Indonesian National Plan on Carbon Market Development and the Joint Crediting Mechanism

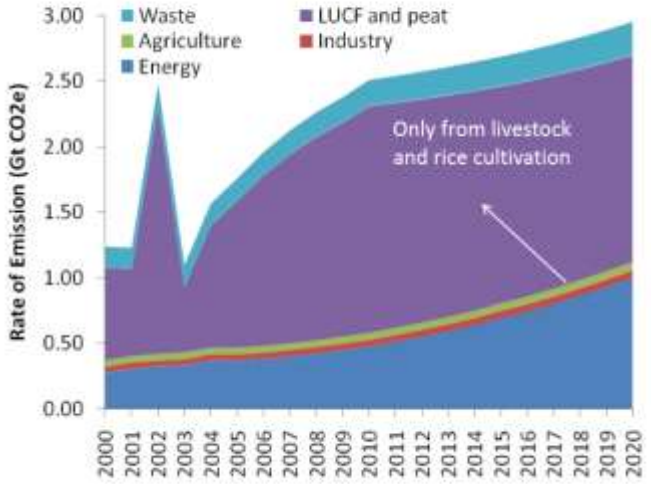
Carbon Trade Mechanism Division
National Council on Climate Change of Indonesia

Presentation Structure

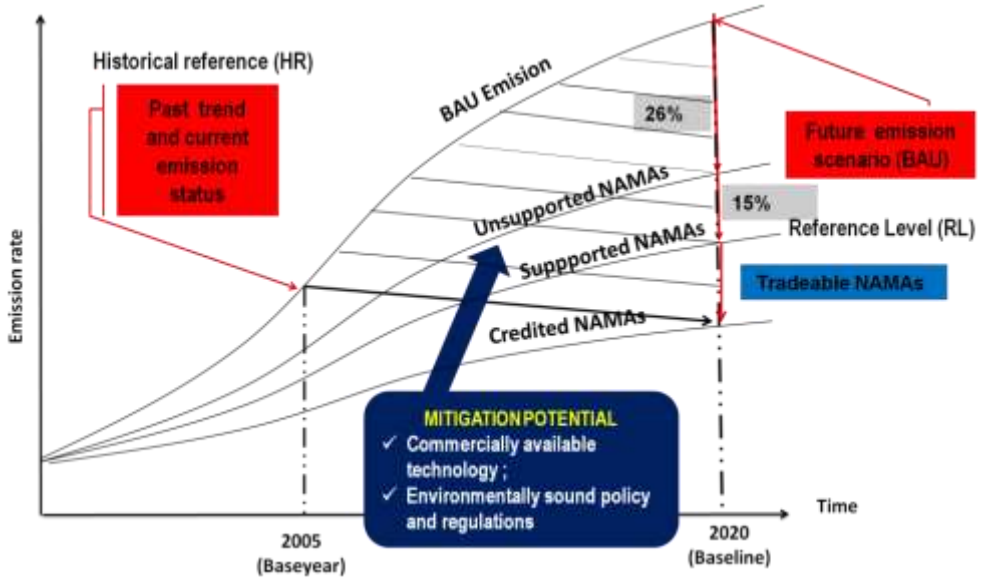
1. Current situation of Indonesian emission reduction and carbon market
2. The Joint Crediting Mechanism in Indonesian carbon market context
3. The way forward for JCM

Current situation of Indonesian emission reduction and carbon market

Historical and projection of GHG emission under BAU scenario by sector (2000-2020)



Emission Reduction Targets



Source: DNPI, 2011

- Economic growth increases with GHG emission
- 7 years to achieve national commitment of GHG emissions reduction by **26% under BAU level in 2020** (up to 41% with international support).
- Emission reduction is not compromising growth (26/7 vision).

Lesson learned:
- Market instruments such as CDM proved to be effective to spur emissions reduction by industries: 212 projects approved by DNA, 131 projects registered, 28 projects issued CERs (9.15 million tCO2)
- Increasing interest and opportunity from voluntary carbon market

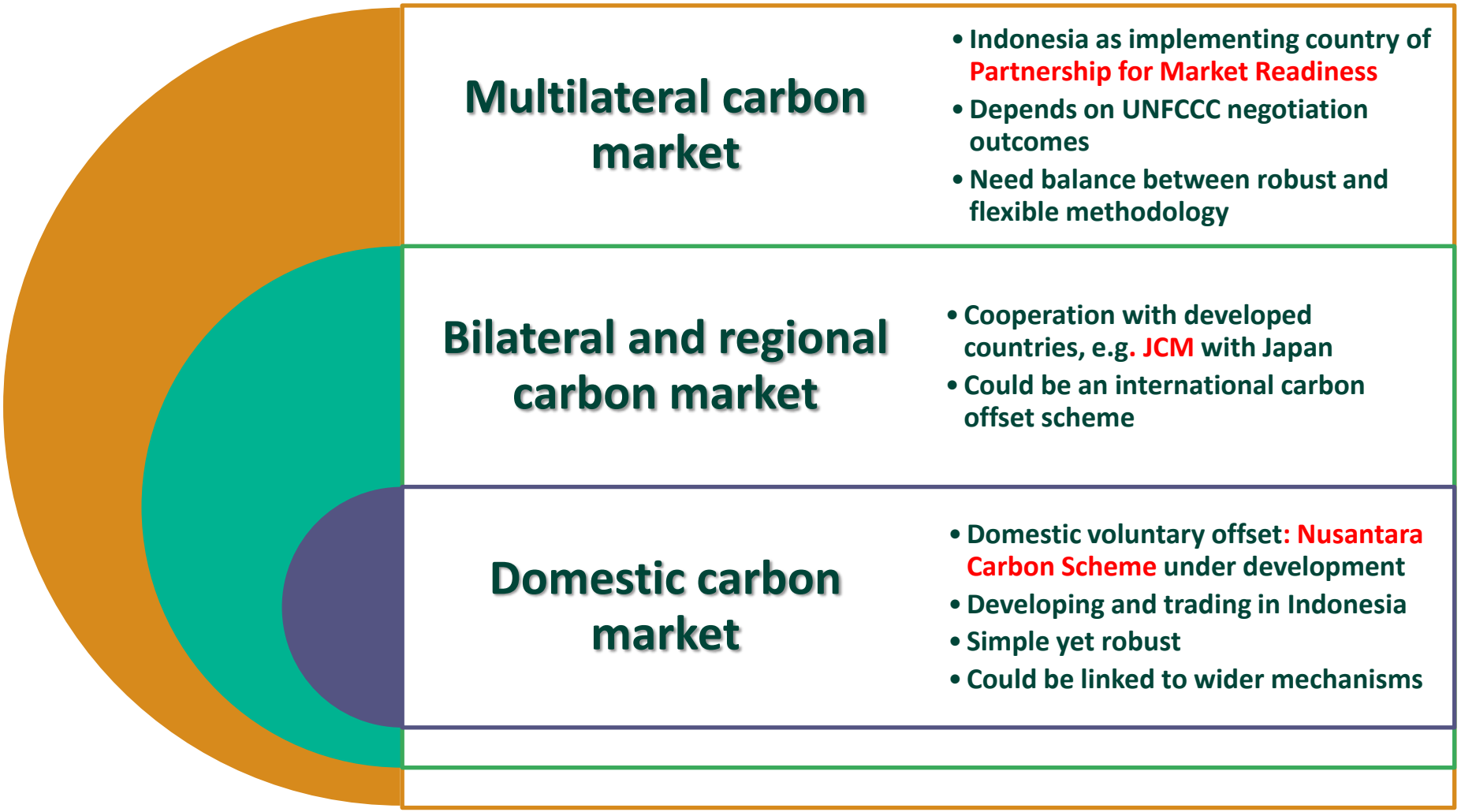
Sector	Unilateral	Supported
Forestry and Peat	0.672	1.039
Waste	0.048	0.078
Energy and Transport	0.038	0.056
Agriculture	0.008	0.011
Industry	0.001	0.005
Total	**0.767**	**1.189**

(in GtCO2e)

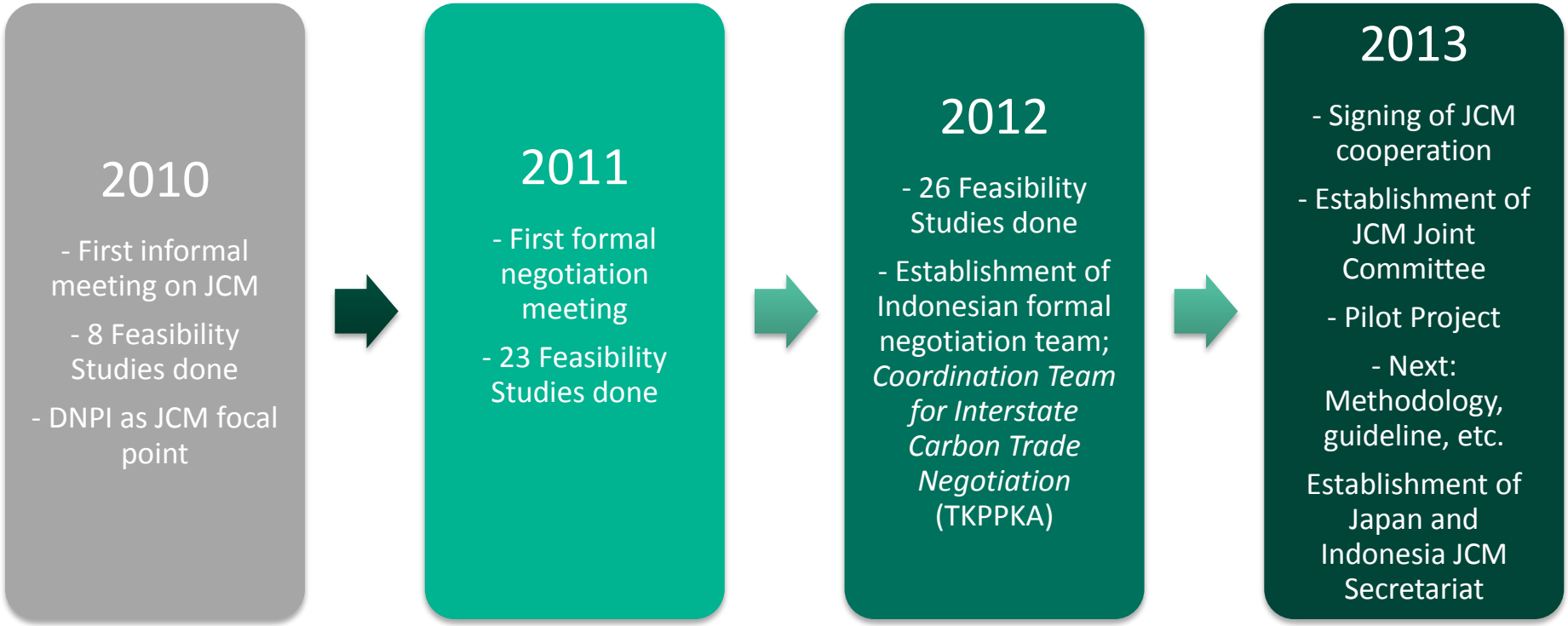
Source: DNPI/2011

Indonesian strategy on carbon market development

Indonesia highly considers further utilization of market instruments.



Joint Crediting Mechanism (JCM) Development Timeline



During 2010-2013, 57 Feasibility Studies have been done covering fields of renewable energy, energy efficiency, forestry/REDD+, transportation, carbon capture and storage, and agriculture.

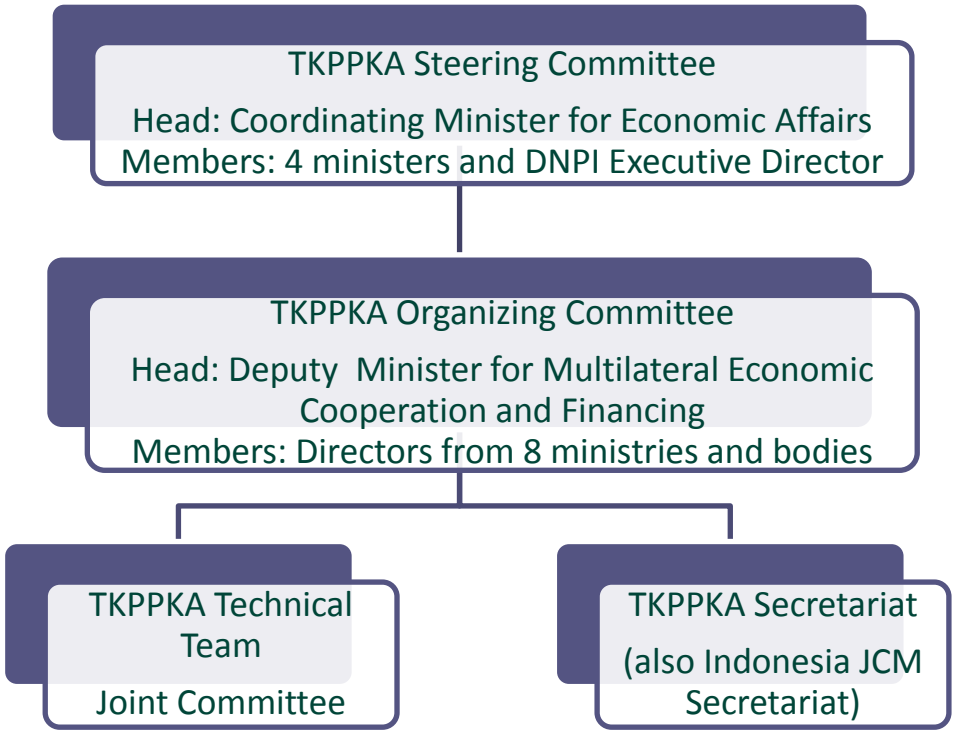
JCM bilateral agreement is official as of August 2013

Indonesian and Japanese side have established "Joint Commitee" in October 2013.

Its role is similar to role of the CDM-Executive Board in the CDM system.

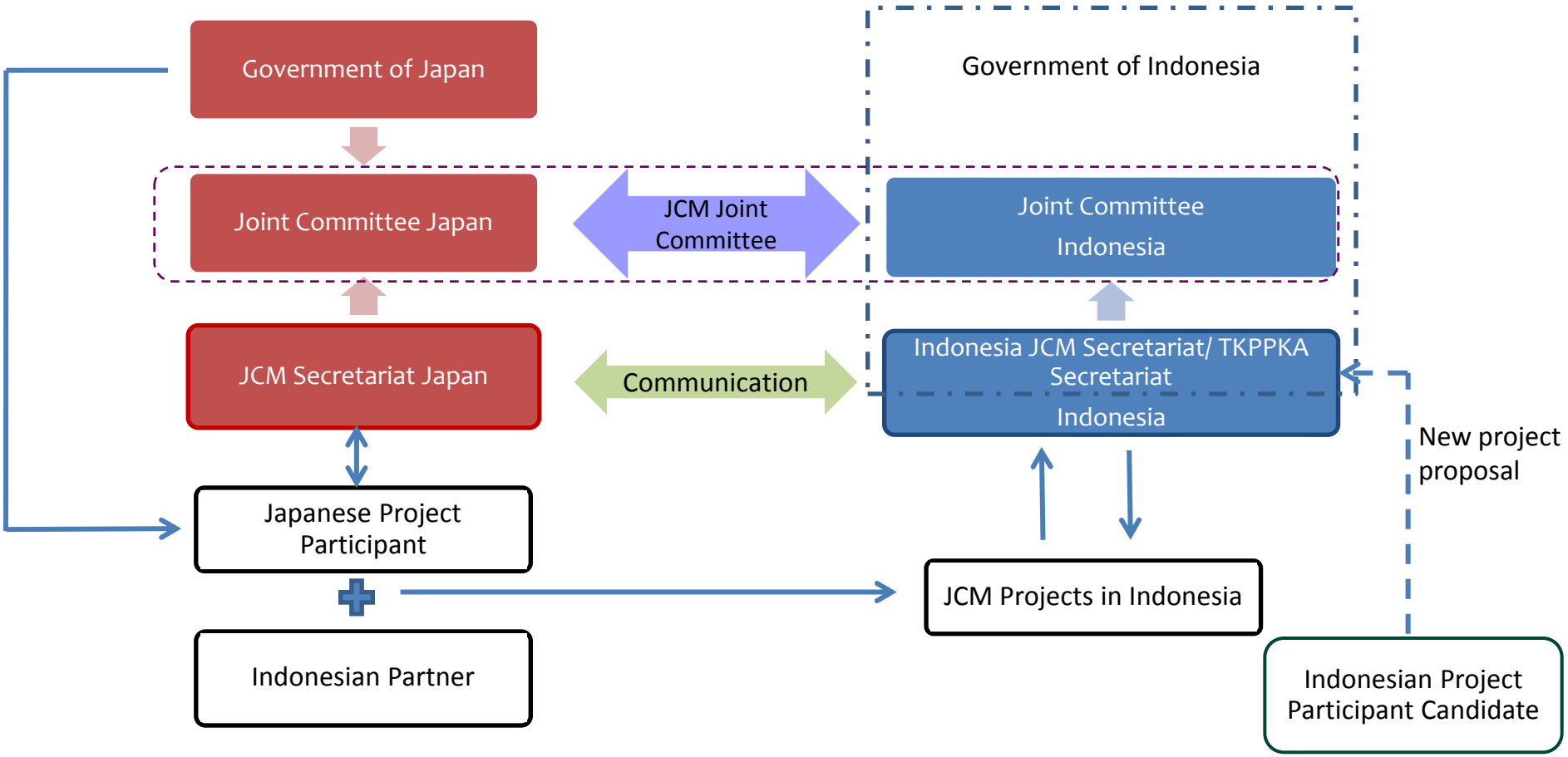
Highlights on JCM Negotiation to Agreement

- TKPPKA Secretariat - operational entity of Coordination Team for Interstate Carbon Trade Negotiation performs as Indonesian official counterpart in JCM negotiation
- TKPPKA is focal point in arrangement and negotiation of bilateral carbon trade cooperation



Highlights on the Implementation

JCM Secretariat and Indonesia-Japan Coordination Plan in JCM Management



Highlights on Implementation

Joint Committee decides JCM rules, guidelines, and guidance for implementation.
Joint Committee will consist of 15 government officials from Indonesian and Japanese side.

JCM implementation in Indonesia will be managed under two **independent** secretariats:
Indonesia JCM secretariat and Japan JCM secretariat.

JCM secretariat(s) may jointly:

- ✓ Prepare draft methodologies;
- ✓ Receive new initiatives from JCM projects participant candidates;
- ✓ Monitor development of JCM programs, project implementation, sustainable development criteria and environmental integrity fulfillment.

Each side may separately or otherwise decided:

- ✓ Develop environmental and sustainable development criteria and capacity building needed;
- ✓ Monitor the development of JCM Feasibility Studies;
- ✓ Facilitate project participants in project-based capacity building;
- ✓ Establishes and maintains a registry, as developed by the Joint Committee;
- ✓ Issue the notified amount of credits to the registry.

The way forward on JCM implementation

What we want to do through JCM implementation

- Support Indonesian and Japanese effort in reducing greenhouse gases emission and achieving target.
- Encourage low carbon development.
- Promote green investment and technology transfer.
- Encourage private and public sector participation through emission reduction projects.
- Catalyst for new carbon market mechanism.
- Achieve co-benefits such as improved environmental quality, enhanced capacity, increased employment, and developed MRV expertise.

What's next?

- Methodologies and guidelines development for the JCM implementation.
- Sustainable development and environmental integrity criteria which meet requirements of both countries.
- Indonesia and Japan seek the possibilities of the JCM implementation under UNFCCC.
- Pilot projects to examine the whole process of the JCM cycles, starting 2013/2014.

JCM Feasibility Studies in Indonesia

Feasibility Study reports under JCM program that has been reported to DNPI (through meetings, presentations, or correspondence)

2010-2011					
No	FS Title	Sectoral Scope	Study Entity	Indonesian Partner	Location
1	Feasibility Study of REDD+ Projects in Indonesia	REDD/REDD+	Marubeni Corp.		Central Kalimantan
2	Feasibility Study Report on Possibility of GHG Emissions Reduction through the prevalence of Geothermal Power Generation in the Republic of Indonesia	Energy Industries - Renewable Sources	Mitsubishi Corp.		
3	Utility Operational Optimization (U-OPT)	Energy demand	Azbil/Yamatake		
4	Efficient Utilization of Low Rank Coal introduction to Power Plant in Indonesia	Energy Industries - Non-Renewable Sources	Sojitz Corp.		
5	Possibility and Effects of Introducing High-Efficiency Coal-Fired Thermal Power Plants in Indonesia	Energy Industries - Non-Renewable Sources	Institute of Energy Economics, Japan		
6	N2O Emissions reduction by the diffusion of coated fertilizers for agricultural soils	Agriculture	JCAM Agri		South Sumatera
7	Waste Treatment Projects in Indonesian Cement Manufacturing Plants	Waste Handling and Disposal	Kawasaki Heavy Industries		
8	Carbon Capture and Storage	Carbon Capture and Storage	Arabian Oil		

2011-2012						
No	FS Title	Sector	Sectoral Scope	Study Entity	Indonesian Partner	Location
9	Reduction of CO2 Emission and Enhancement of CO2 Sequestration	REDD	REDD/REDD+	YL Building		South Sumatera
10	REDD+ Project through Preventing Large Scale Peatland Fire in the Central Kalimantan	REDD	REDD/REDD+	Sumitomo Corp.		Central Kalimantan
11	Gorontalo REDD+ Project with Safeguard Program	REDD	REDD/REDD+	Kanematsu		Gorontalo
12	GHG Reduction Project through Forest Conservation in Peat Land in Central Kalimantan	REDD	REDD/REDD+	Marubeni	Ministry of Forestry	Central Kalimantan
13	New Mechanism FS for REDD+ in Central Kalimantan Province, Indonesia	REDD	REDD/REDD+	Mitsubishi UFJ Research and Consulting (MURC)	Palangkaraya University	Central Kalimantan
14	Avoidance of Peat Aerobic Degradation by Peatland Rewetting and Rice Husk-based Power Generation Associated with Rice Production Increase in Jambi Province	REDD	REDD/REDD+	Shimizu Corp.	Sriwijaya University, PU	Jambi
15	Newly-Constructed Geothermal Power Generation Project	Renewable Energy	Energy Industries - Renewable Sources	Marubeni and Mitsubishi Research Institute (MRI)	PT Supreme Energy / GDF Suez	Sumatera
16	GHG reduction project according to the introduction of geothermal power system in the Republic of Indonesia	Renewable Energy	Energy Industries - Renewable Sources	Sumitomo Corp.		
17	Leveraging Bilateral Offset Credit Mechanism to Improve Efficiency of PLN's Hydro Power Plants Through Rehabilitation	Renewable Energy	Energy Industries - Renewable Sources	Toshiba and Recycle One	PLN	West Java
18	Small hydro-power project in Indonesia	Renewable Energy	Energy Industries - Renewable Sources	Industrial Decisions, Inc.	PLN	
19	Dissemination of High efficiency solar cells in Un-electrified areas	Renewable Energy	Energy Industries - Renewable Sources	E&E Solutions		
20	New Mechanism FS for Energy Application of Wastes and Wastewater Originated in Processing of Agricultural Products in Indonesia	Renewable Energy	Energy Industries - Renewable Sources	Chugai Technos Corp.		Sumatera
21	Indonesian State Palm-oil Factory's Industrial Waste Biomass Boiler Power Generation Project	Renewable Energy	Energy Industries - Renewable Sources	Shimizu Corp.	PTPN III	Sumatera
22	Program organization research of Green House Gas emission reduction through highly-efficient Distribution Transformer (DT) introduction	Energy Efficiency	Energy distribution	Hitachi Metals		

2011-2012						
No	FS Title	Sector	Sectoral Scope	Study Entity	Indonesian Partner	Location
23	Plant Energy Performance Improvement by Operational Improvement	Energy Efficiency	Manufacturing industries	Yokogawa Electric Corp.	Pertamina	Indonesia
24	Applying Coordinated Control Technologies in Utility Providing Facilities through Package Software	Energy Efficiency	Energy demand	Azbil Yamatake Corp		Java
25	CO2 Emission Reduction in Power Plant by Steam Tube Dryer (STD)	Energy Efficiency	Energy Industries - Non-Renewable Sources	Tsukishima Kikai and Sojitz Corp.		
26	High-moisture (low-grade) coalwaste heat drying project in cement factories	Energy Efficiency	Manufacturing industries	UBE Industries		
27	N2O Emissions reduction by the diffusion of Coated fertilizers for agricultural soils	Agriculture	Agriculture	JCAM Agri	PT ASTRA AGRO LESTARI TBK	Riau
28	Eco-shipping for Coastal Cement Tanker in Indonesia	Transportation	Transport	UBE Shipping and Japan Weather Ass.	Indonesian shipping companies	
29	Development of Mass Rapid Transit (MRT) System in Jakarta	Transportation	Transport	Mitsubishi Research Institute (MRI)	PT. MRT Indonesia	Jakarta
30	Indonesia Sumatera SNG Project	Carbon Capture and Storage and SNG	Energy Industries - Renewable Sources	Mitsubishi Heavy Industries	ESDM	Sumatera
31	Carbon Capture and Storage	Carbon Capture and Storage and SNG	Carbon Capture and Storage	Arabian Oil and Marubeni	Pertamina	Java

2012-2013						
No	FS Title	Sector	Sectoral Scope	Study Entity	Indonesian Partner	Location
32	Mangrove REDD+ Reduction of CO2 Emission and Enhancement of Carbon Fixation	REDD	REDD/REDD+	YL Building	Dinas Kehutanan Kab. OKI , PT. Yamamoto Asri	South Sumatera
33	Gorontalo REDD+ Model Project	REDD	REDD/REDD+	Kanematsu Panasonic Gobel		Gorontalo
34	GHG reduction project through forest preservation in peat land in Central Kalimantan	REDD	REDD/REDD+	Marubeni	Ministry of Forestry, Mazars Starling Resources, Yayasan Puter Indonesia	Central Kalimantan
35	REDD+ for Conservation of Peat Swamp Forest, and Biomass-based Power Generation using Timber Mill Waste to Process Indigenous Trees derived from Conserved Forest	REDD	REDD/REDD+	Mitsubishi UFJ Research and Consulting (MURC)	Palangkaraya University	Central Kalimantan
36	GHG Reduction Project through Countermeasures against Large-scale Peat Fires	REDD	REDD/REDD+	Mitsubishi Research Institute (MRI), Sumitomo		Central Kalimantan
37	Prevention of Peat Degradation through Groundwater Management and Rice Husk-based Power Generation	REDD	REDD/REDD+	Shimizu Corp	Ministry of Public Works Jambi Province Government Tanjun Jabun Timur Government Jambi University Sriwijaya University	Jambi
38	Avoidance of Deforestation by Creation of Alternative Agricultural Lands with Coal Ash Products	REDD	REDD/REDD+	Chugai Technos Corporation		
39	Geothermal projects under the JCM scheme in Indonesia: Methodological aspects	Renewable Energy	Energy Industries - Renewable Sources	Mitsubishi Research Institute (MRI)		

2012-2013

No	FS Title	Sector	Sectoral Scope	Study Entity	Indonesian Partner	Location
40	Promoting Rehabilitation of Hydro Power Plants to Mitigate Climate Change in Indonesia	Renewable Energy	Energy Industries - Renewable Sources	Toshiba and Recycle One	PLN PJB	West Java
41	Feasibility Study on Promotion of Technical Standards for Wind Power Generation utilizing EMS in Indonesia	Renewable Energy	Energy Industries - Renewable Sources	Mitsubishi Research Institute and MUFJ	BPPT	Yogyakarta
42	Small-scale Hydropower Projects	Renewable Energy	Energy Industries - Renewable Sources	IDI	Local developers	North Sumatera
43	The Introduction of Thin-Film Mega-Solar Power Plant in Indonesia	Renewable Energy	Energy Industries - Renewable Sources	SHARP Corp	PLN	Lombok
44	Solar Diesel Hybrid to Stabilize PV Power Generation	Renewable Energy	Energy Industries - Renewable Sources	Hitachi Zosen	PLN	North Sumatera
45	Biodiesel Fuel (BDF) Project in Indonesia	Renewable Energy	Energy Industries - Renewable Sources	Mitsubishi UFJ Research and Consulting (MURC) and Komatsu	Adaro Energy tbk., United Tractors tbk.	Kalimantan
46	Promotion of electrification to non electrified areas in Indonesia by renewable energy hybrid system - Introducing Hybrid renewable energy system to BTS in un-electrified reas -	Renewable Energy	Energy Industries - Renewable Sources	E&E Solutions, Inc.		
47	Biomass Power Generation Project in the State-owned Palm Oil Mills	Renewable Energy	Energy Industries - Renewable Sources	Shimizu Corporation	PTPN III	North Sumatra
48	Applying RENKEI Control Technologies in Utility Providing Facilities through Software Package	Energy Efficiency	Energy demand	Azbil		Java
49	Deployment of Energy Efficiency Technology through Operation Optimization at Plants	Energy Efficiency	Manufacturing industries	Yokogawa	Pertamina	Java
50	Pre-Feasibility Study for Identification of Replacement of Existing Power Plants under the JCM scheme	Energy Efficiency	Energy Industries - Non-Renewable Sources	Japan Coal Energy Center (JCOAL) Mizuho Corporate Bank, Ltd.		Java
51	MRV Methodology Application Study for Introduction of Inverters to Aluminum Smelting Plant	Energy Efficiency	Energy demand	NTT Data	PT. Molten Aluminum Molten Producer Indonesia PT Fuji Electric Indonesia	
52	Program organization research of Low-rank coal fuel waste heat drying project in a cement factory	Energy Efficiency	Manufacturing industries	Ube Industries, Ube Machinery Corporation, Mizuho Information & Research Institute	PT Semen Padang	West Sumatera
53	N2O Emissions reduction by the diffusion of Coated fertilizers for agricultural soils	Agriculture	Agriculture	JCAM AGRI, Marubeni	PT ASTRA AGRO LESTARI TBK	Riau
54	Study for Project Development and Organization on Eco-Shipping Project for Coastal Cement Tanker In Indonesia	Transportation	Transport	Ube Shipping & Logistics, Ltd. Japan Weather Association National Maritime Research Institute	PT. IBT	Indonesian sea area
55	Promotion of Modal Shift from Road-based Transport to Mass Rapid Transit (MRT) System	Transportation	Transport	MITSUBISHI RESEARCH INSTITUTE,INC.	PT. MRT Jakarta	DKI Jakarta
56	Indonesia Sumatera SNG Project Follow Up FS	Carbon Capture and Storage and SNG	Energy Industries - Renewable Sources	Mitsubishi Heavy Industries	ESDM	South Sumatera
57		Carbon Capture		Marubeni		

2013-2014						
No	FS Title	Sector	Sectoral Scope	Study Entity	Indonesian Partner	Location
58	DENSO Fleet Management System "Driving Partner"	Transportation	Transport	DENSO		Jakarta
59	Contribution for GHG Reduction through Azbil Software Package	Energy Efficiency	Energy demand	Azbil	Pertamina	Cilacap
60	Financial Scheme Development Project for Promoting Energy Saving in Jakarta, Indonesia	Energy Efficiency	Energy demand	Mitsubishi UFJ Morgan Stanley Securities	Badan Lingkungan Hidup	Jakarta
61	Project for leapfrog development in waste and wastewater management sector for North Sumatera province in Indonesia in 2013FY	Waste Handling and Disposal	Waste Handling and Disposal	Mitsubishi UFJ Research and Consulting (MURC)		North Sumatera
62	Sustainable Water Management for Rice-Farming Peatland Mitigation in Indonesia	REDD	REDD/REDD+	Shimizu	Ministry of Public Works, Ministry of Agriculture, Jambi Province Government, Tanjun Jabun Timur Government, Jambi University, Sriwijaya University, Tokyo University Deltares	Jambi
63	Environmentally Sustainable Cities FS using JCM	Various		IGES, NTT Data Institute, Almec VPI Corp., Hitachi Zosen Corp., Amita Corp., Matsuo Sekkei Corp.	PDAM, SIER, Dinas Pertamanan, etc	Surabaya
64	CCS CO2-EOR in Indonesia	Carbon Capture and Storage and SNG	Carbon Capture and Storage	Marubeni	Pertamina	
65	Energy Savings at Convenience Stores	Energy Efficiency	Energy demand	Lawson		Jakarta, Bandung
66	Thin-Film Mega Solar Power Plant in Indonesia_Latest Report of Demonstration Project	Renewable Energy	Energy Industries - Renewable Sources	SHARP Corp	PT. PLN (Persero)	Lombok
67	Energy Saving for Air-conditioning and Process Cooling at Textile Factory	Energy Efficiency	Manufacturing industries	Ebara Refrigeration Equipment & Systems	PT. Primatexco, PT. Ebara Indonesia	Central Java
68	Regenerative Bruners to Aluminium Melting Furnaces at Automotive Components Manufacturer	Energy Efficiency	Manufacturing industries	Toyotsu Machinery Corporation	PT. Yamaha Motor Parts Manufacturing Indonesia, PT. Kyowa Indonesia	Jakarta, West Java
69	Improvement of REDD+ Implementation using IC Technology	REDD+	REDD/REDD+	Mitsubishi Research Institute and NEC		East Kalimantan
70	Solar Diesel Hybrid to Stabilize PV Power Generation in the Nias Island	Renewable Energy	Energy Industries - Renewable Sources	Hitachi Zosen	PT. PLN (Persero)	North Sumatera

Summary based on JCM Sectoral Scope

	Sectoral Scope	2010-2011	2011-2012	2012-2013	2013-2014	Total
1	Energy industries (renewable- / non-renewable sources);	3	9	11	2	25
2	Energy distribution;		1			1
3	Energy demand;	1	1	2	3	7
4	Manufacturing industries;		2	2	2	6
5	Chemical industry;					
6	Construction;					
7	Transport;		2	2	1	5
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;	1			1	2
14	REDD and REDD+	1	6	7	2	16
15	Agriculture.	1	1	1	0	3
Program						1
	Carbon Capture and Storage	1	1	1	1	4
		8	23	26	12	70

Summary based on JCM Sectoral Scope

Sectoral Scope		Total
1	Energy industries - renewable sources	21
	Energy industries - non-renewable sources	4
2	Energy distribution;	1
3	Energy demand;	7
4	Manufacturing industries;	6
5	Chemical industry;	-
6	Construction;	-
7	Transport;	5
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;	2
14	REDD and REDD+	16
15	Agriculture.	3
	Carbon Capture and Storage and SNG	4
Program		
	Sustainable City (program)	1
	Total	70


Terima kasih!
Thank you!