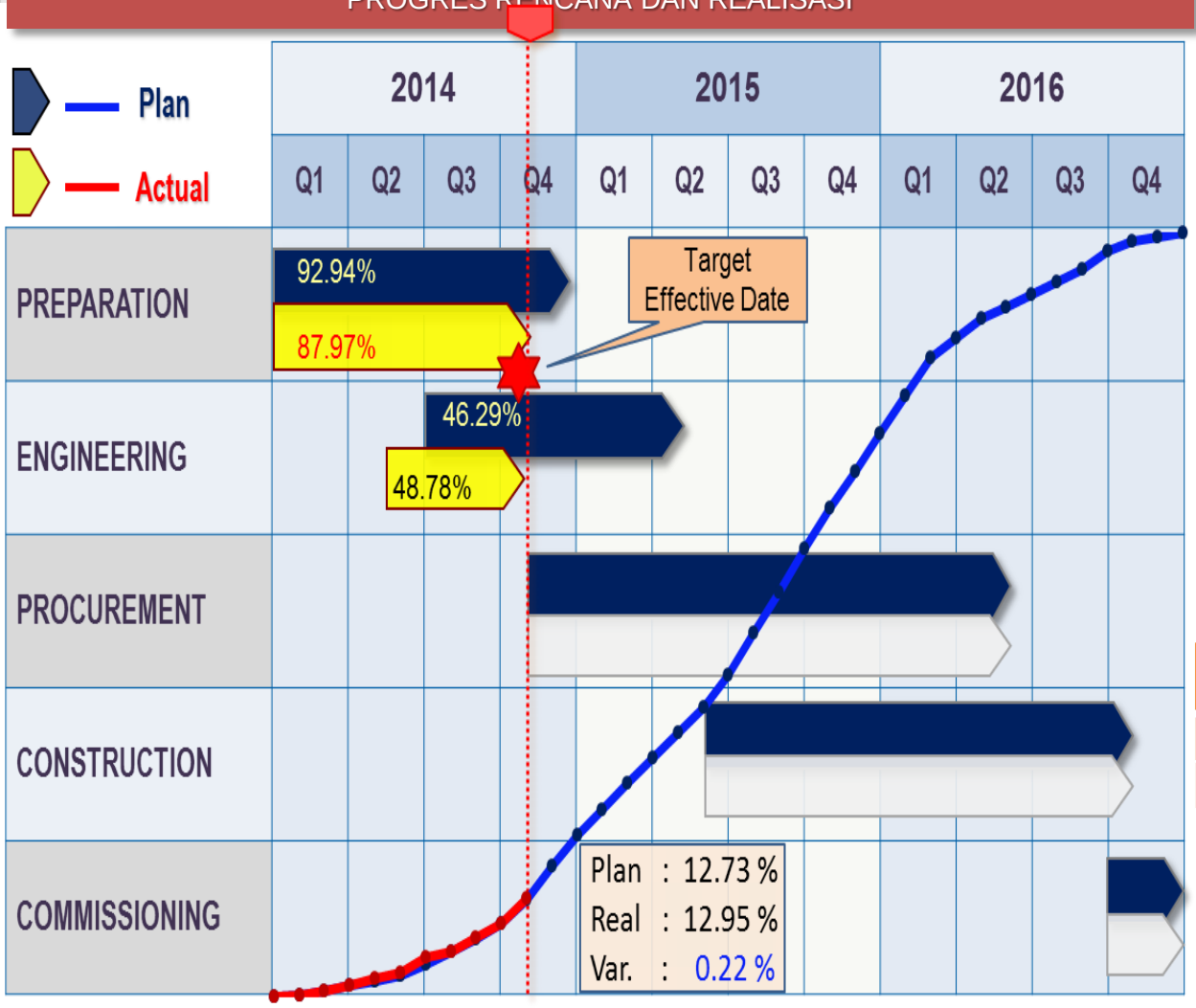
PT Semen Indonesia Tbk (SMGR) began a construction of the power plant by utilizing the exhaust gas (Waste Heat Recovery Power Generation / WHRPG) Tuban I - IV with a capacity of 30.6 MW. These WHRPG project is a collaboration between Semen Indonesia and JFE Engineering Japan. Projects with an investment of IDR 638 billion is conducted groundbreaking by President Director of Semen Indonesia, Dwi Soetjipto and in Tuban.

WHRPG TUBAN PLANT

status date: October, 31th 2014

SEMEN INDONESIA

PROGRES RENCANA DAN REALISASI



Objective :

Construction of Waste Heat Recovery Power Generation / WHRPG) Tuban I - IV with a capacity of 30.6 MW which expected of reduction of CO2 emiision as much as 122,358 ton/year.

PROGRES FISIK	
❑ Project duration (incld. Pre)	36 months
❑ Schedule in progress	:10 months

Budget

❑ SMI	: Rp.	526,000,000,000
❑ Subsidy	: Rp	112.000.000.000

WHRPG PABRIK TUBAN
LAYOUT & DOKUMENTASI

status date: October, 31th 2014

Relokasi Workshop DP Terak 2 sebagai lokasi Turbin & Generator

12 June 2014,
Indonesia Joint Crediting Mechanism Secretariat, Japan JCM Secretariat, and Global Environment Centre Foundation (GEC) Japan visited a textile factory owned by PT. Primatexco Indonesia at Batang, Central Java. PT. Primatexco, together with Ebara Refrigeration Equipment & Sytems and Nippon Koei, as its Japanese counterpart runs the first JCM project in Indonesia and it is entitled "Energy Saving for Air-Conditioning and Process Cooling at Textile Factory".

Aug 26, 2013
The Bilateral Document Signed by Indonesia and Japan

Oct 30, 2014
The Joint Committee (Japan and Indonesia) approved the first JCM project

Project title	**Energy Saving for Air-Conditioning and Process Cooling by Introducing High-efficiency Centrifugal Chiller, Ref No. ID001**
Name of project participants (Indonesia)	**PT. Primatexco Indonesia**
Name of project participants (Japan)	**Nippon Koei Co., Ltd. (Focal Point), Ebara Refrigeration Equipment & Systems Co., Ltd.**
Name of third party entity (TPE)	**TPE-ID-002 Lloyd's Register Quality Assurance Limited**
Location of project	**Country: Republic of Indonesia** **Region/State/Province etc: Central Java Province** **City/Town/Community etc: Batang** **Latitude, longitude:S 6°55'0", E 109°44'53"**
Duration	**Starting date of project operation: 01 Mar 14** **Expected operational lifetime of project: 7 years**
Methodology No.	**ID_AM002 Ver1.0**