Attachment

- 1 Document of the Study Outline (Sep. 2017)
- 2 Kick-off Meeting with Kawasaki city and DKI-JKT (Nov. 2017)
 - 2.1 Agenda of the Kick-off Meeting
 - 2.2 Presentation Material of Kawasaki city
- 3 Presentation Material of the JCM seminar (Jan. 2018)
- 4 The 2nd Meeting with Kawasaki city and DKI-JKT (Feb. 2018)
 - 4.1 Presentation Material on Future Collaboration
 - 4.2 Presentation Material of Kawasaki city
- 5 Business Matching in Jakarta (Feb. 2018)
 - 5.1 Agenda
 - 5.2 Presentation Material of JCM Secretariat in Indonesia
 - 5.3 Presentation Material of DKI-JKT(PTSP)
 - 5.4 Presentation Material of GBCI
 - 5.5 Presentation Materials of Japanese Companies
- 6 Others (Proposal Document on Urban Transportation)

1 Document of the Study Outline (Sep. 2017)

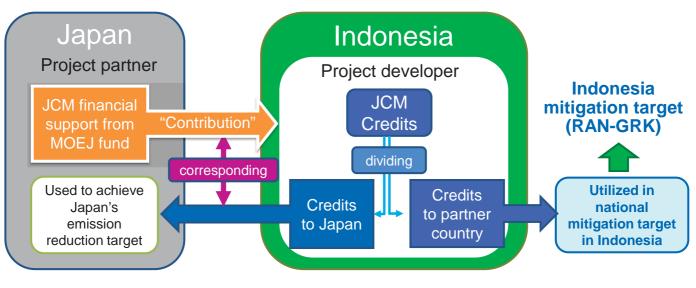
Promotion on Green Innovation through JCM City-to-City Collaboration



October & November, 2017

1 JCM scheme (1/4) Basic concept

- Facilitating diffusion of leading low carbon technologies and contributing to sustainable development of developing countries.
- Appropriately evaluating contributions from Japan to GHG emission reductions and use them to achieve Japan's emission reduction target
- Support of initial investment cost up to 50% from Government of Japan

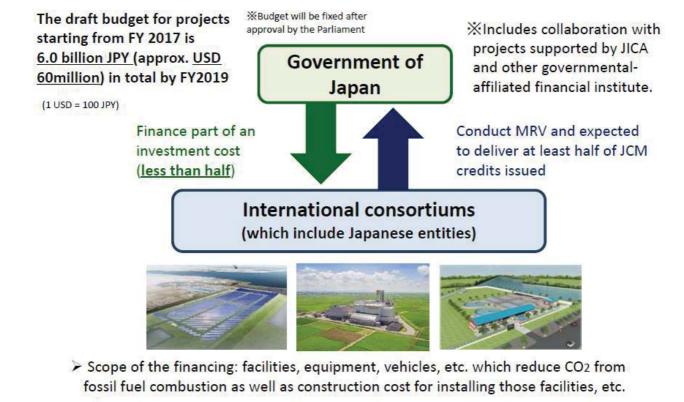


1 JCM scheme (2/4) Member countries

Japan has held consultations for the JCM with developing countries since 2011 and has established the JCM with Mongolia, Bangladesh, Ethiopia, Kenya, Maldives, Viet Nam, Lao PDR, Indonesia, Costa Rica, Palau, Cambodia, Mexico, Saudi Arabia, Chile, Myanmar, Thailand and Philippines.

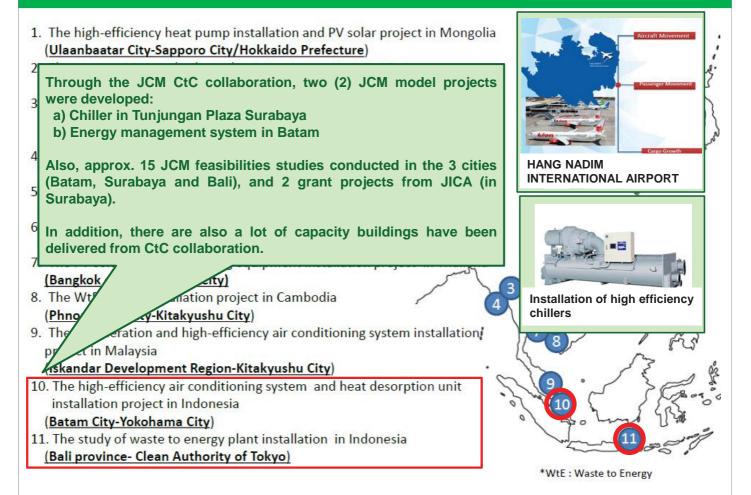


1 JCM scheme (3/4) One of the JCM incentives

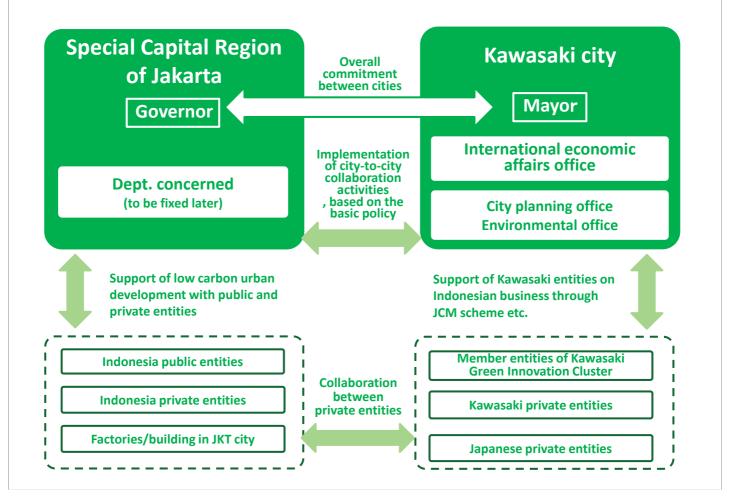


Eligible Projects : starting installation after the adoption of the financing and finishing installation within three years.

1 JCM scheme (4/4) Results of JCM CtC collaboration (FY2016)



2 Organization (draft) of DKI-JKT and Kawasaki city



3 Background of JCM city-to-city collaboration

JCM city-to-city collaboration aims to materialize low carbon society through the implementation of JCM activities between Jakarta city and Kawasaki city. Under the process of JCM project formulation, it aims not only "diffusion of advanced low carbon technologies" but also "share of knowledge and know-how " between Jakarta city and Kawasaki city. Also, it aims to scrutinize mid-and-long term city-to-city collaboration between both cities.

Share of Kawasaki's knowledge

Sharing the experience on low carbon society development, such as zero emission industrial park, establishment of green innovation cluster etc.

Share of low carbon technologies/products

Support on diffusion of low carbon technologies /products with JCM subsidy by Japanese private , especially member entities of Kawasaki green innovation cluster

Establishment of low carbon society in Jakarta , in order to solve its current/urgent issues

4 Basic policy of the collaboration

Issues and needs in DKI Jakarta, tentative

[Low carbon urban/infrastructure development]

- Expectation of low carbon urban development using low carbon technologies/products
 [Green industry/green building]
- Necessity of green industry/building activities by energy saving countermeasures etc.
 [Others]
- Maniple waste system
- Cap & trade system
- Application of advanced technologies/products through public-private-partnership etc.

Collaboration menu from Kawasaki

[Green innovation]

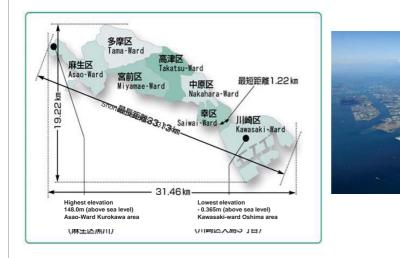
- Enhancement of green innovation philosophy which Kawasaki city establishes with public and private partnership.
- [Low carbon society development]
- Share of Kawasaki eco town knowledge
- Introduction of Japanese low carbon products /technologies
- [Eco town/Zero emission IP]
- Kawasaki city has promoted eco town & zero emission industrial park.

Basic policy of city-to-city collaboration between DKI Jakarta and Kawasaki 1) Support on technical/human exchange to materialize low carbon urban development 2) Enhancement of public-private partnership on green innovation

<u>Realization of city-to-city collaboration between DKI Jakarta and Kawasaki</u> by Promotion on Green Innovation through JCM City-to-city Collaboration

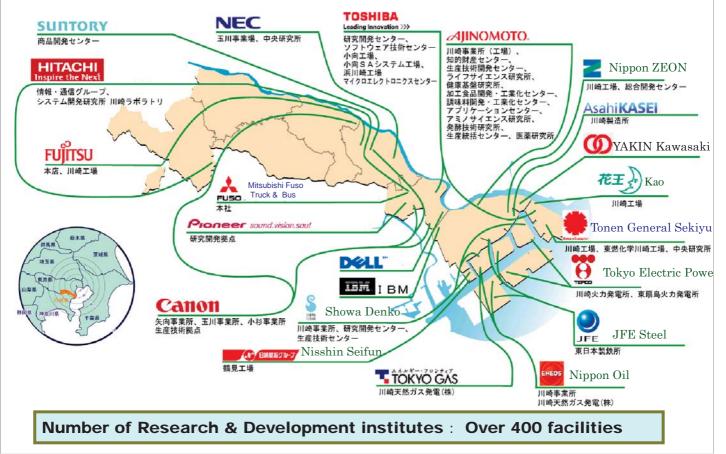
Basic information

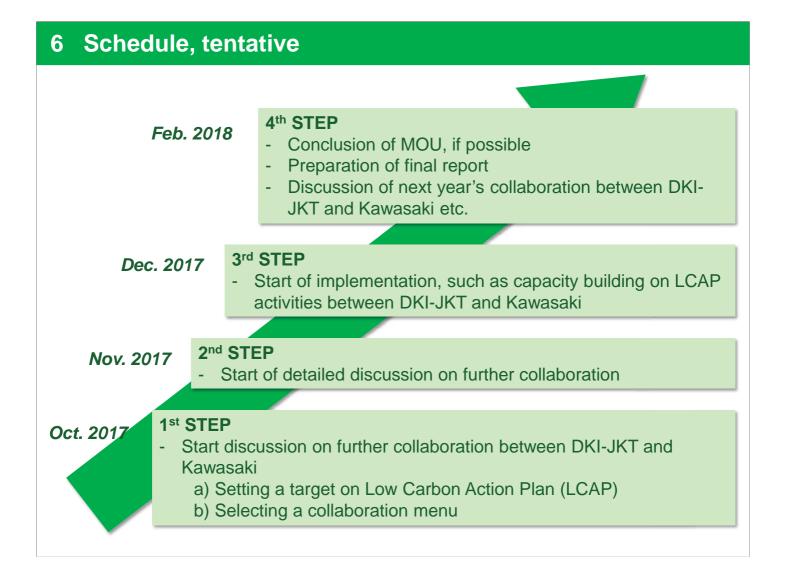
Items	Jakarta	Kawasaki
Population	Approx. 9.58 million (2010)	Approx. 1.47 million (2014)
Area	740.28 [km2]	144.35 [km2]
City budget	Approx. 5 billion USD (2016)	Approx. 10 billion USD (2015)
Gross regional product	143.79 billion USD (2015)	492.56 billion USD (2016)



5 General information of Kawasaki city (2/2)

Major corporations





- 2 Kick-off Meeting with Kawasaki city and DKI-JKT (Nov. 2017)
- 2.1 Agenda of the Kick-off Meeting

PROMOTION ON GREEN INNOVATION THROUGH JCM CITY-TO-CITY COLLABORATION

AGENDA

Date	: November 1, 2017		
Time	: From 13:00		
Venue	: Office, DKI-JKT (tentative)		
Participants	: DKI-JKT, JCM secretariat, City of Kawasaki and Nippon Koei Co., Ltd.		
Objectives:	- To figure out each other between DKI-JKT and Kawasaki		
	- To exchange opinions of the collaboration		
	- To discuss the goal of the collaboration in this fiscal year		

#	Time	Contents	Presenter
1	5 min	Opening remarks	DKI-JKT
			Coordinating Ministry
			for Economic Affairs
2	10 min	Background of JCM city-to-city collaboration	JCM secretariat
3	20 min	Promotion of green innovation through JCM	City of Vowooalri
		city-to-city collaboration	City of Kawasaki
4	30 min	Discussions on the city-to-city collaboration	All
5	5 min	Closing Remarks	City of Kawasaki
			DKI-JKT

End

2.2 Presentation Material of Kawasaki city

Promotion on Green Innovation through JCM City-to-City Collaboration



Population : 1,501,697 per. (As of Jun. 1, 2017)

Area : 144.35 km²

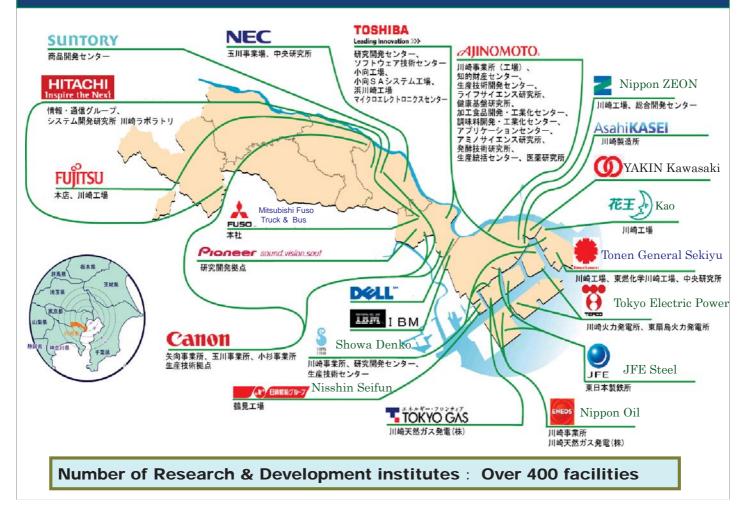
🚺 KAWASAKI CITY

Kawasaki City

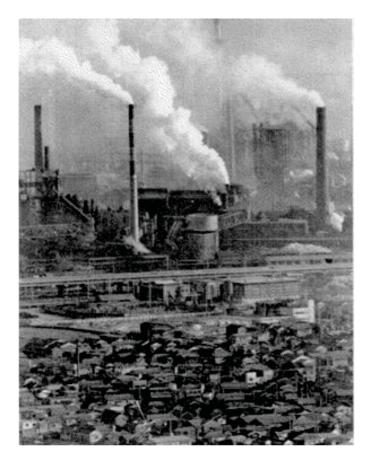
About Kawasaki city (2/2)

Items	Jakarta	Ш崎市 Kawasaki
Population	Approx. 10 million	Approx. 1.5 million
Area	662 [km2]	144.35 [km2]
City budget	Approx. 5.3 billion USD	Approx. 10 billion USD
Gross regional product	164billion USD	492.56 billion USD
Kawasaki Port	Rich natural entropy of the second seco	environment Industrial area

Major corporations

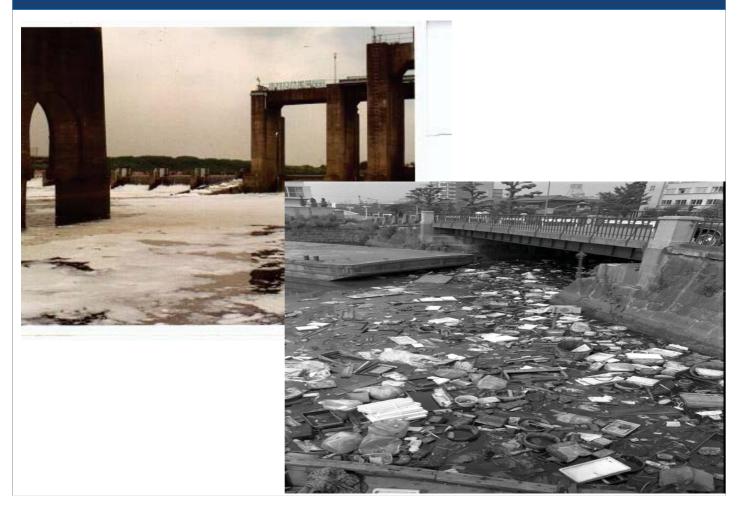


Historical background (featuring on the environment) Rapid Economic growth & Industrial Pollution in Kawasaki (1960s – 70s)





Tama-River and Illegal Dumping (1960-70s)



Air Pollution over Kawasaki Waterfront Area (1960s)



Current Landscape of Kawasaki City (2016)



What kinds of knowledge and expertise Kawasaki city could share with Jakarta ?

- 1. Water management
- 2. Environmental monitoring
- 3. Environmental education
- 4. Kawasaki Eco-town
- 5. Waste management
- 6. Smart city
- 7. Renewable energy

1. Water Management

Waterworks

Operation start : In 1921 Population served : 1,481,234 per. Water supply capacity : 815,600 m³/D Number of plants : 1 Length of pipeline : 2,400 km

Industrial Water System

Operation start : In 1937 [Japan's First] Water supply companies : 58 (80factories) Water supply capacity : 520,000 m³/D Number of plants : 2 Length of pipeline : 46 km

Sewerage System

Operation start : In 1935 Sewered population : 1,472,898 per. Treatment capacity : 918,000 m³/D Number of plants : 4 Length of pipeline : 3,100 km



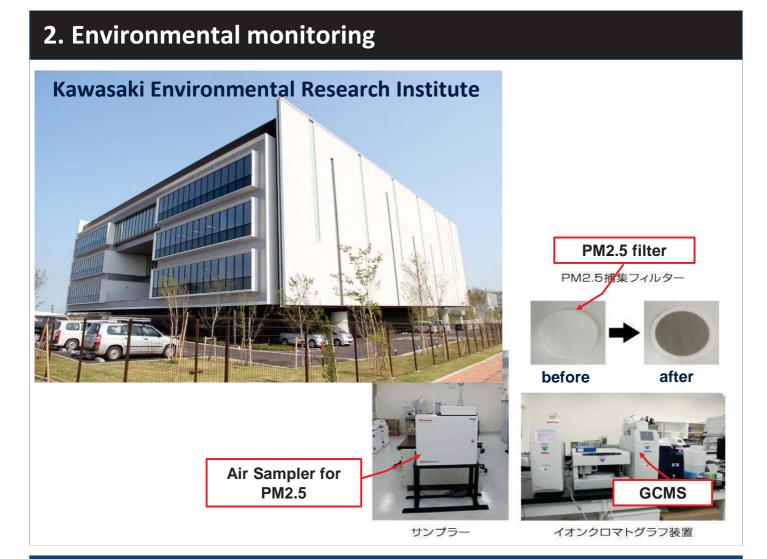








KAWASAKI CITY



3. Environmental education

1 Open Laboratory

(Science study program for elementary school kids)

2 Environmental Seminar

(Environmental study program for adult)

3 Environmental Study at school

(Environmental professionals on various fields going to school and giving lecture for kids)

Tama river field tour (Field tour for studying eco-system)

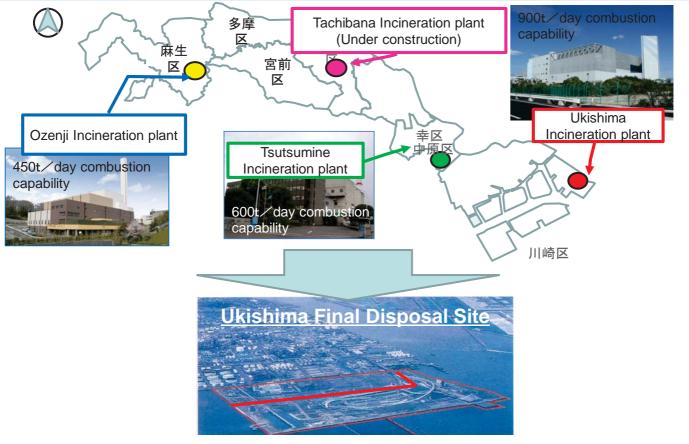






5. Waste Management:

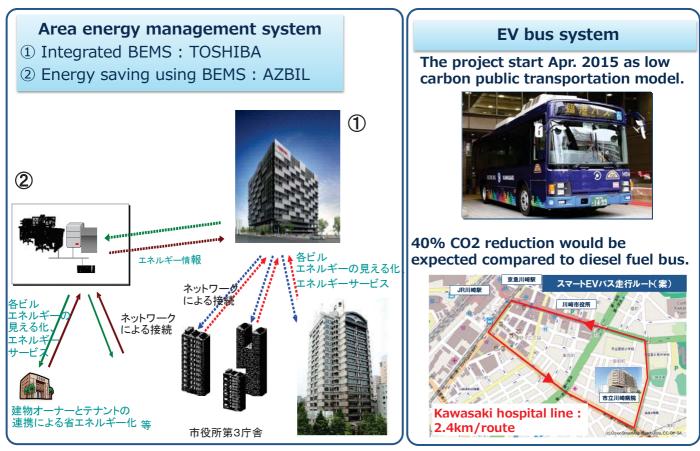
Waste incineration plant Ukishima final disposal site for incineration ash



After Incineration, Volume of solid waste would reduce up to 1/50.

6. Smart City:

Area energy management model project & EV bus



7. Renewable Energy:

Energy related facilities in Kawasaki Waterfront Area

Mega-Solar Electric Plant

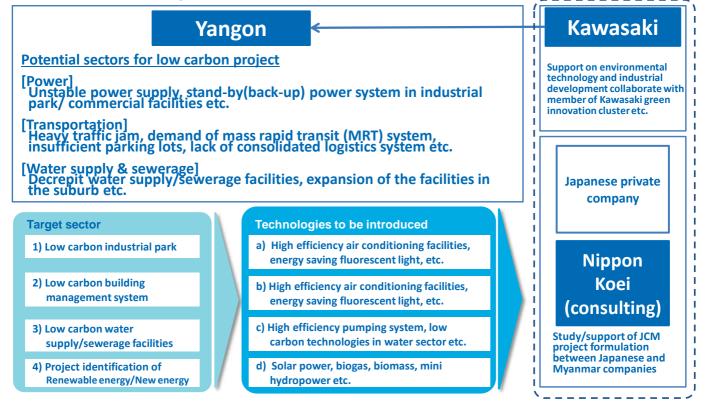
		Earge Scale Wind I Ower Flant	
	Output:20,000 kW ·扇島13,000 kw ·浮島7,000 kw		Output:1,990 kW ■事業主体:
	 ■事業主体: 東京電力(株) 川崎市 ■川崎市の廃棄物最終 処分場跡地を活用 		■サネエ(#): JX日鉱日石エネルギー ■風力を活用した大型 風力発電所
	Output: 33,000 kW ■事業主体: 川崎バイオマス発電 (株)		Output:847,000kW ■事業主体: JX日鉱日石エネルギー、 東京ガス
	■建設廃棄物等の木質 バイオマスを燃料とし て発電		■ガスタービンと蒸気 タービンを組み合わせた コンバインドサイクル方 式による高効率発電
Biomass Power Plant LNG High Efficiency Power Plant			

Large scale Wind Power Plant

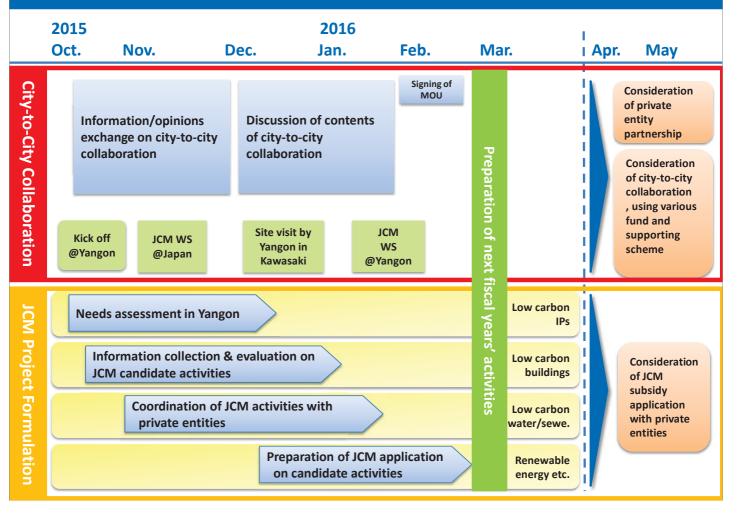
15

JCM City-to-City Collaboration Project (2015)

(Objectives) To contribute to sustainable development and realize low carbon society in Yangon, the study aims to formulate prospective JCM projects collaborate with Kawasaki city and Japanese private entities, which have high-efficiency and low carbon technologies.



Overall Schedule of the Study Year 2015



JCM City-to-City Collaboration Project (2015)



Achievement : MOU between Kawasaki and Yangon (2015)

Memorandum of Understanding Between the City of Kawasaki, JAPAN and the City of Yangon, Myanm on the City to City Collaboration

In order to promote city to city collaboration between Kawasaki and Yangon for achieve of low carbon city in Yangon and thus to contribute to the further prosperity of both, the C of Kawasaki and the City of Yangon hereby agree upon the following:

- 1. Both parties shall be committed to promote city to city collaboration for achiev of low carbon society in Yangon and contribute to the further prosperity of Ka and Yangon within the fields of technical cooperation, information exc economic exchange as well as develop cooperative framework based cities are on win-win and equal relationship.
- 2. In order to achieve the aforementioned objectives, both following

(a) Excavating and supporting of low-carbon projects utilizing Joint crediting mechanism (JCM) scheme

- (b) Technical cooperation and information exchange for realizing low-carbon society of Yangon (c) Supporting creation of new business in a field of environment
- 3. According to this Memorandum of Understanding (MOU), there shall be back to back missions to have exchanges and study visits in both cities.
- 4. This MOU shall become effective on the signed date and remain valid for three years. If one country wants to terminate the MOU, they shall inform in writing before one month, otherwise the MOU will be continued automatically
- 5. The contents of this MOU can be amended in accordance with a written agree both parties.
- 6. Any disagreement which comes from interpretation of the MOU shall be solved in a friendly way based on both parties' trust and discussion
- 7. This MOU shall be made in two original copies in English.

March 25th, 2016



- Carfuhnt. Mr. Norihiko Fukuda

Mayor of Yangor

Mayor of Kawasaki

1) Excavating and supporting of lowcarbon projects utilizing JCM scheme 2) Technical cooperation and information for realizing low-carbon exchange society of Yangon

- 3) Supporting creation of new business in a field of environment
 - Aug. 2015: Start of city-to-city collaboration
 - Oct. 2015: 1st Visit to Yangon
 - Dec. 2015: Discussion on Draft MOU at Yangon
 - Jan. 2016: Workshop on City-to-city collaboration at Yangon
 - Mar. 2016: Concluding MOU between Kawasaki and Yangon

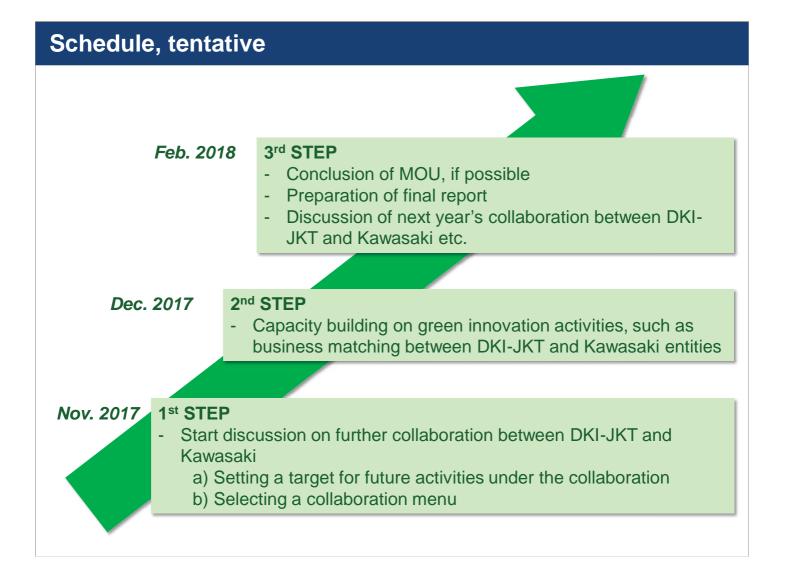


Workshop for city-to-city collaboration at Yangon

Candidate JCM activities through Yangon experience





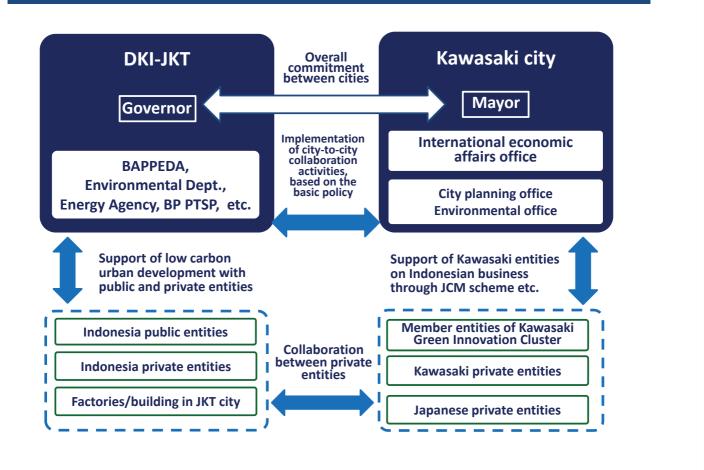


3 Presentation Material of the JCM seminar (Jan. 2018)

JCM City-to-City Collaboration Between DKI-JKT and Kawasaki

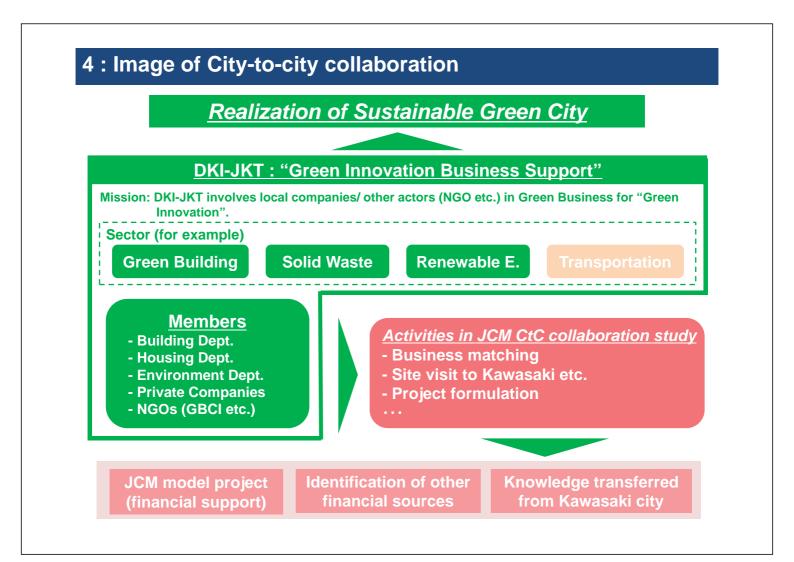


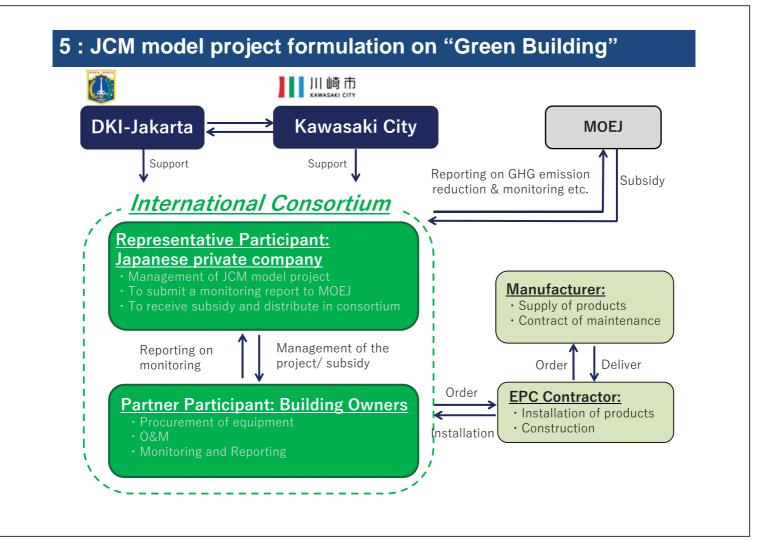
1 : Organization of city-to-city collaboration

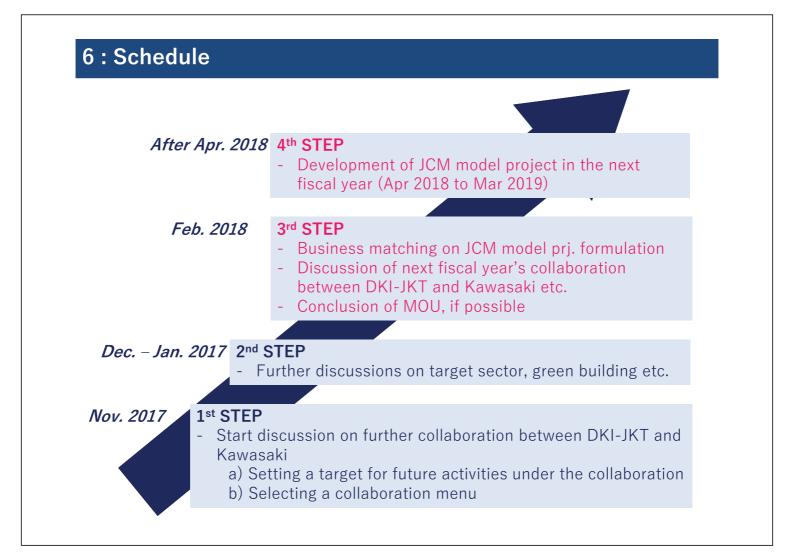


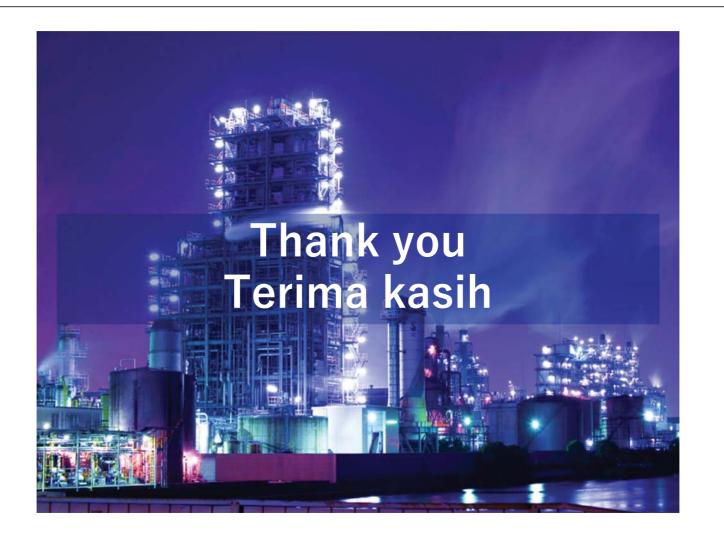




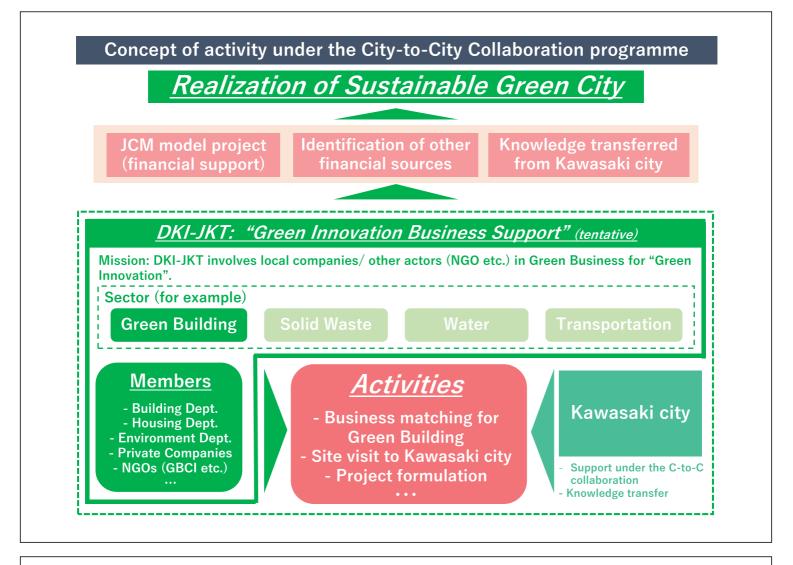






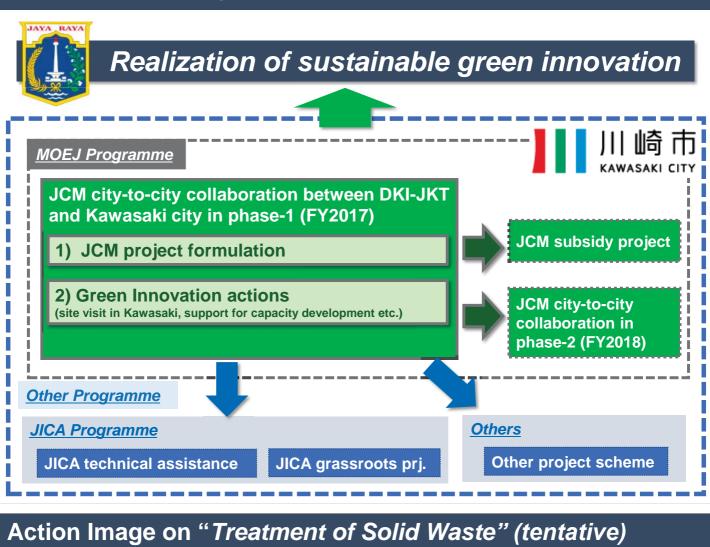


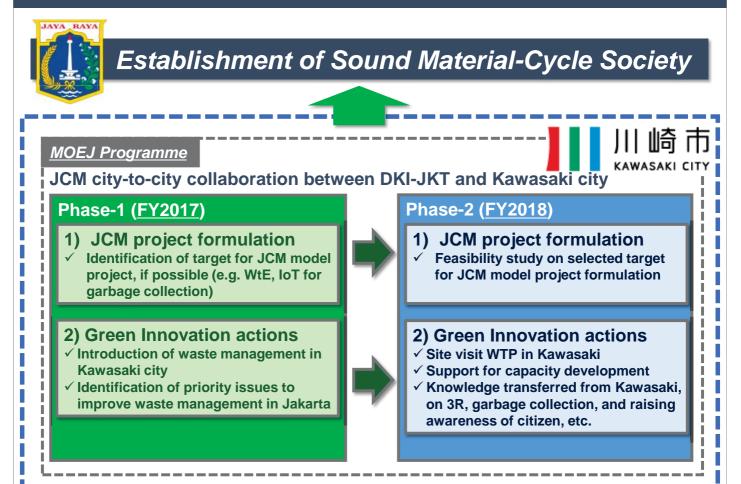
- 4 The 2nd Meeting with Kawasaki city and DKI-JKT (Feb. 2018)
- 4.1 Presentation Material on Future Collaboration



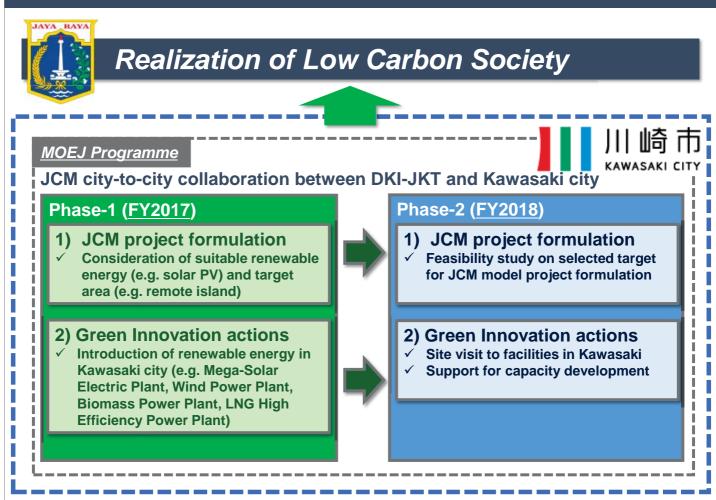
Members	Activities
DKI-JKT Building Dept., Housing Dept., Environment Dept. etc.)	 Selection of private companies regarding green innovation Organization of a business matching seminar supported by Kawasaki city Participation in the site visit and seminar organized by Kawasaki city JCM project formulation and identification of other financial sources
Private Companies	 Participation in business matching seminar Creation of JCM model project with Japanese private companies, and/or other "green business"
NGOs (GBCI etc.)	 Participation in the business matching seminar Support/ Recommendation for the selection of private companies Other activities (TBC)
Kawasaki city	 Support to hold the business matching seminar Support for the selection of private companies in Kawasaki Organization of the site visit and seminar organized by Kawasaki city Information sharing on green innovation cluster in Kawasaki city JCM project formulation and identification of other financial source

Overall Action Image (tentative)







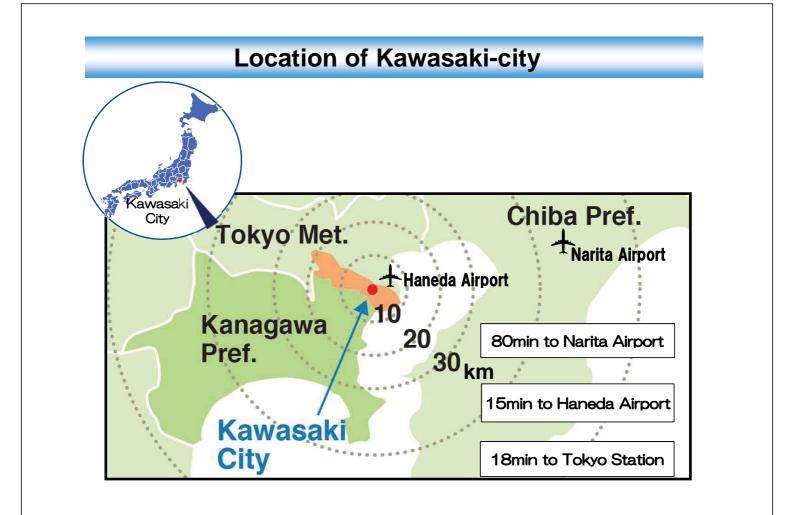


Schedule

#	Activities
FY2017	7 (until March 2018)
Up to Feb.	 Identification of target sectors for FY2018's collaboration between DKI-JKT and Kawasaki (Nov-Feb) Discussion on Green Building to formulate JCM model prj. as FY2017 (Jan-Feb) Business matching on JCM model prj. formulation (Feb)
Mar.	Submission a project proposal for FY2018 to MOEJ
FY2018	B (From April 2018 to March 2019)
Apr. – Feb.	 Implementation of feasibility study on target sectors for JCM model prj. formulation Further discussions on additional collaboration between DKI-JKT and Kawasaki Discussion on MOU, if possible (Feb)
Mar.	 Preparation of a proposal for JCM model prj., based on results of feasibility study Identification of target sectors for FY2019's collaboration

4.2 Presentation Material of Kawasaki city

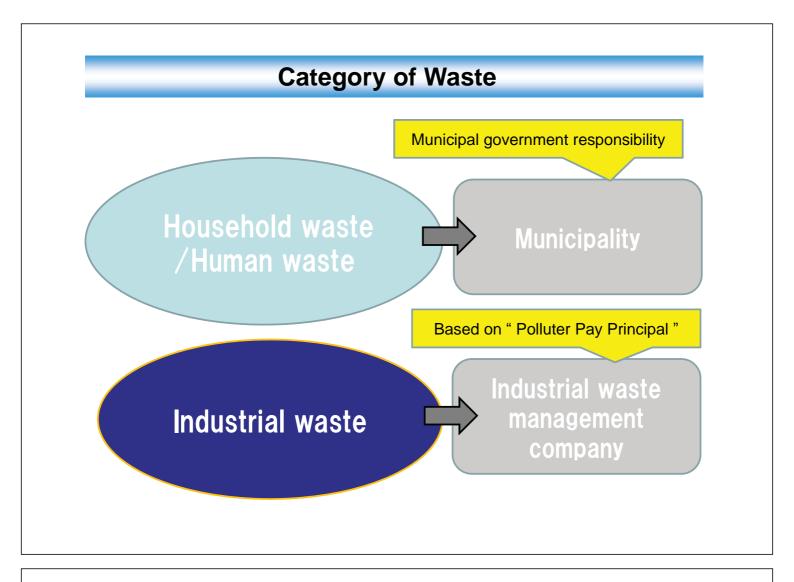




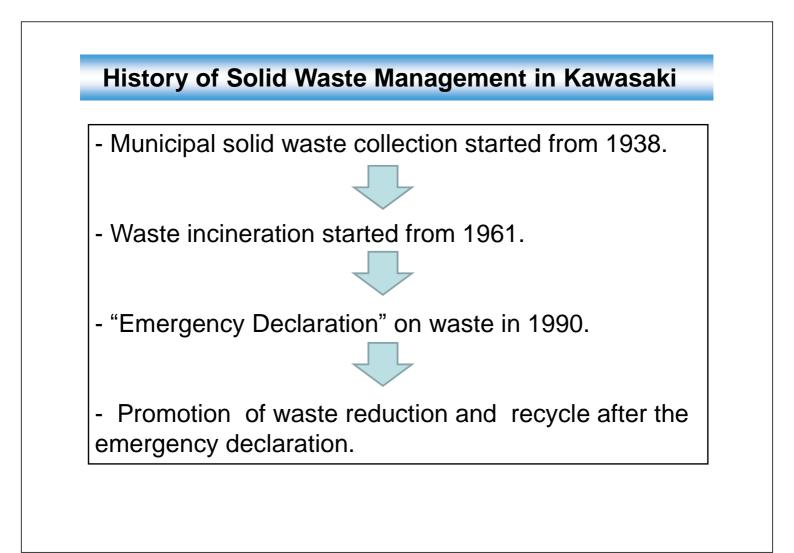
Problem of illegal dumping in the past (1960)

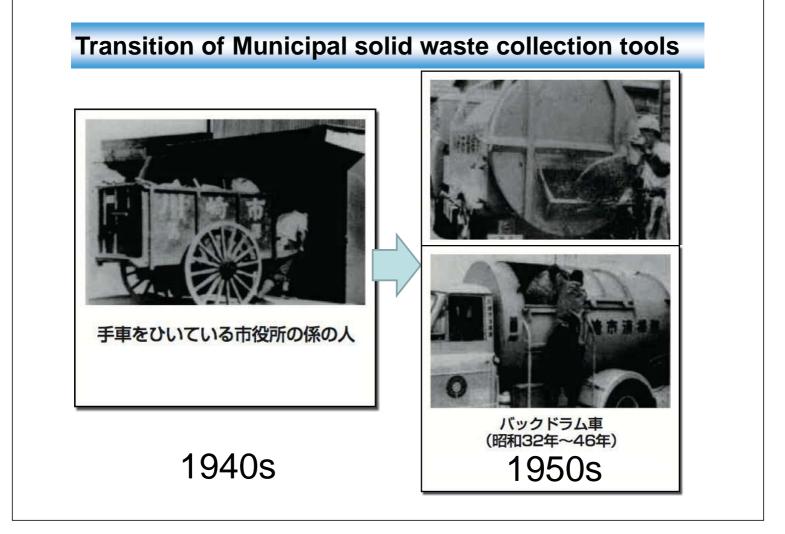


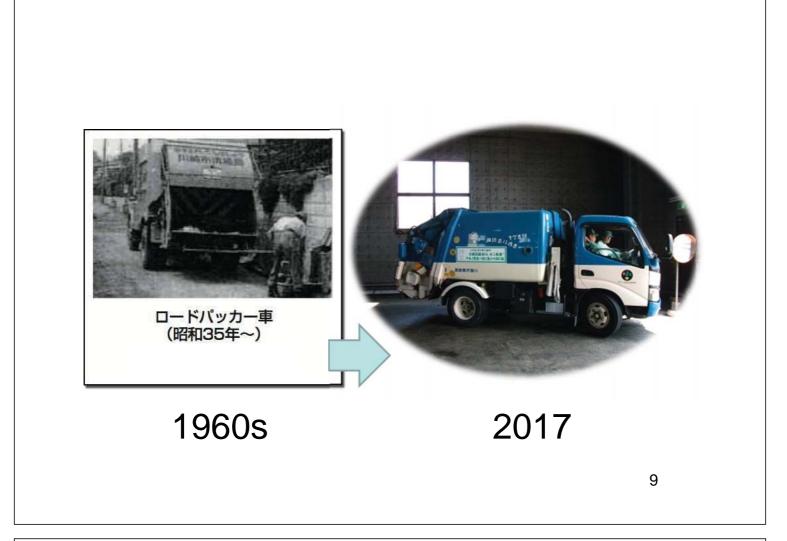


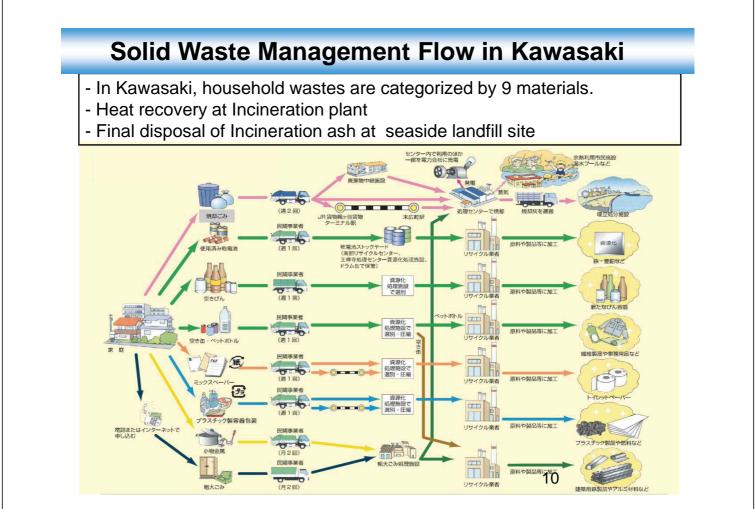




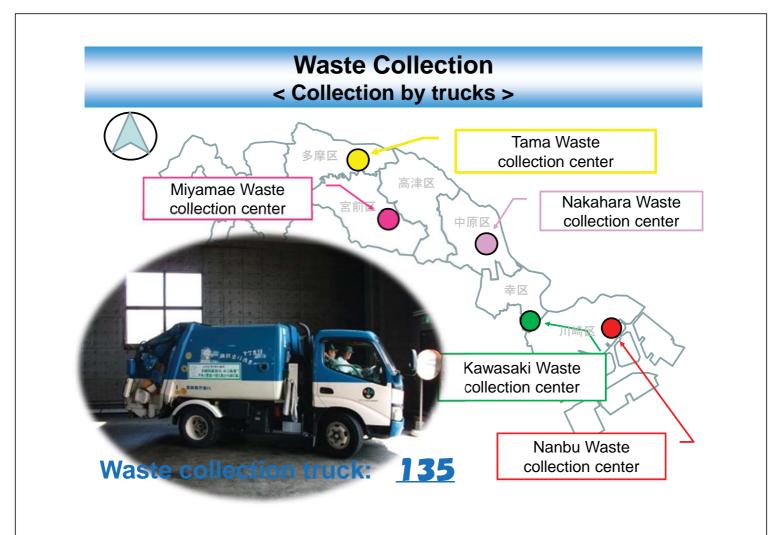




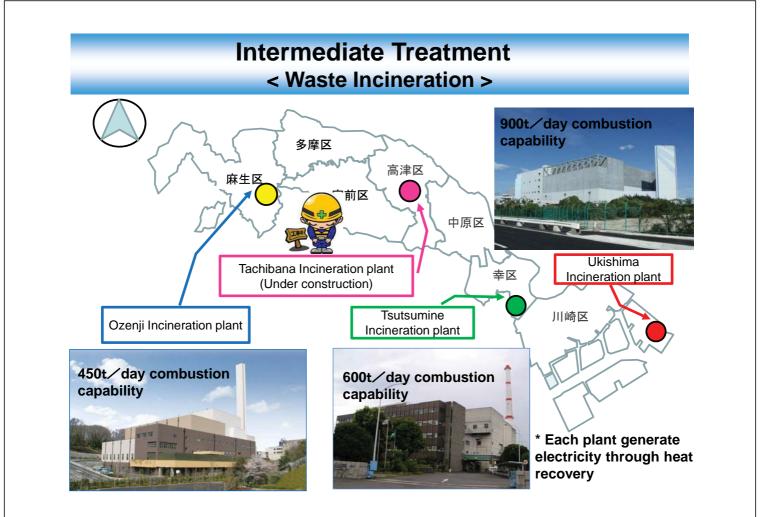


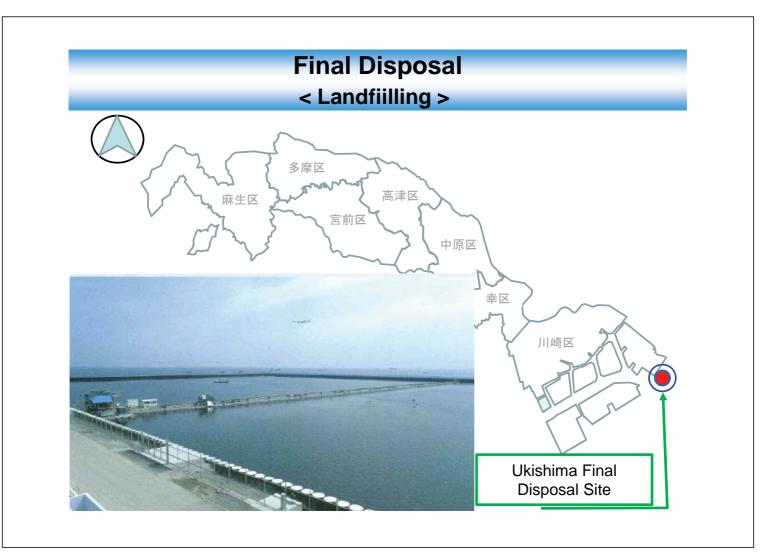






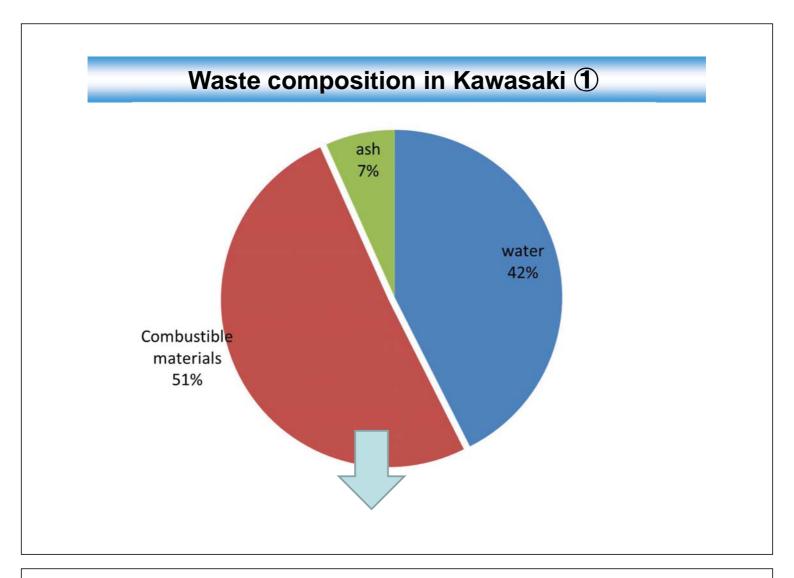


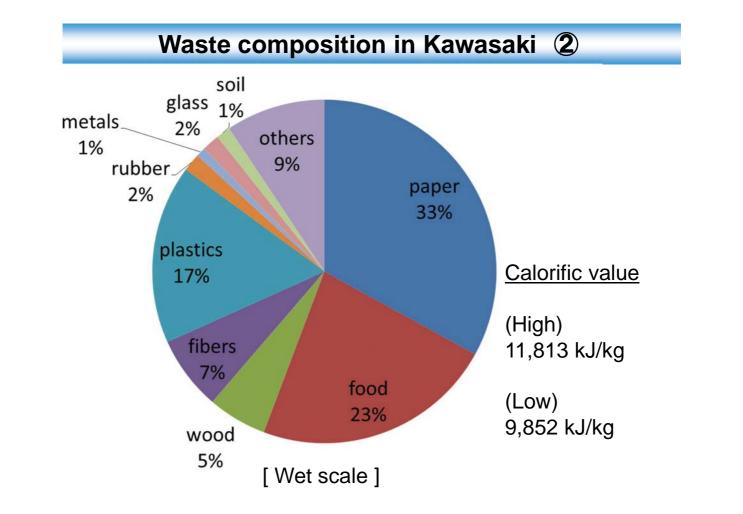


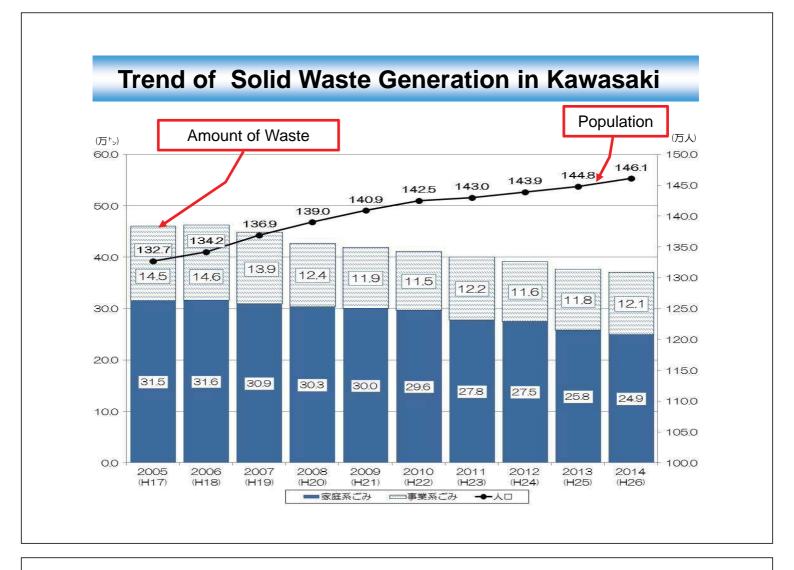


Ukishima Final Disposal Site for Incineration Ash









Trend of Solid Waste Disposal Cost in Kawasaki **Disposal Cost** 250億円 450円/kg 400円/kg 廃棄物事業費 普通ごみ -0 相大ごみ 空缶 200億円 350円/kg 小物金属 空瓶 ットボトル ミックスペ プラ製容器包装 300円/kg 150億円 250円/kg 200円/kg 100億円 150円/kg 100円/kg 50億円 50円/kg 0円/kg 0億円 H12 H13 H14 H15 H16 H17 H18 H19 H20 H21 H22 H23 H24 H25 208億円 — 廃棄物事業費 216億円 201億円 193億円 179億円 174億円 169億円 163億円 157億円 152億円 138億円 144億円 144億円 139億円 ──普通ごみ 40円/kg 40円/kg 38円/kg 36円/kg 41円/kg 39円/kg 38円/kg 37円/kg 37円/kg 37円/kg 35円/kg 39円/kg 39円/kg 37円/kg 75円/kg 70円/kg 69円/kg 70円/kg ◆ 和大ごみ 111円/kg 143円/kg 131円/kg 102円/kg 174円/kg 171円/kg 164円/kg 175円/kg 137円/kg 119円/kg 空缶 124円/kg 133円/kg 130円/kg 118円/kg 132円/kg 119円/kg 117円/kg 98円/kg 98円/kg 109円/kg 116円/kg 116円/kg 114円/kg 105円/kg 55円/kg 54円/kg 李瓶 108円/kg 116円/kg 113円/kg 104円/kg 114円/kg 115円/kg 117円/kg 113円/kg 110円/kg 109円/kg 112円/kg 86円/kg 小物金属 277円/kg 307円/kg 373円/kg 283円/kg 398円/kg 295円/kg 272円/kg 259円/kg 234円/kg 221円/kg 103円/kg 104円/kg 101円/kg 110円/kg

318円/kg|296円/kg|278円/kg|246円/kg|257円/kg|232円/kg|214円/kg|195円/kg|191円/kg|194円/kg|142円/kg|133円/kg|124円/kg|116円/kg

85円/kg 64円/kg 64円/kg 44円/kg 138円/kg 81円/kg 80円/kg 65円/kg

ペットボトル

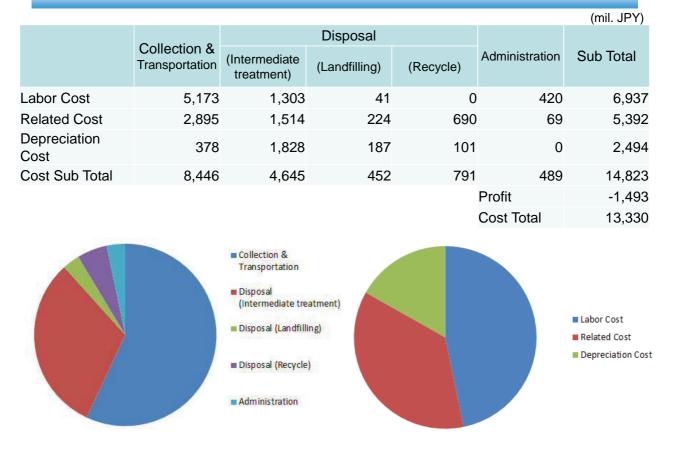
プラ製容器包装

Waste Disposal Cost in Kawasaki (2015)

	Collection & Transportation	Disposal*	Management	Total Cost	Amount of Waste	Cost per ton
	(mil. JPY)	(mil. JPY	(mil. JPY)	(mil. JPY)	(ton)	(JPY)
Household waste	5,167	3,506	291	8,965	242,954	36,899
Bulky waste	297	441	77	815	9,366	86,994
Aluminum / steel Can	755	-25	30	759	7,046	107,718
Grass bottle	472	151	19	642	12,225	52,507
Small metal product	196	126	11	333	2,772	120,087
Pet bottle	507	66	21	595	5,042	117,962
Various used paper	422	36	17	474	13,618	34,840
Plastic container packaging	630	94	23	747	12,587	59,339
total	8,446	4,395	489	13,330	305,610	43,616

*Disposal Cost is after including profit (ex. electric sales income, sales income from recyclable materials)

Waste Disposal Cost in Kawasaki (2015)



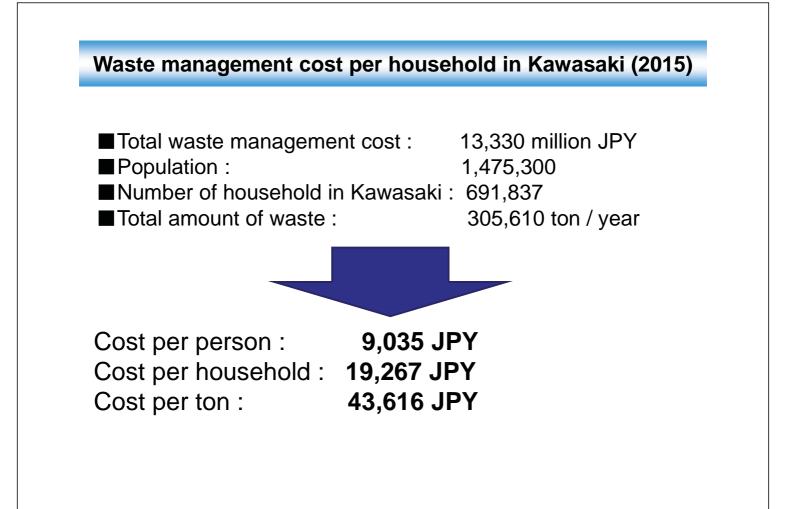
Component of waste management cost ①

component

Collecti	on &	Transp	ortation
----------	------	--------	----------

- Labor cost	salary for collection and transportation workers
- Related cost	maintenance fee lease fee for collection truck fuel fee utility cost communication fee
- Depreciation cost	facility construction cost \div period of use facility repair cost \div period of use purchase cost for collection truck \div period of use
Disposal (Intermediate treatment)	
- Labor cost	salary for incineration plant workers
- Related cost	consignment fee for facility operation maintenance fee interest on bonds for facility construction fuel fee utility cost communication fee chemical processing cost plant repair parts procurement cost
- Depreciation cost	facility construction cost \div period of use facility repair cost \div period of use

Com	ponent of waste management cost 2
	Component
Disposal (Landfilling)	
 Labor cost 	salary for landfill site workers
- Related cost	consignment fee for landfill site operation maintenance fee interest on bonds for facility construction fuel fee utility cost communication fee chemical processing cost plant repair parts procurement cost supplies expense
- Depreciation cost	facility construction cost excluding subsidies × amount of landfilling per year ÷ maximum capacity of landfill site facility repair cost ÷ period of use
Disposal (Recycle)	
- Labor cost	outsourcing to private company
- Related cost	consignment fee for recycling facility (including labor cost) maintenance fee interest on bonds for facility construction fuel fee communication fee chemical processing cost plant repair parts procurement cost
- Depreciation cost	facility construction cost \div period of use facility repair cost \div period of use



Air emission standard of incineration plant in Kawasaki

	Kawasaki		
parameter for air regulation	guideline value	unit	note
cadmium	0.5	mg/m3	
Hydrochloric acid	20	ppm	塩化水素
Hydrogen fluoride	2.5	mg/m3	フッ素
Mercury	0.05	mg/m3	条例の規定なし(自主規制値)
Nitrogen oxides	5.2	m3/h	窒素酸化物(自主規制値)
Dioxin	0.1	ng TEQ/m3	ダイオキシン類
Sulfur dioxide	15	ppm	硫黄酸化物(自主規制值)
Total metals	10	mg/m3	鉛
Total suspended particulates	0.02	g/m3	ばいじん(自主規制値)
Ammonia	50	ppm	ヤンゴン側に規定なし
Cyan	10	ppm	ヤンゴン側に規定なし

- 5 Business Matching in Jakarta (Feb. 2018)
- 5.1 Agenda

Agenda of Business Matching on JCM City-to-City Collaboration between DKI-JKT and Kawasaki

- 1. Date : Feb. 8, 2018
- 2. Time : 8:30-14:00
- 3. Venue : Meeting room 4 of Mercure Hotel Sabang Jakarta
- 4. Purpose :

1) To identify prospective JCM model projects which will be utilized private initiative or involvement with JKT and Kawasaki's support.

- 2) To exchange opinions on materialization of low carbon society in DKI-JKT
- 3) To know each other to create future business opportunity

#	Time	Descriptions	Time	Speaker
	8:00-8:30	Registration		
1	8:30 - 8:35	Opening remarks (1)	5 min.	Bappeda
2	8:35 - 8:40	Opening remarks (2)	5 min.	City of Kawasaki
3	8:40 - 8:45	Opening remarks (3)	5 min.	Coordination Ministry for Economic Affair
4	8:45 - 9:00	Explanation of JCM	15 min.	the JCM secretariat
5	9:00 - 9:15	Explanation of Green building policy	15 min	DKI-JKT (BP PTSP)
6	9:15 - 9:30	Explanation of Green building activities	15 min.	GBCI
7	9:30 -9:40	Q&A	10 min	All
8	9:40 - 9:55	Tea Break	15 min.	All
9	9:55 - 10:00	Explanation of the purpose of this business matching	5 min.	Nippon Koei
10	10:00 - 10:10	JCM Testimony (1)	10 min	Japanese Company
11	10:10-10:20	JCM Testimony (2)	10 min	Japanese Company
12	10:20 - 10:30	JCM Testimony (3)	10 min	Japanese Company
13	10:30 - 11:30	Business matching discussion	60 min.	All
14	11:30 - 11:35	Closing remarks (1)	5 min.	DKI-JKT
15	11:35 - 11:40	Closing remarks (2)	5 min.	City of Kawasaki
16	11:40 - 11:45	Closing remarks (3)	5 min.	Coordination Ministry for Economic Affair
17	11:45 - 13:15	Lunch	90 min.	All
18	13:15 -	Further Discussion		All

5. Program

End.

5.2 Presentation Material of JCM Secretariat in Indonesia



Outline of The Presentation



JCM Basic Concept and Scheme

JCM Project Examples

Developing JCM Project



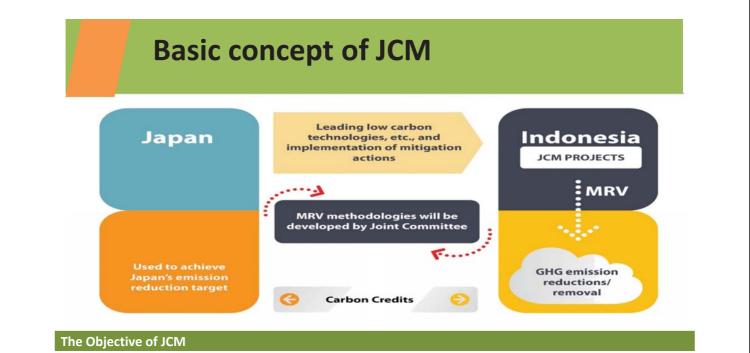


Coordinating Ministry for Economic Affairs Republic of Indonesia

JCM BASIC CONCEPT AND SCHEME

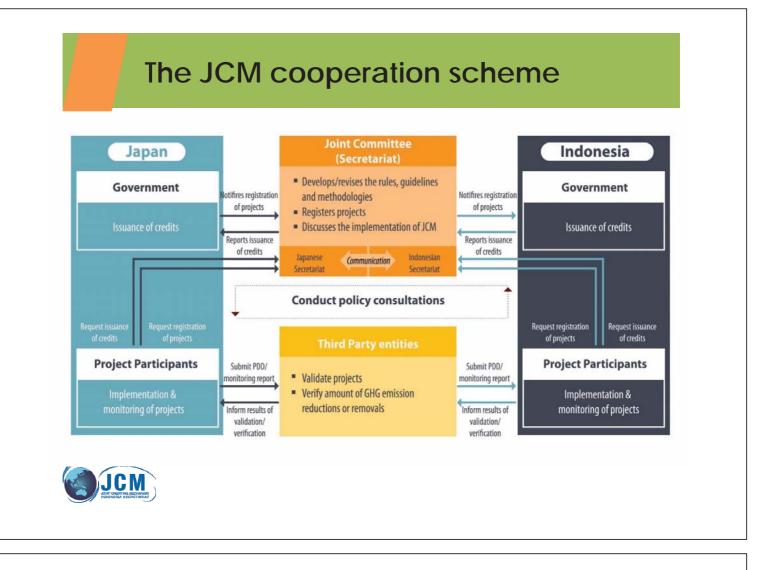


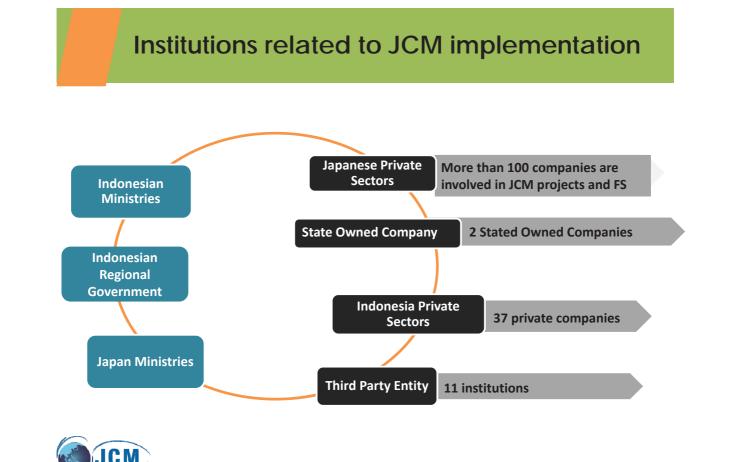
CM

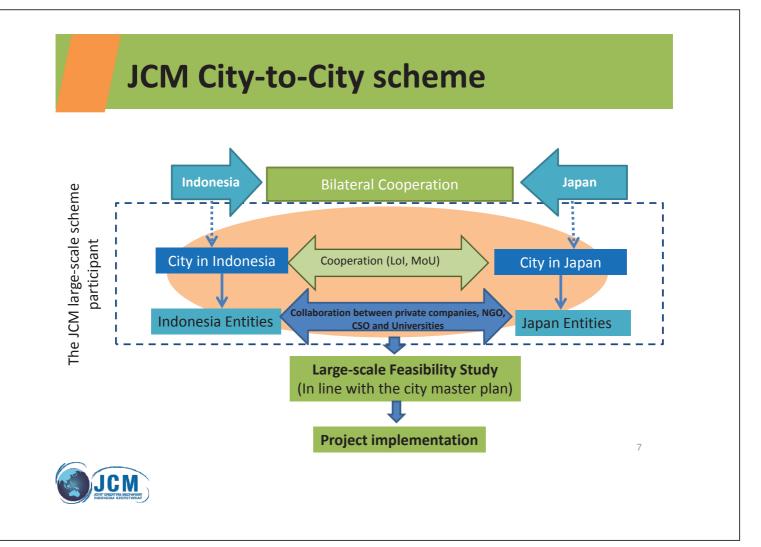


- Facilitate diffusion of leading low carbon technologies, products, systems, services, and infrastructure as well as implementation of mitigation actions, and contributing to sustainable development of developing countries.
- Evaluate contributions to GHG emission reductions/removals from developed 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

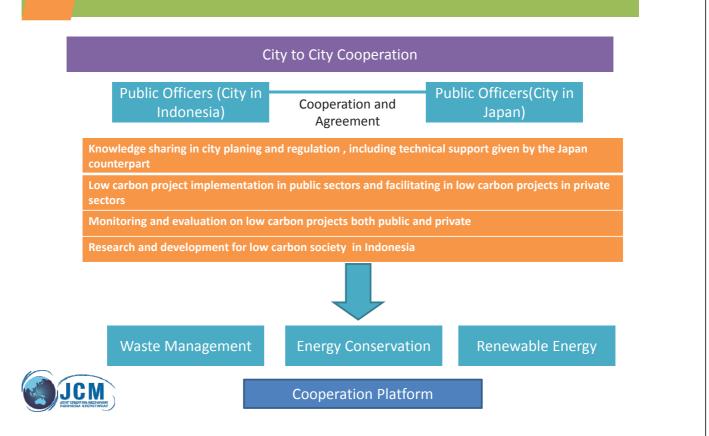


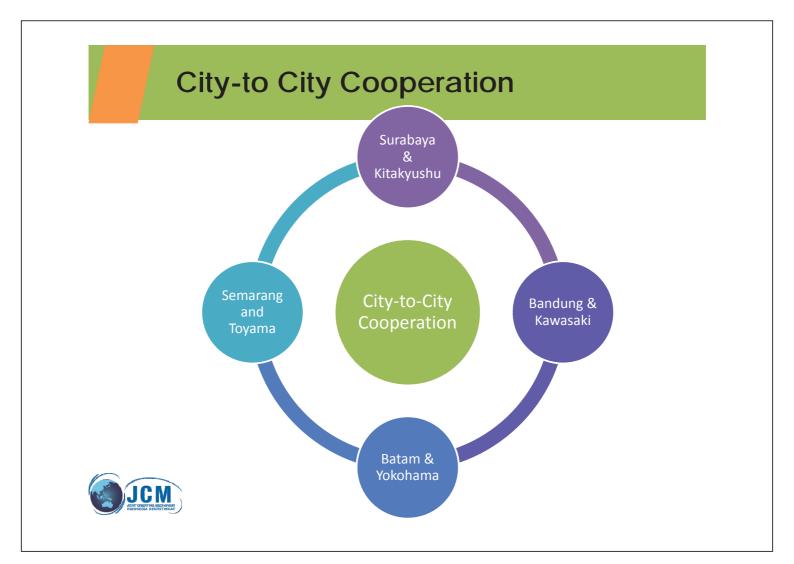


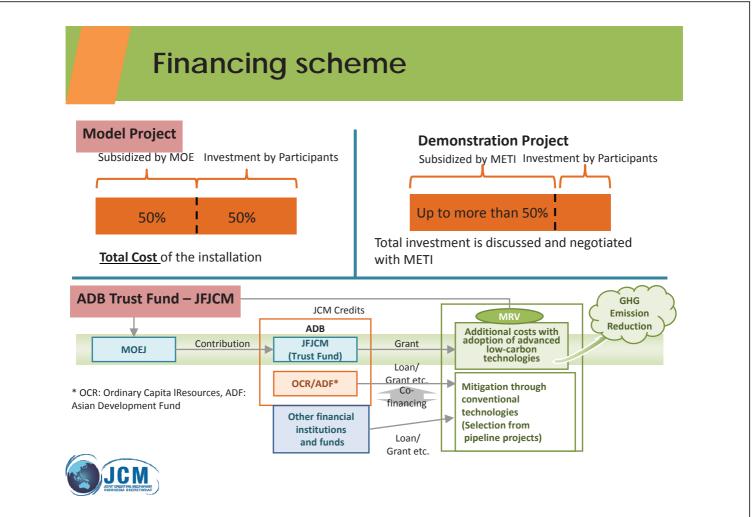














Coordinating Ministry for Economic Affairs Republic of Indonesia

JCM PROJECT EXAMPLES





Project Name	Project Participants		Total Emission Carbon Reduced	Project Location
rioject Name	Indonesia	Japan	(ton CO2/year)	Project Location
Power Generation by Waste-heat Recovery in Cement Factory	PT. SEMEN INDONESIA Tbl	JFE Engineering Corporation	122,000	PT. Semen Indonesia Factory in Tuban
Installation of Solar Power System and Storage Battery to Commercial Facilities	AEON MALL INDONESIA	ITOCHU CORPORATION	549	AEON Mall Jakarta Garden City
Introduction of Gas Co-generation System and Absorption Chiller to Large Shopping Mall	PT. AMSL DELTA MAS	AEON MALL CO.,Ltd	7,339	AEON Mall Delta Mas
Roof Top Self Consumption Solar Power Generation Project for Food Ingredients and Aroma Ingredients Factory, Indonesia	INDESSO AROMA	NEXT ENERGY AND RESOURCES CO	382	Indesso Aroma Factory, Cileungsi
Installation of Gas Co-generation System for Automobile Manufacturing Plant	PT. TOYOTA MOTOR MANUFACTURING INDONESIA	TOYOTA TSUHO CORPORATION	20,310	TMMIN Factory Karawang
Introduction of High Efficient Old Corrugated Cartons Process at Paper Factory	PT. FAJAR SURYA WISESA	KANEMATSU COOPERATION	14,884	Fajar Surya Wisesa Factory
Energy Saving through Introduction of Regenerative Burners to the Alumunium Holding Furnance of Automotive Components Manufacturer	PT. YAMAHA MOTOR PARTS MANUFACTURING INDONESIA PT. TOYOTA TSUSHO INDONESIA	TOYOTA TSUSHO	857	YPMI Factory Karawang
Reducing GHG Emission at Textile Factories by	PT. EASTERNTEX PT INDONESIA SYNTHETIC	TORAY INDUSTRIES, INC.	567	PT ISTEM
Upgrading to Air-saving Loom	TEXTILE MILLS INC		567	PT CENTEX
	INDUSTRY TBK			PT Easterntex

	Project Part	icipants	Total Emission	
Project Name	Indonesia	Japan	Carbon Reduced (ton CO2/year)	Project Location
ntroduction of High Efficiency Looms in Neaving Mills	PT. NIKAWA TEXTILE INDUSTRIES	NISSHINBO TEXTILE INC	1,317	PT Nikawa Textile's plant
Energy Saving for Textile Factory Facility Cooling by High Efficiency Centrifugal Chiller	PT. NIKAWA TEXTILE INDUSTRIES PT. EBARA INDONESIA	EBARA REFRIGERATION EQUIPMENT SYSTEM CO.,LTD Nippon Koei Co., Ltd.	104	PT Nikawa Textile's plant
Energy Saving for Air Conditioning and Process Cooling by Introducing High- efficiency Centrifugal Chiller	PT. PRIMATEXCO	EBARA REFRIGERATION EQUIPMENT SYSTEM CO.,LTD; NIPPON KOEI	114	Primatexco Factory
Energy Saving for Air Conditioning and Process Cooling at Textile Factory	PT. PRIMATEXCO	EBARA REFRIGERATION EQUIPMENT SYSTEM CO.,LTD; NIPPON KOEI	117	Primatexco Factory
Energy Saving for Air-Conditioning at Shopping Mall with High Efficiency Centrifugal Chiller	PT. PAKUWON JATI,Tbk	NTT FACILITIES, INC	1,317	Tunjungan Plaza Mall
Energy Saving for Industrial Park with Smart ED Street Lighting System	PT. HARAPAN ANANG BAKRI & SONS, PT KARAWANG TATABINA NDUSTRIAL ESTATE PT MALIGI PERMATA INDUSTRIAL EST	NTT FACILITIES,INC	1,016	кііс
ntroduction of High Efficiency Once-through Boiler System and RO Pure Water System in Golf Ball Factory	PT. SUMI RUBBER INDONESIA	SUMITOMO RUBBER INDUSTRIES, Itd	329	DUNLOP INDONESIA/PT SUMI RUBBER INDONESIA
ntroduction of High Efficiency Once-through Boiler System in Film Factory	PT. MC PET FILM INDONESIA	MITSUBISHI PLASTIC, INC	363	Banten

	Project Part	icipants	Total Emission Carbon Reduced (ton CO2/year)	Project Location
Project Name	Indonesia	Japan		
Solar PV Power Plant Project in Jakabaring Sport City	PDPDE SUMATERA SELATAN	SHARP CORPORATION	1,277	South Sumatera
Energy Saving by Installation of Double Bundle- type Heat Pump	PT. TTL RESIDENCE PT. TOYOTA TSUHO INDONESIA	TOYOTA TSUHO CORPORATION	170	West Java
Energy Saving for Industrial Wastewater Treatment for Rubber Industry	PT. ANEKA BUMI PRATAMA	EMATEC, SUZUKI SANGYO CO.LTd., MITSUBISHI UFJ RESEARCH AND CONSULTING	387	South Sumatera
Energy Saving at Convenience Stores	PT. MIDI UTAMA INDONEISIA Tbk	LAWSON, INC	28.5	Jakarta. Bekasi, Tanggerang
10 MW Mini Hydro Power Plany Project in North Sumatera	PT. CITRA MULTI ENERGI	TOYO ENERGY FARM CO.,LTD	42,711	Simonggo River
Introduction LED Lighting to Sales Stores	PT. FAST RETAILING INDONESIA	FAST RETAILING CO.,LTD	2,617	Uniqlo stores
Introducing High Efficiency Refrigator to a Food Industry Cold Storage in Indonesia	PT. ADIB GLOBAL FOOD SUPPLIES ; PT. MAYEKAWA INDONESIA	MAYEKAWA MANUFACTURING CO Ltd	29	PT Adib Global Food Supplies factory
Introducing High Efficiency Refrigator to a Frozen Food Processing Plant in Indonesia	PT. ADIB GLOBAL FOOD SUPPLIES ; PT. MAYEKAWA INDONESIA	MAYEKAWA MANUFACTURING CO Ltd	11	PT Adib Global Food Supplies factory

	Project Pa	rticipants	Total Emission		
Project Name	Indonesia	Japan	Carbon Reduced (ton CO2/year)	Project Location	
Energy Saving by Optimum Operation at Oil Refinery	PT. PERTAMINA (REFINERY UNIT V)	YOKOGAWA ELECTRICITY CORPORATION	3,400	Balikpapan, East Kalimantan	
Co-generation System and Absorption Chiller to Motor Parts Factory	PT DENSO INDONESIA (DNIA)	DENSO COOPERATION	5,049	Cilacap, Central Kalimantan	
Introduction of Absorption Chiller to Chemical Factory	PT Timuraya Tunggal	Tokyo Century Cooperation	1,084	Jakarta	
Utility Facility Operation Optimization Technology	PT. PERTAMINA AZBIL BERCA INDONESIA	AZBIL CORPORATION	20,000	Cilacap	
Installation of Tribrid System to mobile communication's Base Transceiver Stations in Republic of Indonesia	PT. PACKET SYSTEM INDONESIA;PT. HUAWEI SERVICE; PT XL AXIATA	KDDI COPORATION ERNST &YOUNG SUSTAINABILITY CO LTD	400	20 Different location	
REDD+ Project in Boalemo District	Gobel Group DKM (PT. Dharma Karyatama Mulia)	Kanematsu Corporation		Boalemo, Kalimantan	
INDONESIA Small Hydro 10MW power plant LAE ORDI project	PT Phakpak Bumi Energi	CHODAI CO., LTD.	46,520	North Sumatera	



Energy Saving at Convenience Stores





Installation of Solar Power System and Storage Battery to Commercial Facilities



Installation of Solar Power System and Storage Battery to Commercial Facilities

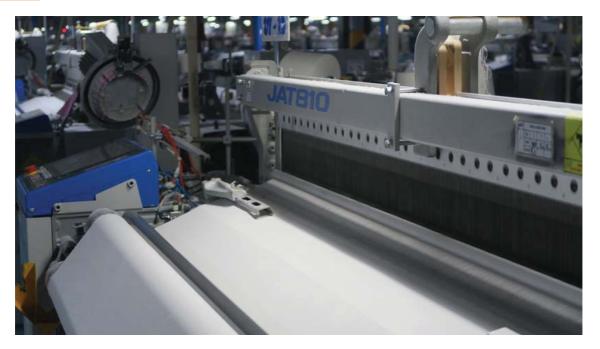




Reducing GHG Emission at Textile Factories by Upgrading to Air-saving Loom



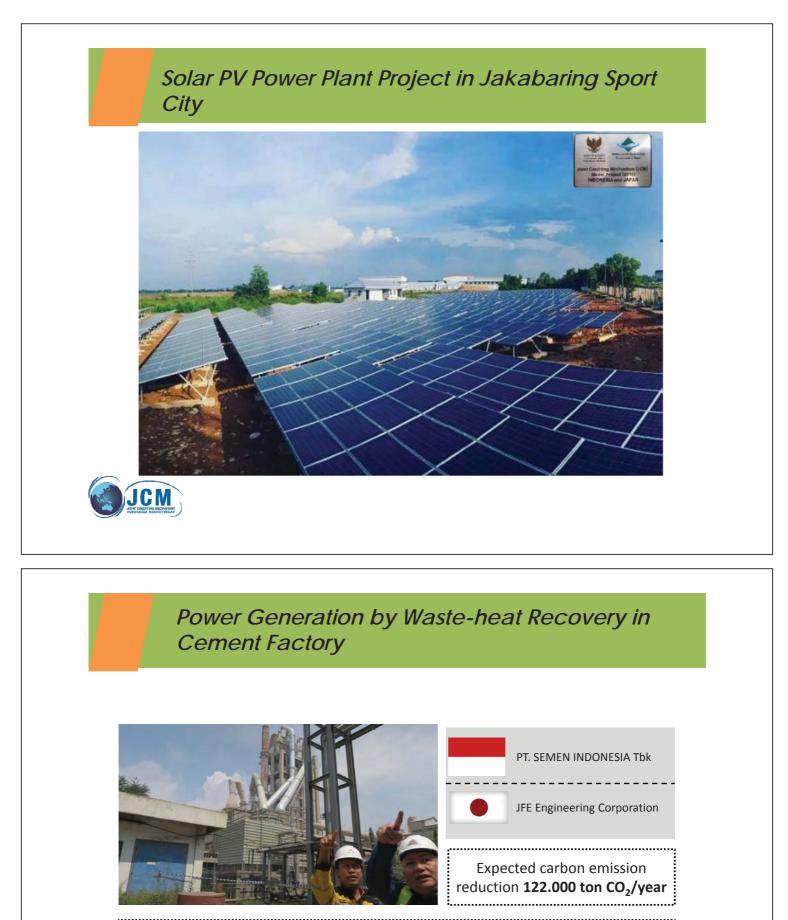
Reducing GHG Emission at Textile Factories by Upgrading to Air-saving Loom





Banten, Jakarta, & Jawa Timur





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.



PT. Semen Indonesia di Tuban, Jawa Timur

Power Generation by Waste-heat Recovery in Cement Factory





Installation of Gas Co-generation System for Automobile Manufacturing Plant



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 utilising the other two boilers.



PT. Toyota Mobile Manufacturing Indonesia, Karawang Jawa Barat

Installation of Gas Co-generation System for Automobile Manufacturing Plant





PT. Toyota Mobile Manufacturing Indonesia, Karawang Jawa Barat

City-to-City cooperation

Surabaya and Kitakyushu City-to-City Cooperation

Energy Saving for Air-Conditioning at Shopping Mall with High Efficiency Centrifugal Chiller



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

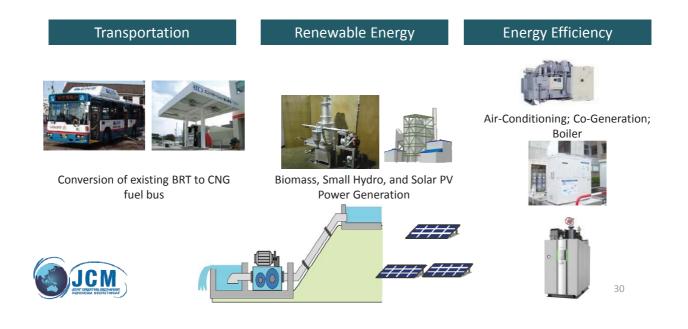
Nishihara Composting Center Started its operation in 2015 with support from JICA. Handling 8 tons of waste from 4 traditional market and parks in Surabaya daily

The sister-city scheme allows collaborations between cities in Indonesia and Japan even without involvement of JCM scheme

City-to City Cooperation

Semarang and Toyama Upcoming Studies

• The upcoming studies are going to be implemented in Semarang. These studies focus on these scope such as:



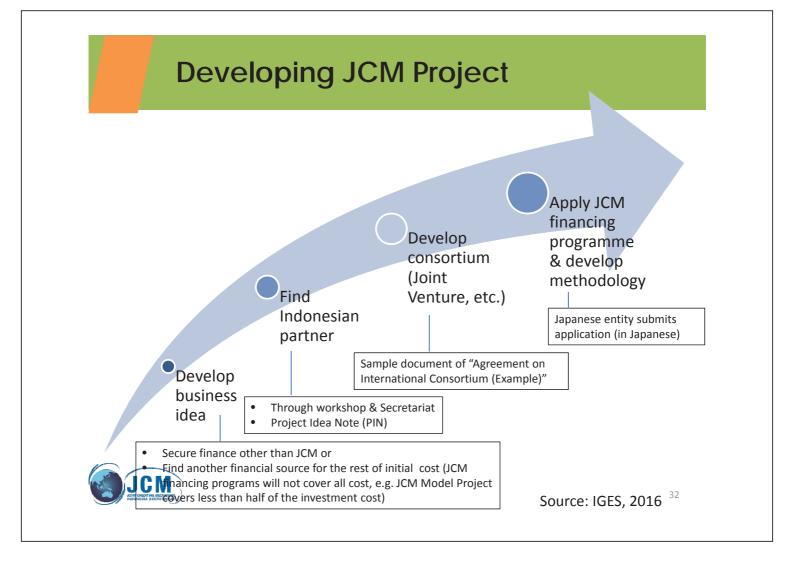


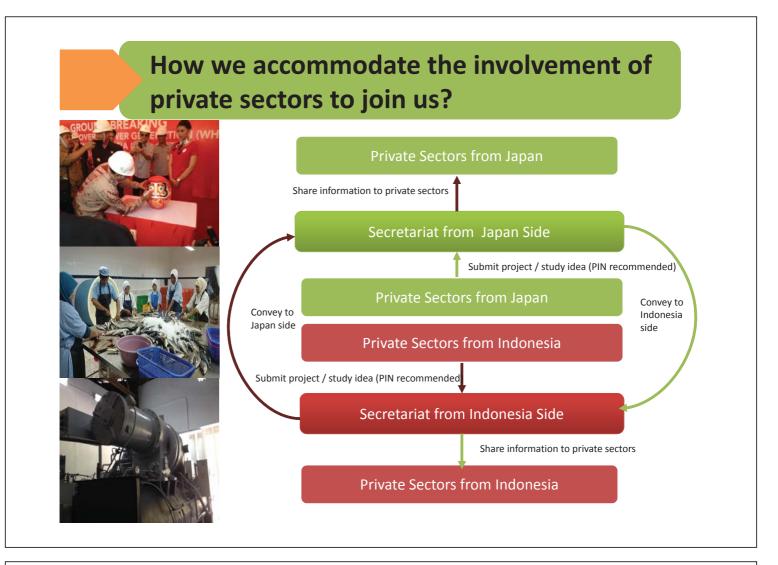
Coordinating Ministry for Economic Affairs Republic of Indonesia

DEVELOPING JCM PROJECT









IGES' JCM Matchmaking Platform

IGES JCM Matchmaking septe	
Hone Stand Corport Internation	JCM Matchmaking Platform,
Welcome to the JCM Matchmaking Platform	Company Information Form
save entry a supply term	IGES
Sant	Institute for Global Environmental Strategies Purpose of this form
e JCB Matchinating Company Search Engine is despined to access companies in getting in touch with each other and pharing information on the technology, services, and project why they seek on other, as well as contract information.	By subrotting this form, you will allow IEEE to publish the information disclosed on its velocity through the JCM Matchinishing Platform.
e information of companies resulting from this learch engine will be limited to those companies that have provided connext for their information to be published through this Pattorns, in companies should have knowledge on the XCM schemes.	The publication advects the - provide more visibility to your company or organization's interest in the JCM, - facilitate maintenaing with potential JCM (a stress, - statistic to potential JCM stress).
some make direct contact with the company of your interest to obtain further details, or contact yos-multimaking@pers.org.p.f you need further assistance.	Note that this form is for information sharing only and does not constitute an application for propert or an official statement.
łow to search:	
to can search for company by the information they submitted, e.g. the technology they seek or offer, project sector of interest, country of operation, company name, etc. The	NEXT Prop 1 of 4

Institute for Global Environment Studies (IGES), provides a matchmaking platform for companies from Japan and host countries. Through this platform, interested companies can find partner(s) to develop JCM projects.

The platform can be accessed through: <u>http://jcm-matchmaking.iges.jp/#tab_home</u>







Thank you! Terima kasih!

Our website: http://jcm.ekon.go.id Contact us at <u>secretariat@jcmindonesia.com</u> Sekretariat JCM Indonesia Gedung Kementerian Koordinator Bidang Perekonomian Lt.2 Jl. Medan Merdeka Barat 7, Jakarta 10110 5.3 Presentation Material of DKI-JKT(PTSP)



REVISI PERATURAN GUBERNUR PROVINSI DKI JAKARTA NOMOR 38 TAHUN 2012 TENTANG BANGUNAN GEDUNG HIJAU

DPMPTSP Provinsi DKI Jakarta

Business Matching untuk Kerjasama City-to-City Joint Crediting Mechanism (JCM) antara Pemerintah Provinsi DKI Jakarta dan Pemerintah Kota Kawasaki

Kamis, 8 Februari 2018

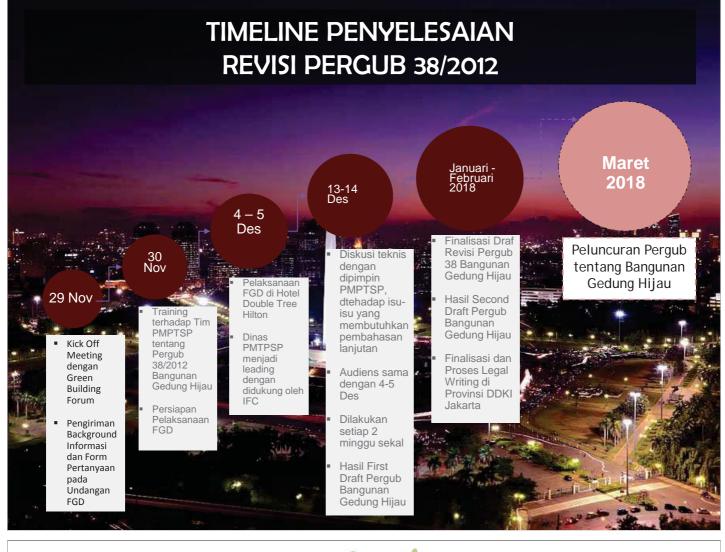


Grand Design Implementasi Bangunan Gedung Hijau dalam mencapai Komitmen 30:30



GRAND DESIGN GREEN BUILDING JAKARTA DI TAHUN 2030







KOMITMEN 30:30 ADALAH RENCANA 30:30 PENGURANGAN KONSUMSI ENERGI, AIR DAN CO2 DARI SEKTOR BANGUNAN GEDUNG DI JAKARTA MELALUI BANGUNAN GEDUNG HIJAU. ROAD MAP 30% DAN ACTION PLAN DISUSUN UNTUK MENCAPAI Water 30% TARGET TERSEBUT. Conservation Energy Conservation 2,4 30% 3785 CO₂ Reduction 3,37 6 Grand Design Action Plan s.d 2030

PENCAPAIAN POTENSI PENGHEMATAN (PER JUNI 2017)



LANGKAH-LANGKAH YANG DILAKUKAN UNTUK MENCAPAI TARGET DALAM KOMITMEN 30:30

- Revisi Peraturan Gubernur No. 38/2012 Bangunan Gedung HijaU (2017 berjalan)
 - Menambah target bangunan untuk mencapai penghematan yang lebih besar
 - Memastikan pengawasan yang lebih terarah dan transparan
- Data collection dan Evaluasi (2018- ke depan)
 - Memperbaiki mekanisme data collection dari perizinan (IMB) dan kelaikan fungsi (SLF)
- Menyediakan Support System (2018-ke depan)
 - Online Forms untuk Pelaporan dan Monitoring
 - Koordinasi dan kerjasama lintas SKPD
 - Penugasan Third Party Evaluator (Building Inspector)

POINTER KUNCI HASIL FGD DAN DISKUSI TEKNIS REVISI PERGUB 38/2012

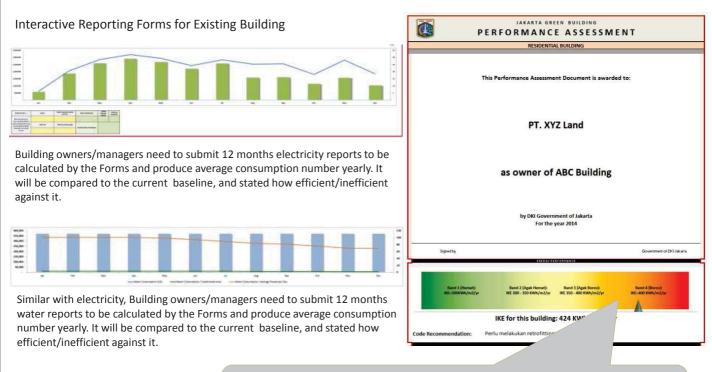
Perspektif Umum	Perspektif Pemerintah	Perspektif Private Sector	Perspektif Profesional/Pelaku Teknis
 Cakupan target bangunan diperluas Fokus pada dua aspek utama: efisiensi energi dan air 	 Mekanisme pengawasan dan koordinasi antar SKPD Pengembangan Kapasitas bagi apparat Pemerintah 	 Persepsi biaya yang lebih besar Insentif untuk implementasi (non fiskal dan fiskal) 	 Simplifikasi persyaratan teknis Penegakan hukum yang konsisten dan transparan

INTERACTIVE ONLINE FORMS (DEVELOPMENT PROCESS)

Interactive Forms with Emoji for New Buildings for Building Permit (IMB) to Occupancy Permit (SLF)



INTERACTIVE ONLINE FORMS (DEVELOPMENT PROCESS)



Performance assessment will be produced by System, and showing a Color-Diagram which is easier to understand. Red means ineffective, yellow means in average and green means efficient against the baseline.

WHEN THERE'S A WILL, THERE'S A WAY

MARI KITA WUJUDKAN KOTA JAKARTA SEBAGAI

CENTER OF EXCELLENCE GREEN BUILDING DI INDONESIA PADA TAHUN 2030

 Joint Crediting Mechanism (JCM) atau mekanisme kredit bersama, antara DKI Jakarta dan kota Kawasaki

• Mengurangi emisi tapi dengan tetap mencapai target pertumbuhan ekonomi yang berkelanjutan

Adapun tujuan dari Business Matching ini adalah :

- Untuk mengidentifikasi model proyek JCM yang dapat dimanfaatkan oleh pihak swasta dengan dukungan dari Pemerintah Provinsi DKI Jakarta dan Pemerintah Kota Kawasaki
- Bertukar pikiran mengenai Masyarakat Rendah Karbon (*Low Carbon Society*) di DKI Jakarta
- Saling mengenal tentang kegiatan bisnis masingmasing pihak serta peluang bisnis ke depannya



5.4 Presentation Material of GBCI

GREEN BUILDING MOVEMENT

Towards a better Indonesia

Surendro | Green Building Council Indonesia





Emerging Member of World Green Building Council

CORPORATE FOUNDER GBC INDONESIA

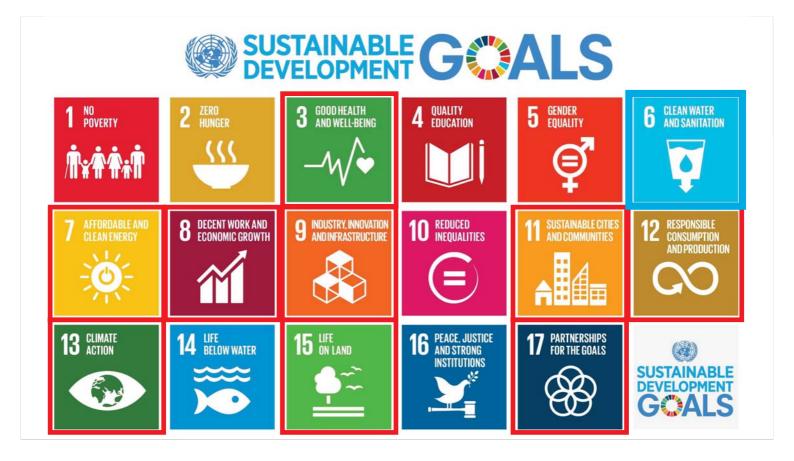


Environment

SinStellage S

- Building impact to environment
 - Building consume 30% of world's energy
 - Building consume 12% of world's water
 - Building emits 35% world's GHG
- Building side impact to environment
 - Transportation
 - Ecology sustainability





Healthy building Better Places for People is WorldGBC's global project which

aims to create a world in which buildings are not only good for the environment, but also support healthier, happier and more productive lives for those who occupy them.

Get the material here: http://www.worldgbc.org/better-places-people

ິງ BETTER PLACES FOR PEOPLE

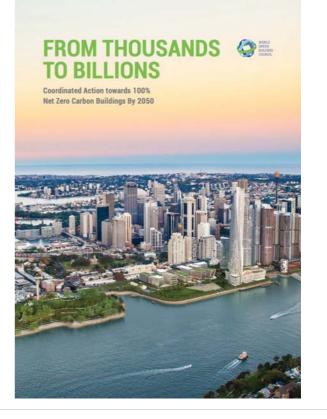
Net zero carbon building

In From Thousands to Billions - Coordinated Action towards 100% Net Zero Carbon Buildings By 2050, WorldGBC calls for a dramatic and ambitious transformation towards a completely zero carbon built environment, through the dual goals of:

All new buildings must operate at net zero carbon from 2030100% of buildings must operate at net zero carbon by 2050

Get the material here:

http://www.worldgbc.org/news-media/thousands-billions-coordinatedaction-towards-100-net-zero-carbon-buildings-2050

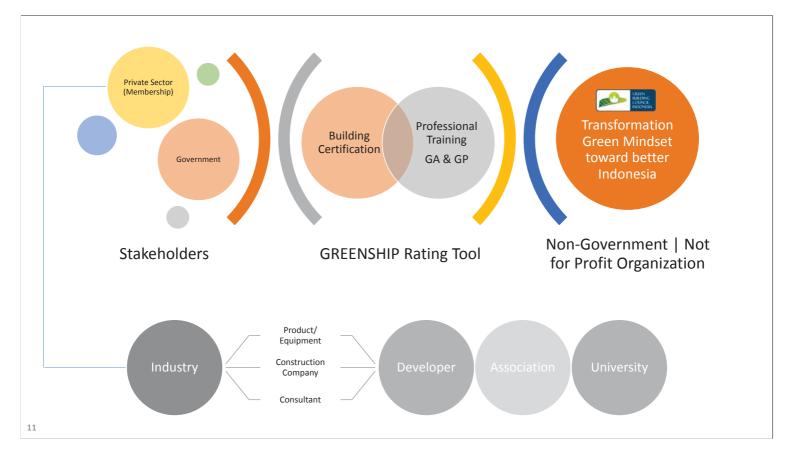




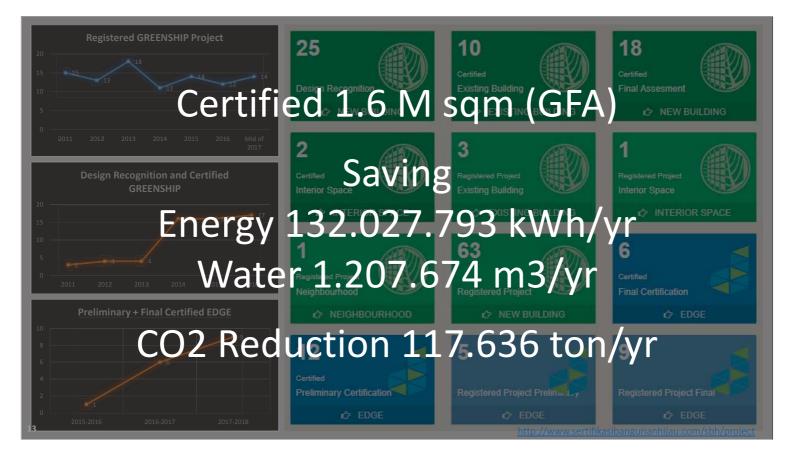


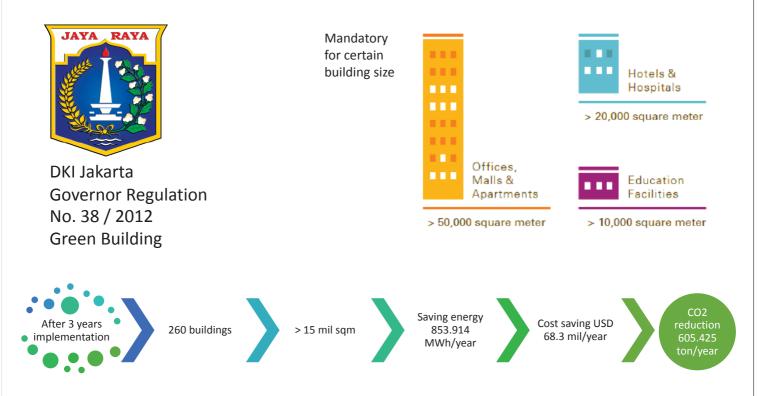
Green Building Philosophy











Data source: <u>https://greenbuilding.jakarta.go.id/#</u> \rightarrow design base of NB and self-declare of EB





Bandung City Mayor Regulation No. 1023 / 2016 Green Building







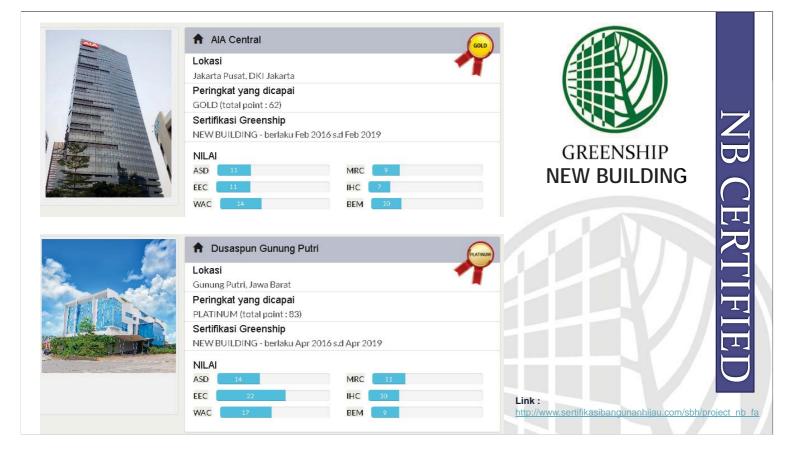
	Subang, Jawa Barat		
	Peringkat yang dicapai PLATINUM (total point : 83)		
	Sertifikasi Greenship NEW BUIDLING - berlaku Jan	2012 s.d Jan 2015	
	NILAI ASD 15	MRC 11	GREENSHIP
	EEC 15	IHC 9	NEW BUILDING
	WAC 21	BEM 12	
	 Gedung Utama Kemer Lokasi 	nterian PU	PATINAM
	Jakarta Selatan , DKI Jakarta		
	Peringkat yang dicapai PLATINUM (total point : 75)		
	Sertifikasi Greenship NEW BUILDING - berlaku Mar	et 2013 s.d Maret 2016	
	NILAI		
	ASD 13	MRC	
Carling and the second	ASD.	and the second	

 Institut Teknologi Science Bandung (ITSB) Lokasi Bekasi, Jawa Barat Peringkat yang dicapai GOLD (total point : 64) Sertifikasi Greenship NEW BUILDING - berlaku Apr 2013 s.d Apr 2016 	
NILAI ASD 13 EEC 19 IHC 6 WAC 12	GREENSHIP NEW BUILDING
Gedung Kantor Bank Indonesia Solo Lokasi Surakarta, Solo	P
Peringkat yang dicapai GOLD (total point : 64) Sertifikasi Greenship NEW BUILDING - berlaku Jan 2014 s.d Jan 2017	E
NILAI ASD 12 MRC 8 EEC 14 IHC 6 WAC 15 BEM 9	Link : http://www.sertifikasibangunanhijau.com/sbh/project_nb_f

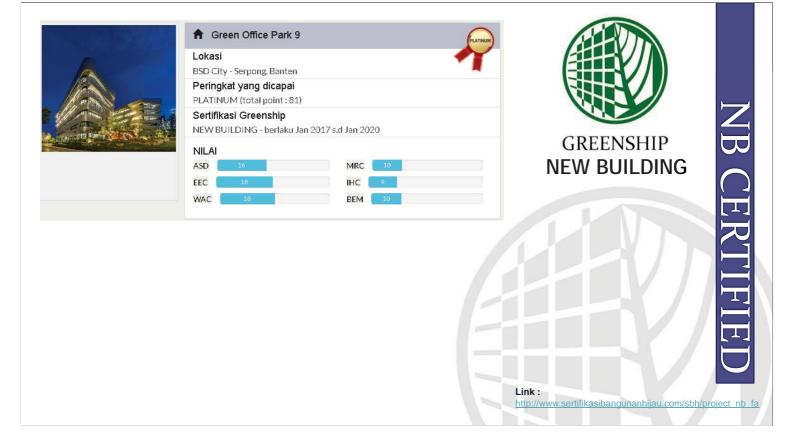
	Alamanda Tower	
	Lokasi	
	Jakarta Selatan, DKI Jakarta	
	Peringkat yang dicapai	
	GOLD (total point : 67)	
	Sertifikasi Greenship	
	NEW BUILDING - berlaku Des 2014 s.d Des 2017	
Contraction of the local division of the loc	NILAI	GREENSHIP 🖵
the second second	ASD 15 MRC 5	
		NEW BUILDING
	WAC 18 BEM 10	
	✿ HIL Main Building Office "Tuban Plant"	
		GOLD
	Lokasi	🕂
	Tuban, Jawa Timur	
	Peringkat yang dicapai	
	GOLD (total point : 59)	
and the second	Sertifikasi Greenship	
	NEW BUILDING - berlaku Maret 2015 s.d Maret 2018	
	NILAI	
	ASD 12 MRC 8	
	EEC 11 IHC 6	
		Link :
	WAC 12 BEM 10	http://www.sertifikasibangunanhijau.com/sbh/project_nb_fa

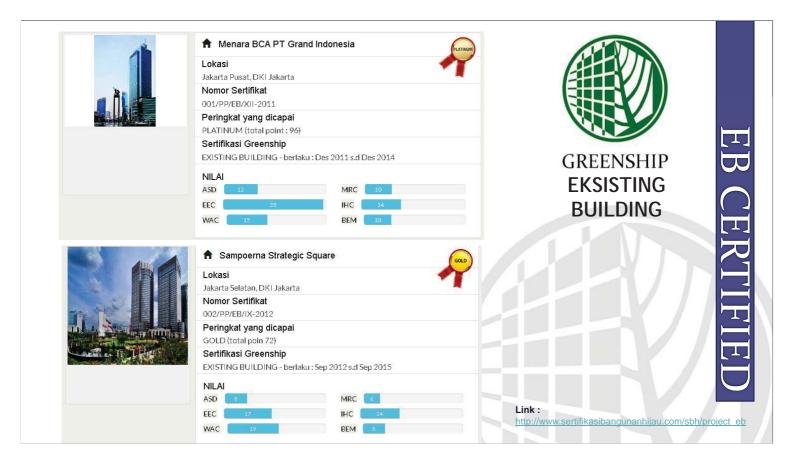
✿ Wisma Subiyanto Lokasi	SILVER
Jakarta Timur, DKI Jakarta	
Peringkat yang dicapai SILVER (total point : 49)	
Sertifikasi Greenship NEW BUILDING - berlaku Apr 2015 s.d Apr 2018	
NILAI	GREENSHIP
ASD 11 MRC 4	NEW BUILDING
EEC 12 IHC 4	
WAC 9 BEM 9	
f Green Office Park 6	
A Green Office Park 6 Lokasi	
Lokasi BSD City - Serpong, Banten	
Lokasi	
Lokasi BSD City - Serpong, Banten Peringkat yang dicapai GOLD (total point : 67) Sertifikasi Greenship	
Lokasi BSD City - Serpong, Banten Peringkat yang dicapai GOLD (total point : 67)	
Lokasi BSD City - Serpong, Banten Peringkat yang dicapai GOLD (total point : 67) Sertifikasi Greenship NEW BUILDING - berlaku Mei 2015 s.d Mei 2018 NILAI	
Lokasi BSD City - Serpong, Banten Peringkat yang dicapai GOLD (total point : 67) Sertifikasi Greenship NEW BUILDING - berlaku Mei 2015 s.d Mei 2018 NILAI ASD 12 MRC 4	
Lokasi BSD City - Serpong, Banten Peringkat yang dicapai GOLD (total point : 67) Sertifikasi Greenship NEW BUILDING - berlaku Mei 2015 s.d Mei 2018 NILAI	

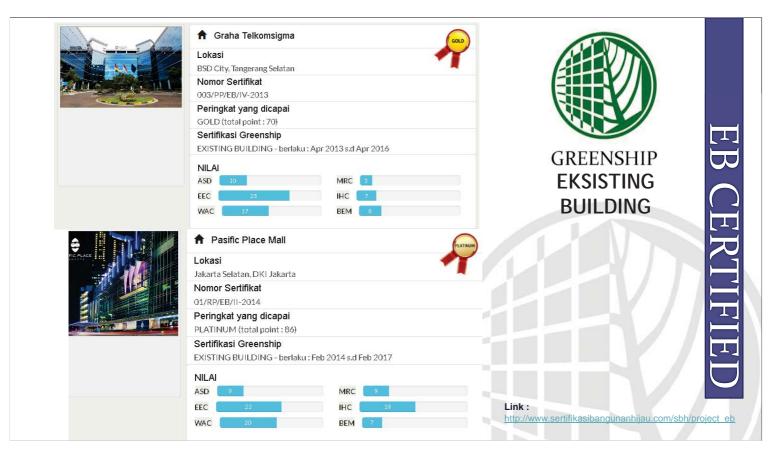
	♠ Santa Fe Indonesia Head Office	
SAATA SP	Lokasi Karanggan - Bogor, Jawa Barat	
	Peringkat yang dicapai GOLD (total point : 64)	
	Sertifikasi Greenship NEW BUILDING - berlaku Nov 2015 s.d Nov 2018	
	NILAI	GREENSHIP
	ASD 10 MRC 5 EEC 21 IHC 7	NEW BUILDING
	WAC 15 BEM 6	
	♠ United Tractors Head Office	
and the NEBR	Lokasi Cakung - Jakarta Timur, DKI Jakarta	
	Peringkat yang dicapai PLATINUM (total point : 75)	
	Sertifikasi Greenship NEW BUILDING - berlaku Feb 2016 s.d Feb 2019	
	NILAI ASD 15 MRC 8	
	EEC 16 IHC 7	
	WAC 19 BEM 10	Link : http://www.sertifikasibangunanhijau.com/sbh/project_nb_fa



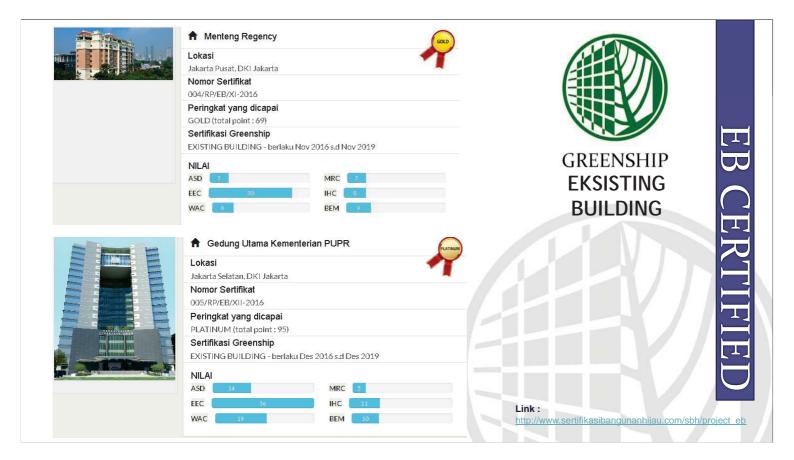
TEN A	♠ Distribution Centre The Body Shop	Indonesia	
	Lokasi Taman Tekno, BSD - Tanggerang Selatan, Bantu		
	Peringkat yang dicapai	511	
and a state of the	GOLD (total point : 58)		
	Sertifikasi Greenship NEW BUILDING - berlaku Sep 2016 s.d Sep 20	019	GREENSHIP
	NILAI		GREENSHIP
	ASD 6 MRC	4	NEW BUILDING
	EEC 18 IHC	5	
	WAC 16 BEM	9	
	✿ Mina Bahari IV	(m)	
	Lokasi Gambir - Jakarta Pusat, DKI Jakarta	1	
	Peringkat yang dicapai GOLD (total point : 63)		
	Sertifikasi Greenship		
	NEW BUILDING - berlaku Des 2016 s.d Des 2	2019	
		2019	
	NEW BUILDING - berlaku Des 2016 s.d Des 2		
	NEW BUILDING - berlaku Des 2016 s.d Des 2	6	







	 ★ Sequis Centre Lokasi Jakarta Selatan, DKI Jakarta Nomor Sertifikat 002/RP/EB/VII-2015 Peringkat yang dicapai GOLD (total point : 71) Sertifikasi Greenship NEW BUILDING - berlaku Juli 2015 s.d Juli 2018 		GREENSHIP
	NEW BOILDING - DEnakti Juli 2013 s.d Juli 2018 NILAI ASD 6 MRC 1 EEC 39 IHC 8		
	 ★ Gedung Waskita Lokasi Jakarta Timur - DKI Jakarta Nomor Sertifikat 003/RP/EB/XI-2015 Peringkat yang dicapai GOLD (total point : 71) Sertifikasi Greenship EXISTING BUILDING - berlaku : Nov 2015 s.d Nov 	2018	
I ALL MAN	NILAI ASD 6 MRC 4 EEC 19 IHC WAC 17 BEM 1	17 Link : http://www	w.sertifikasibangunanhijau.com/sbh/project_eb

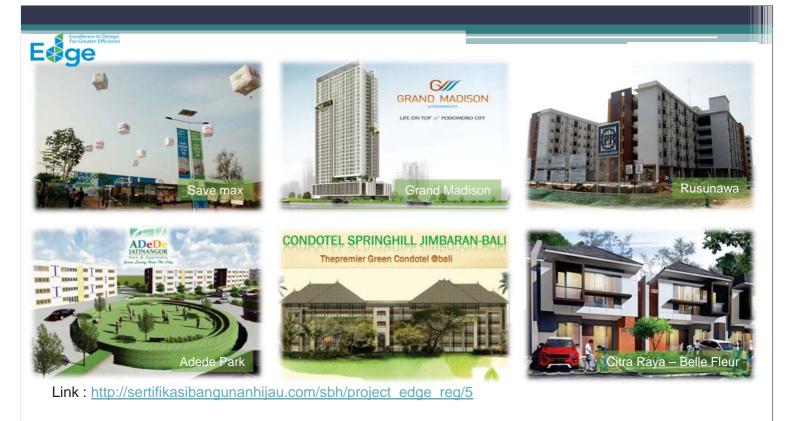


	Lokasi		
	📮 🛛 Jakarta Selatan, DKI Jakar	ta	
The state of the s	Nomor Sertifikat		
	002/PP/IS/XI-2016		
	Peringkat yang dicapa		
	PLATINUM (total point : 6	59)	
	Sertifikasi Greenship		
	INTERIOR SPACE - berlak	u : 9 Nov. 2016 s.d 9 Nov. 2019	
	NILAI		GREENSHIP
	ASD 9	MRC 19	
	EEC 11	IHC 17	INTERIOR
	WAC 0	BEM 13	SPACE
A MARINE MARINE	🔒 PT. L'Oreal Indone	osia	
	Lokasi	PLATE	
	Jakarta Selatan, DKI Jakar	+2	
	Nomor Sertifikat		
	001/PP/IS/I-2014		
	Peringkat yang dicapa	1	
	PLATINUM (total point : 7		
	i la trittori (totai pointi)	2002	
	Sertifikasi Greenshin		
	Sertifikasi Greenship INTERIOR SPACE - berlak	u : 1 Juli 2014 s.d 1 Juli 2017	
		u : 1 Juli 2014 s.d 1 Juli 2017	
	INTERIOR SPACE - berlak	u : 1 Juli 2014 s.d 1 Juli 2017 MRC 19	
	INTERIOR SPACE - berlak		









E ge



Thank

Green building council indonesia JI. RC Veteran No. 3A/1 Pesanggrahan

Bintaro Jakarta Selatan +62 21 734 3077 info@gbcindonesia.org

- **f** Green building council i@goorsionesia Glic indonesia Glic indonesia

5.5 Presentation Materials of Japanese Companies



ENERGY SAVING PROGRAM

total energy management services (tems) by AZBIL

INTRODUCTION

PT. Azbil Berca Indonesia

A joint venture between :

Azbil Corporation



PT. Berca Indonesia

and



PT. Azbil Berca Indonesia was formed to enable us to work more closely with Indonesia customers in the engineering and support of optimum automation solution.

Biggest Potential for Energy Saving

On which part that we can do energy saving in the building?



System

Chiller, Pump, Cooling Tower optimization etc.



Air Ventilating System

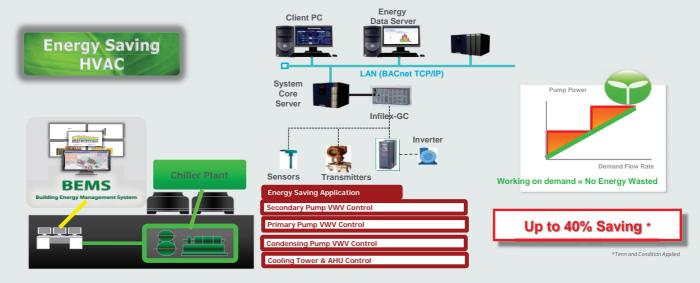
Optimize Exhaust Fan, speed control with variable speed drive, etc.

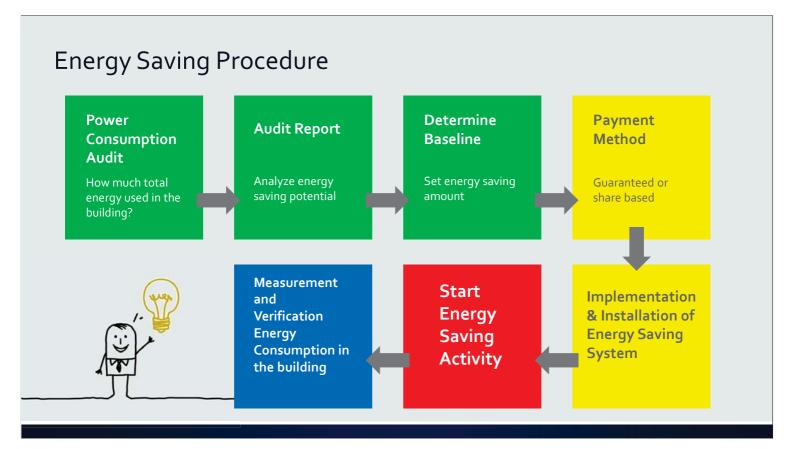


Lighting System

Lighting zone control, change to LED, motion sensor installation

total energy management services (tems)



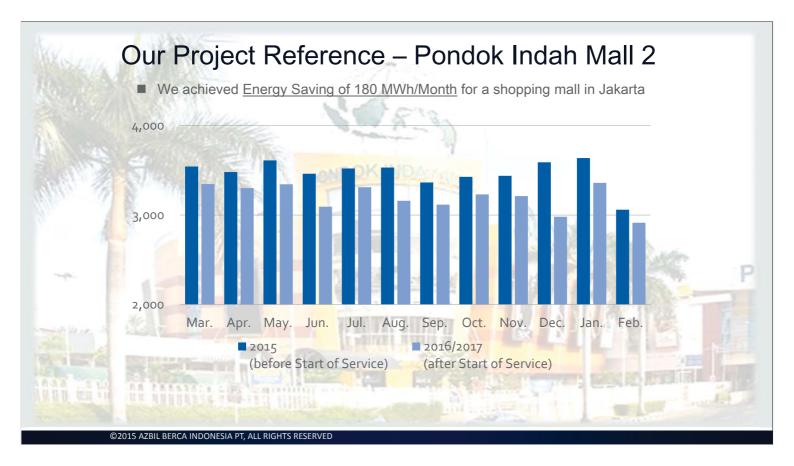


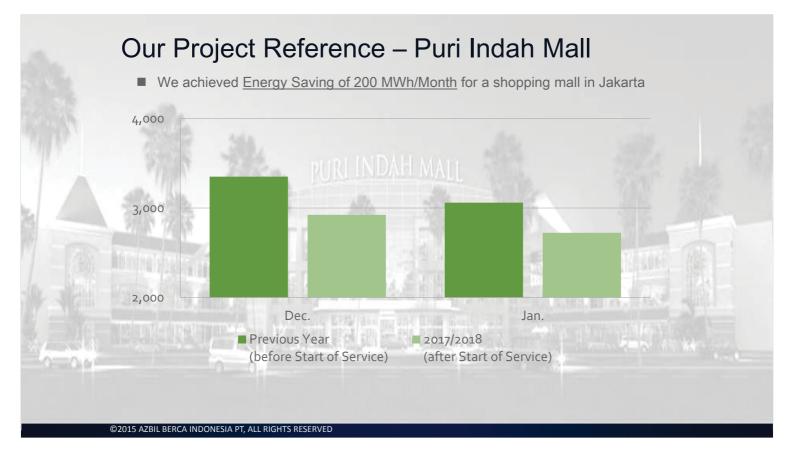
Energy Health Check 1 : Output (Sample)

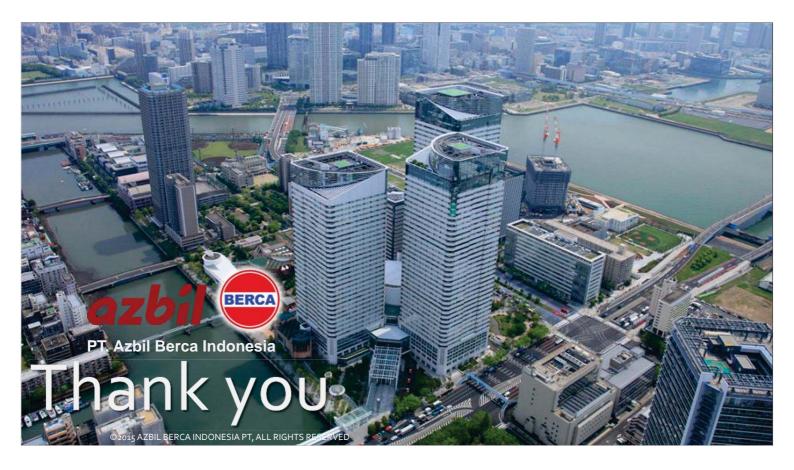
ROI : 2 years

		Energy Consumption		Energy Saving		
No.	Menu	Before	After	Saving Amount	Saving Rate	Cost Saving
1	Primary Pump VWV* Control	864.102	459.563	404.539	47	485.446,8
	*VWV: Variable Water Volume	[kWh/Y]	[kWh/Y]	[kWh/Y]	[%]	[kIDR/Y]
2	Secondary Pump VWV Control	1.945.031	1.026.186	918.845	47	1.102.614
	*VWV: Variable Water Volume	[kWh/Y]	[kWh/Y]	[kWh/Y]	[%]	[kIDR/Y]
3	Condensing Pump VWV Control	1.610.134	975.038	635.096	39	762.115,2
	*VWV: Variable Water Volume	[kWh/Y]	[kWh/Y]	[kWh/Y]	[%]	[kIDR/Y]
4	Cooling Tower VAV* Control	279.444	174.373	105.071	38	126.085,2
	*VAV: Variable Air Volume	[kWh/Y]	[kWh/Y]	[kWh/Y]	[%]	[kIDR/Y]
5	High Efficiency Chiller	6.757.464 [kWh/Y]	5.405.971 [kWh/Y]	1,351.493 [kWh/Y]	20 [%]	1.621.791 [kIDR/Y]
	Total	11.456.175 [kWh/Y]	8.041.131 [kWh/Y]	3.415.044 [kWh/Y]	30 [%]	4.098.052,2 [kIDR/Y]

Energy Saving: ▲30%









Business Matching on JCM City-to-City Collaboration between DKI-JKT and Kawasaki



2018/02/08 PT. Fuji Furukawa E & C Indonesia

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PT. Fuji Furukawa E&C Indonesia Company profile

Profile

Name	PT. FUJI FURUKAWA E&C INDONESIA	
H.Q.	Sucaco Building, 4th Floor, Jl. Kebon Sirih	
	No. 71, Jakarta Pusat, DKI Jakarta 10340	
	INDONESIA	
Capital	4,950 million IDR	
Establishment	2013/10	
Employees	NS: 19 local staff, Japanese: 4 person	
President	Otsubo Fumiaki	

VIETNAM PHILIPPINES MALAYSIA BRUNEI INDONESIA Takana

Business

Details	1. Electric equipment work
	2. Electric instrumentation work
	3. Air conditioning and plumbing work
	4. Telecommunication equipment work
	5. Construction work
	6. Trade
	7. Business of other relating to above work

Cilegon Site	Kawasan Industri Krakatau Warnasari, Citangkil, Warnasari, Citangkil, Kata Cil

Key base

Office	Warnasari, Citangkil, Warnasari, Citangkil, Kota Cilegon, Banten 42443
Karawang Site Office	Kawasan Industri Kota Bukit Indah Purwakarta, Dangdeur, Bungursari, Dangdeur, Bungursari, Kabupaten Purwakarta, Jawa Barat 41811





① Energy Conservation & Energy Saving Measures

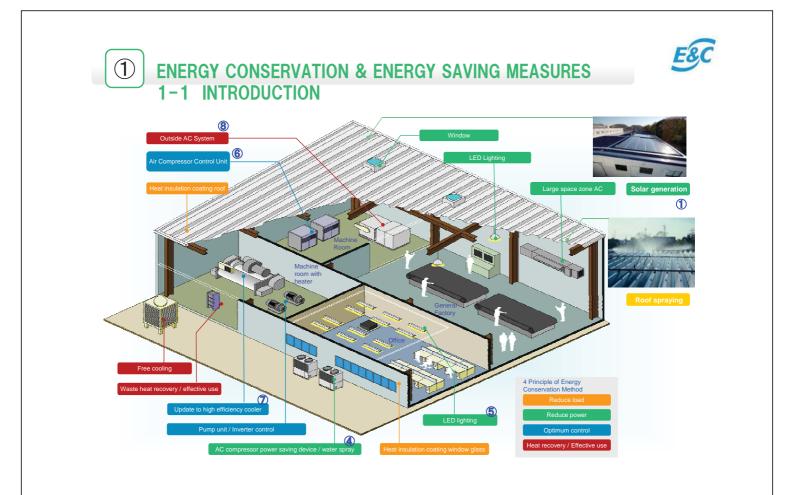
- 1. Introduction
- 2. Specific energy saving & conservation cases

JCM Project

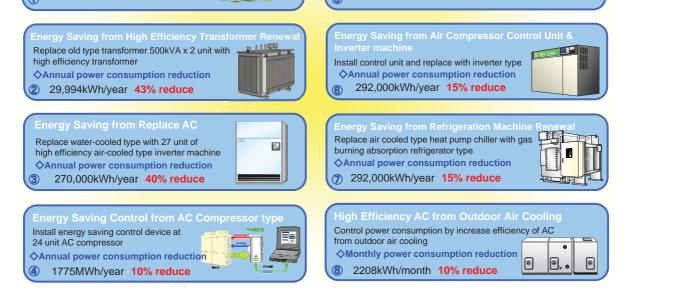
- 1. Solar PV & Energy Storage System at AEON-JGC
- 2. Heat Pump System

③ Floating PV Project Case

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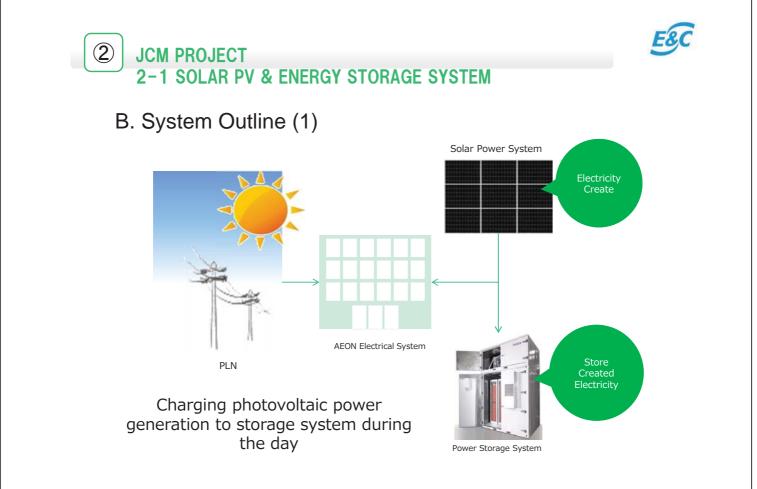
A. Project Outline

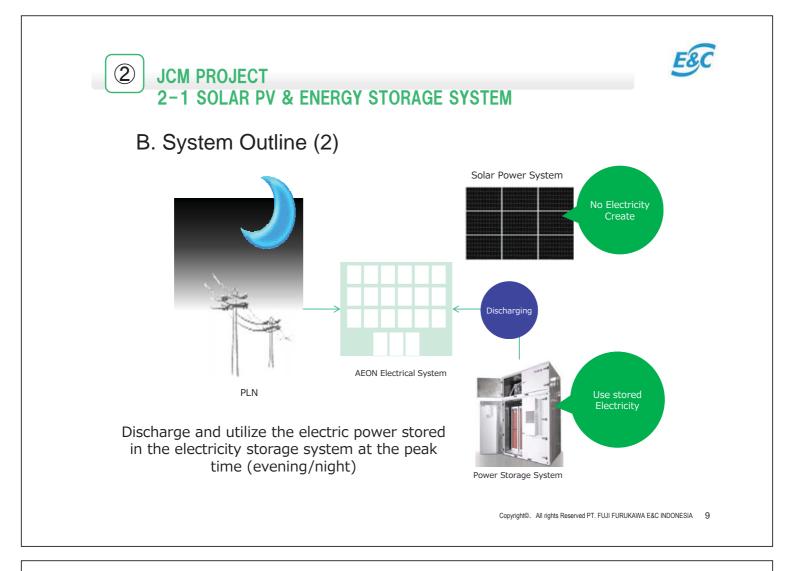
Description of AEON JGC PV Project

PT. Fuji Furukawa E&C Indonesia responsibility in this project is Engineering, Procurement and Construction of Solar PV & Energy Storage System for 2nd Store of AEON Mall in Indonesia. This unique collaboration system utilized Joint Crediting Mechanism (JCM) subsidy scheme

Project Name	Solar PV & Energy Storage System
Scope of Work	EPC of 507kWp Solar PV & Energy Storage System
Location	Jakarta Garden City, Cakung – East Jakarta
Project Owner	PT. AEON Mall Indonesia
Completed year	2017

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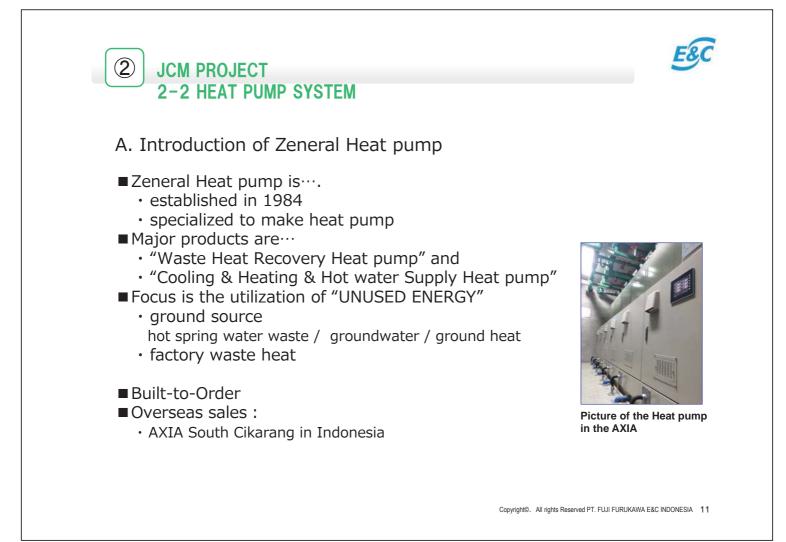
C. Benefit

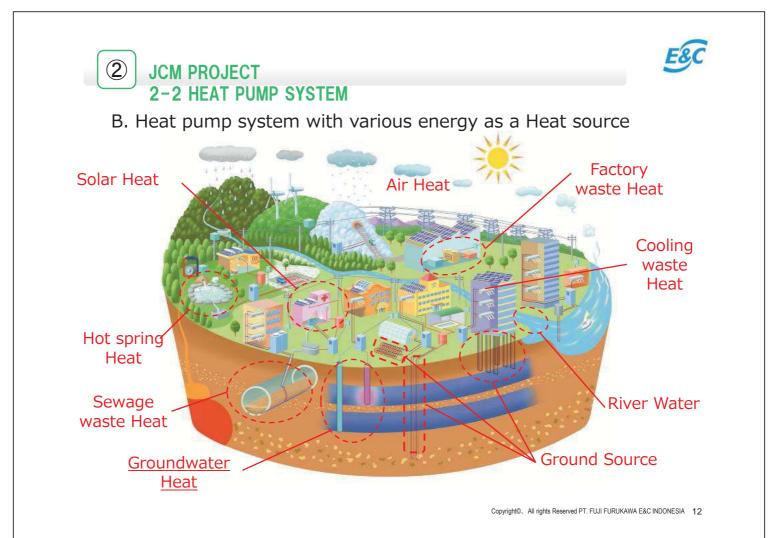
Duration	Energy Generated (kWh)
For the 1 st year	738,512 kWh
Accumulative for the duration of 10 Years	7,118,192 kWh
Accumulative for the duration of 25 Years	16,683,263 kWh

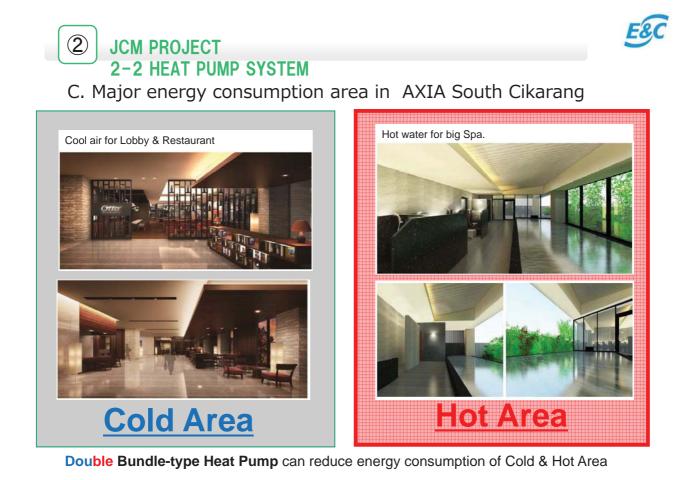
Condition/Assumptions:

- 1. PV Performance depreciation of 0.8% per year
- 2. Sun hours in Jakarta is 4.77 hours based on NASA data
- 3. PV Panels are tilted 5 degrees facing towards equator 4. PV system performance ratio is 84% after deducting PV
- PV system performance ratio is 84% after deduct heat loss, Inverter loss and cable loss

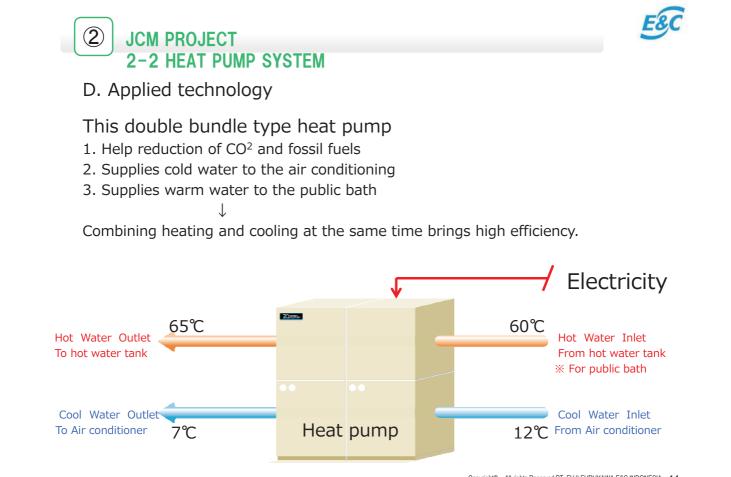




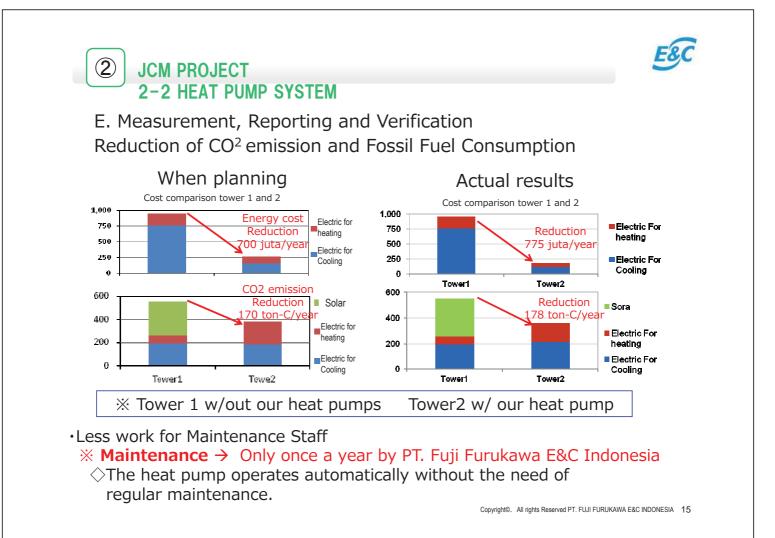




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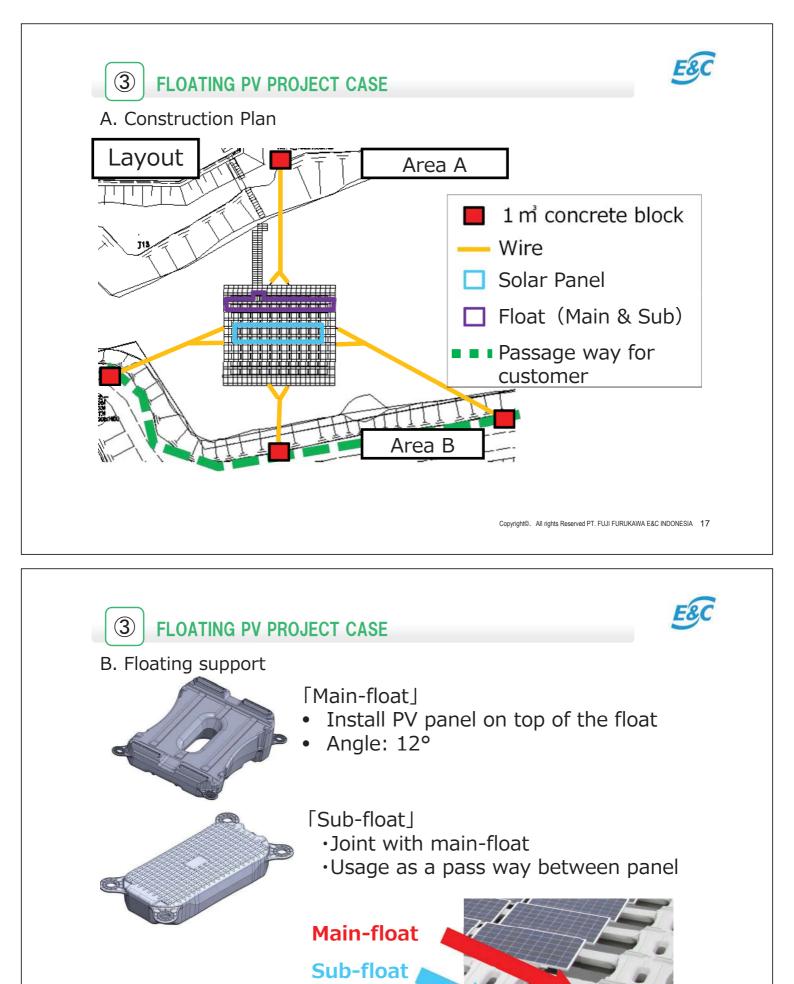


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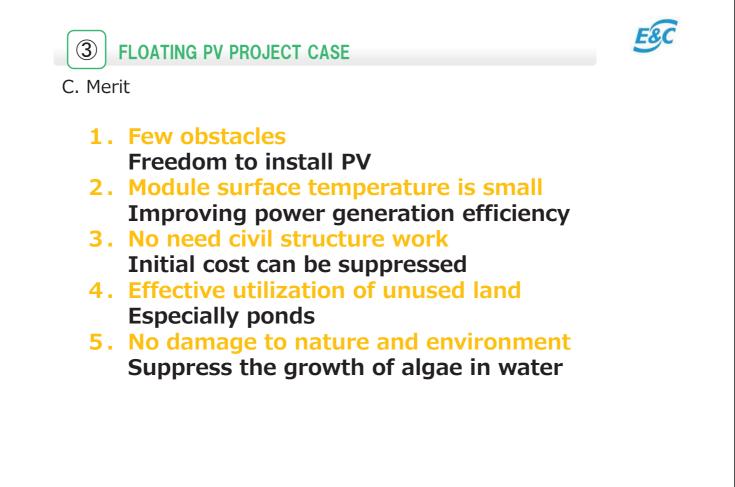


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Actual Pic

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Thank you for your cooperation.

Contact Information:

PT. Fuji Furukawa E&C Indonesia

Sucaco Building, 4th Floor, Jl. Kebon Sirih No. 71, Jakarta Pusat, DKI Jakarta 10340 INDONESIA TEL 021 3100 509 FAX 021 3983 6434 Syed Kadir syed@ffec.co.id



Creating new values from Finance × Services × Business Expertise Tokyo Century Corporation

Achievement of Tokyo Century Group with the Joint Credit Mechanism

February 8, 2018

TOKYO CENTURY CORPORATION PT Century Tokyo Leasing Indonesia

Agenda

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- 1. Introduction(Company Background)
- 2. Leasing Scheme with JCM
- 3. Case Study
- 4. JCM Application Schedule (FY 2018, Estimated)



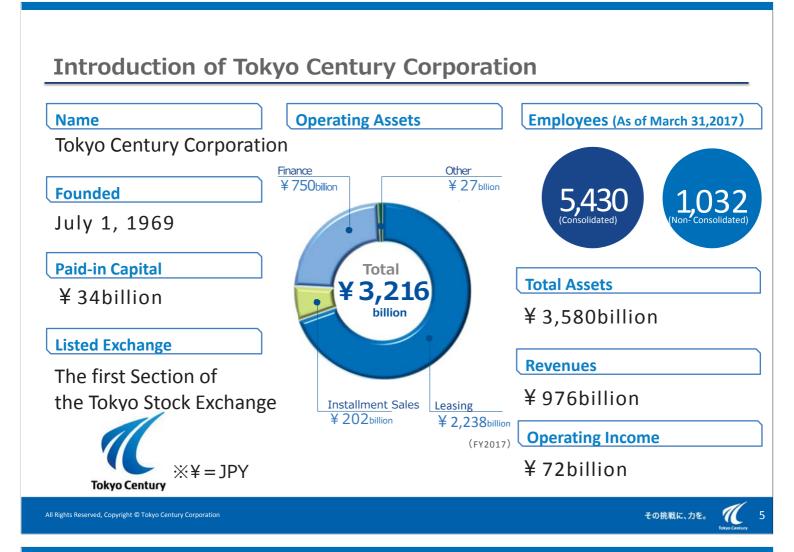
1. Introduction

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Summary : Achievement of Tokyo Century Group with JCM

- Tokyo century corporation is <u>the first Japanese</u> <u>financial services company</u> which undertakes <u>a</u> <u>representative participant on JCM model project</u>.
- <u>3 projects</u> which Tokyo century corporation undertook a representative participant are selected as JCM model project. <u>One project in</u> <u>Jakarta, Indonesia</u> and two projects in Manila, Philippines.

その挑戦に、力を。



Overseas Network of Tokyo Century



Japan Desk

TATA Capital Financial Services Limited

Equity-Method Affiliates

- President Tokyo Corporation Tong-Sheng Finance Leasing Co., Ltd.
- Dalian Bingshan Group Hua Hui Da Financial
- Leasing Co., Ltd. Suzhou New District Furui Leasing Co., Ltd.
- BPI Century Tokyo Lease & Finance Corporation ■ PT. Hexa Finance Indonesia
- GA Telesis, LLC

Consolidated Subsidiaries

□ Tokyo Century Leasing China Corporation. Tokyo Century Factoring China Corporation □ Tokyo Century Leasing (Singapore) Pte. Ltd. Tokyo Century Capital (Malaysia) Sdn. Bhd. PT. Century Tokyo Leasing Indonesia **D**PT. TCT Indonesia □ TISCO Tokyo Leasing Co., Ltd. □ TC Advanced Solutions Co., Ltd. TC Car Solutions (Thailand) Co., Ltd. □ HTC Leasing Co., Ltd. □ Tokyo Leasing (Hong Kong) Ltd. □CSI Leasing, Inc. Tokyo Century (USA) Inc. TC Aviation Capital Ireland Ltd. TC Skyward Aviation U.S., Inc. TC Skyward Aviation Ireland Ltd. Tokyo Leasing (UK) Plc

その挑戦に、力を。

Introduction of PT. Century Tokyo Leasing Indonesia

٠	Name	PT. Century Tokyo Leasing Indonesia(CTI)
٠	Business lineup	Leasing, Invoice financing, Factoring
٠	Address	WISMA KEIAI 11 th Floor (well known as Wisma Kyoei Prince) Jl. Jend. Sudirman Kav.3 Jakarta
٠	President Director	Yasuhiro Nakai
٠	Founded	February, 2011
٠	Shares	Tokyo Century Corporation85%PT. Sinar Mas Multiartha Tbk. 15%
٠	Capital	IDR 300 Billion

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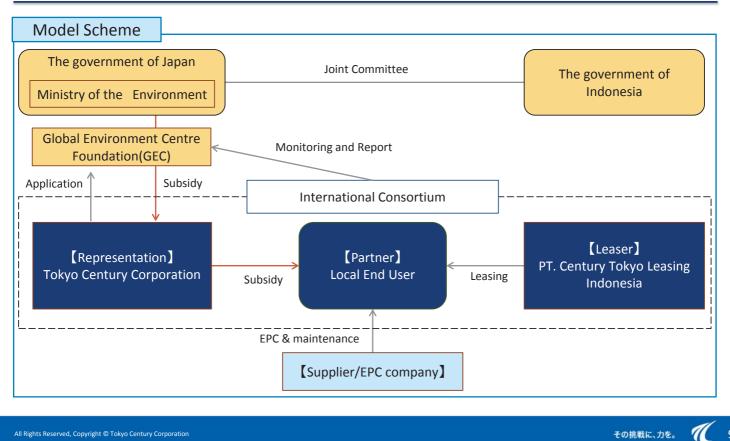


2. Leasing Scheme with JCM



Strictly Confidential

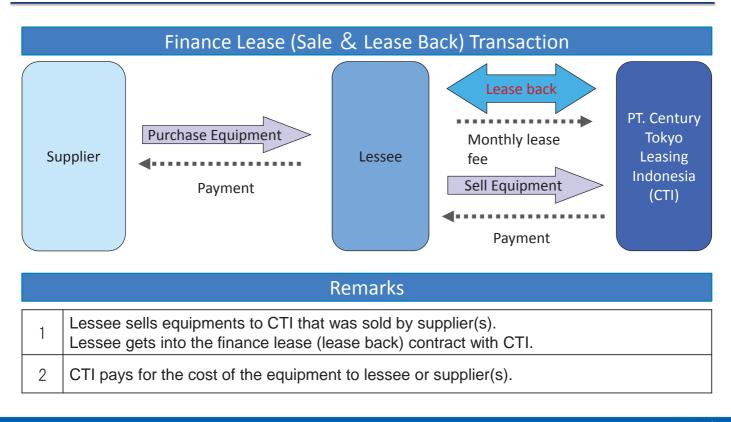
JCM scheme with Tokyo Century Group



Roles of Each Parties

Representation	 Application to and negotiation with GEC Project management Monitoring and report the amount of CO2 emission reduction
Local Participant	 Installation of the facility using low carbon technology Deliver the data necessary to calculate CO2 emission reduction
PT. Century Tokyo Leasing Indonesia	FundingSupporting local participant
Supplier/EPC company	 Engineering and construction Maintenance of the facility Monitoring and report the amount of CO2 emission reduction
Consultant	 Supporting Application to and Negotiation with GEC Developing methodology of CO2 emission reduction

Leasing in Indonesia 1



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Leasing in Indonesia 2

Cash Flow Image(Example)	Accounting and Tax		
	Lease Contract	Accounting Treatment	Tax Treatment
 Lease fee Depreciation cost 	Finance Lease	ON Balance sheet	Tax Deductible
: Residual value(<i>nominal amount</i>)	Advantages		
Lease term (5Years)	Tax AdvantageLease fee can be treated as deductible expenses.		
	 Long Term Fixed Interest Rate CTI offer long term fixed interest rate which help lessees financing strategy. 		
Depreciation (8Years)	Cash FlowFlexible lease payment enhance cash flow management.		

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11

3. Case Study

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JCM Project in Indonesia

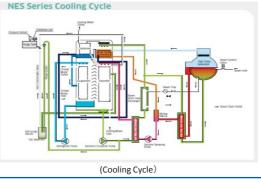
JCM Projects in FY2017 (2nd call) / Host Country : Indonesia

Name: Introduction of Absorption Chiller to Chemical Factory Participants: [Japan] Tokyo Century Corporation [Indonesia] PT. Timuraya Tunggal

Outline of GHG Mitigation Activity

- This project is to install an absorption chiller to the chemical factory of PT Timuraya Tunggal in Karawang, West Java Province.
- The absorption chiller produces chilled water from wasted steam, and reduces the power consumption of electric chiller and GHG emission.
 NES Series Cooling Cycle





Expected GHG Emission Reduction

917 tCO2/year =(Reference CO2 emissions)[tCO2/year]-(Project CO2 Emission) [tCO2/year]

その挑戦に、力を。

JCM Project in Philippines ①

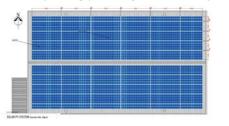
JCM Projects in FY2017 (1st call) / Host Country : Philippines

Name : : Introduction of 1.53MW Rooftop Solar Power System in Auto Parts Factories Participants : [Japan] Tokyo Century Corporation

[Philippines] Enomoto Philippine Manufacturing, Inc./Aikawa Philippines, Inc

Outline of GHG Mitigation Activity

- This project is to install 1.53MW solar panel on the rooftop of the Enomoto Philippine's factory and the Aikawa Philippines's factory in the south of Manila.
- Electricity generated by solar system is used for their power-consumption and reduce CO2 emissions by displacing part of grid electricity.



(Solar Panel Layout for Enomoto Factory)



175W x 3,328 panel = 582.4kW (Source:http://www.aikawanetw.co.jp)



175W x 5,408 panel = 946.4kW (Source:http://www.enomoto.co.jp)

その挑戦に、力を。

Expected GHG Emission Reduction

1,124 tCO2/year =(Reference CO2 emissions)[tCO2/year]-(Project CO2 Emission) [tCO2/year]

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JCM Project in Philippines 2

JCM Projects in FY2017 (2nd call) / Host Country : the Philippines

Name : Installation of 1.2MW Rooftop Solar Power System to the Cold Storage Participants : [Japan] Tokyo Century Corporation [Philippines]TRANSNATIONAL UYENO SOLAR CORPORATION(TUSC)

Outline of GHG Mitigation Activity

- This project is to install 1.2MW solar panel on the rooftop of the cold storage in Manila. TUSC own and operate the solar panel.
- Electricity generated by solar system is supplied to owner of the storage and reduce CO2 emissions by displacing part of grid electricity.

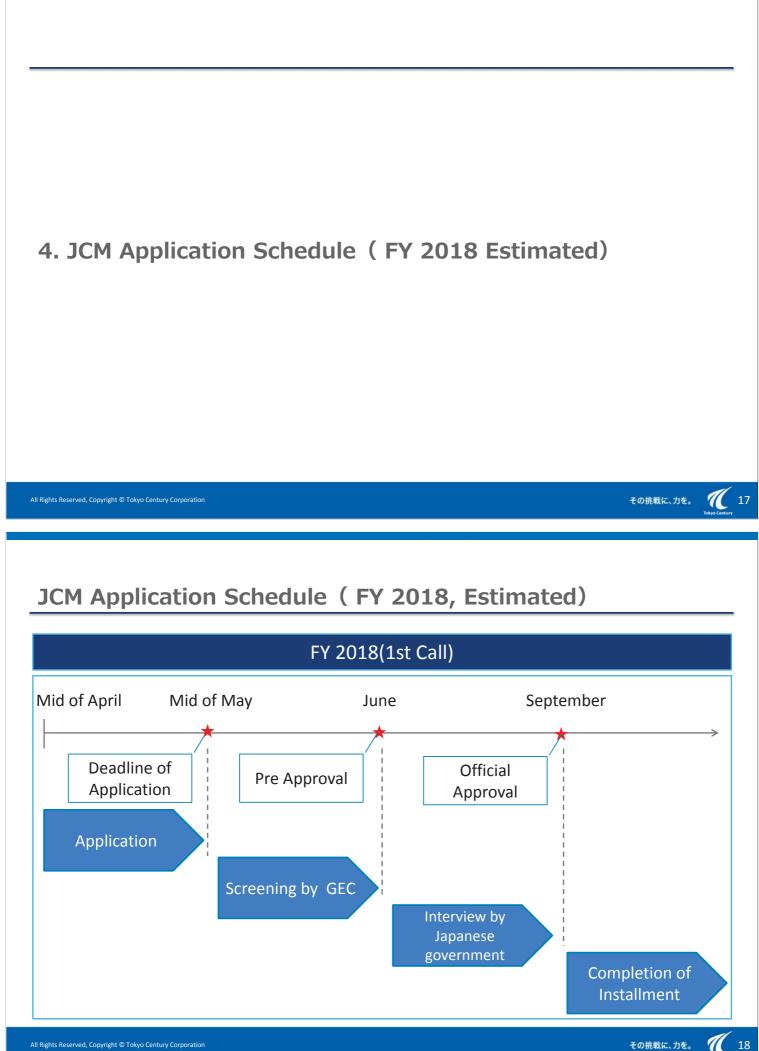




(Photo of the Project Site)

Expected GHG Emission Reduction

838.13 tCO2/year =(Reference CO2 emissions)[tCO2/year]-(Project CO2 Emission) [tCO2/year]



Thank You

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その挑戦に、力を。 🀔 19

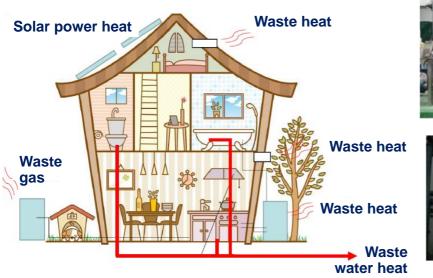


MDI

Heat Exchange System Solution

MDI can provide total heat exchange solution not only building (housing) but also factory.



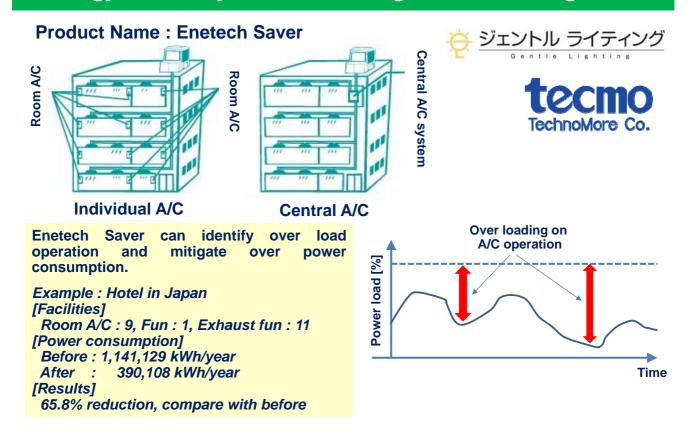




Any HEAT can utilize for other purpose for energy saving !

Gentle Lighting and TECMO

Energy control system on building air conditioning



CSMaster - Green Building System

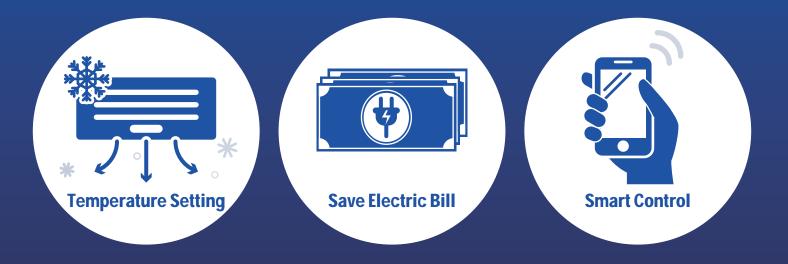






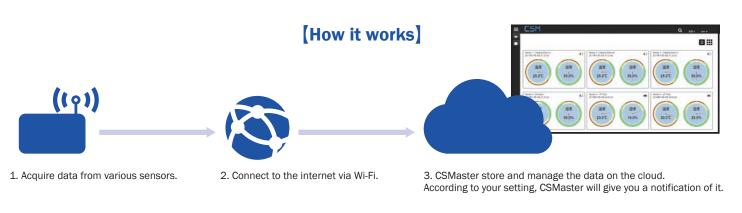
Are you tired with central air conditioning problems?

CSGreen will provide you a comfortable office environment with low cost. No need to disassemble current existing system.



CSMaster

CSMaster (Cloud Sensor Master) is a cloud-based service to store and manage temperature, humidity and human presence sensor information. CSMaster's Air Conditioning Control System, "CSGreen" can control each floor central air conditioning efficiently by using data from the sensor.

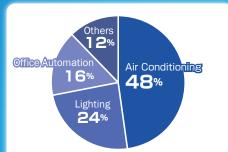


3 things Air Conditioning Control System



AC Temperature Setting

Have you ever feel freezing by the AC? CSGreen will check any change of the temperature and humidity of each floor due to human presence, weather, and temperature outside.We will provide a comfortable environment for you.



Average rate of power consumption of an office building. (Statistic from Agency for Natural Resources and Energy, Japan)

Cut Electric Bill

Statistics show us, about 50% of power consumption in the office building is come from air conditioning.

Reduce electricity bill by about 15% per year by reviewing the consumption of air conditioning with CSGreen.



Smart Control of Air Conditioning

CSGreen can control the air conditioning by your PC or smart phone from anywhere, at any time.

You can use your time efficiently!

Furthermore, our company would appreciate any addition request regarding the system.

Reference Price

Estimation price for a 4 floor building (1,400m²)

Initia	al Cost	370,000 JPY
Q	Temperature and Humidity Sensor	4,000 JPY
Operational F (monthly)	Air Conditioner Controller Management Fee	4,000 JPY
onal Fee hthly)	Electric Damper Controller Management Fee	e 4,000 JPY
ee	Router Device	1,500 JPY
Tota	I Expenses	13,500 JPY (Annual: 162,000 JPY)

*The expenses mentioned above are for reference purpose only. Please contact us for more information.

Contact us here:

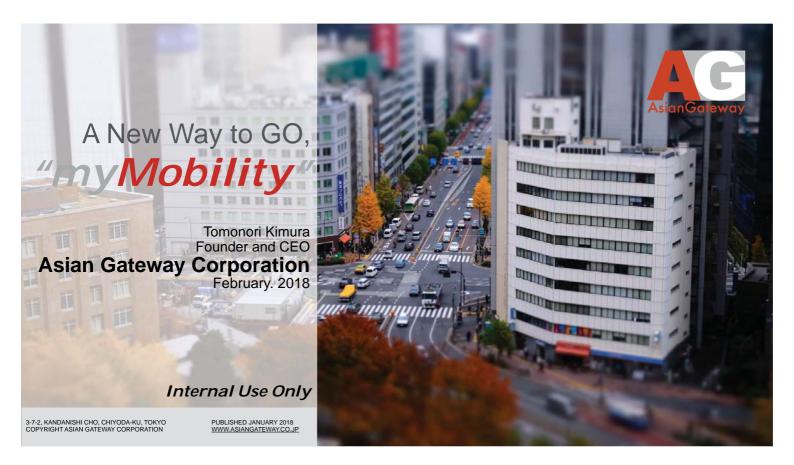
PT. Softem Mitra Indonesia

https://www.sm-i.co.id/ NHB Building - 4th Floor Jalan Melawai Raya no 14 Jakarta Selatan, Jakarta Raya Tel: 021-720-5725 Fax: 021-725-5830



SOFTEM CO., LTD.

https://www.softem.co.jp/ Kawasaki Frontier Building 5F, 11-2 Ekimae Honcho, Kawasaki-ku, Kawasaki, Kanagawa 210-0007, Japan Tel : +81-44-245-0975 6 Others (Proposal Document on Urban Transportation)



Moving Forward: Our Aim

Our aim is to ensure that all the world has an effective, innovative and sustainable "myMobility" Service using light ZEV (Zero Emission Vehicle) for seamless transportation.



"We're very mindful of the trends towards the shared economy. In the near future, we might find ourselves selling a suite of transportation services, in lieu of today's traditional vehicle sale" – Mike Tinskey, Ford Motor Company

Mobility Service Provider (MSP):

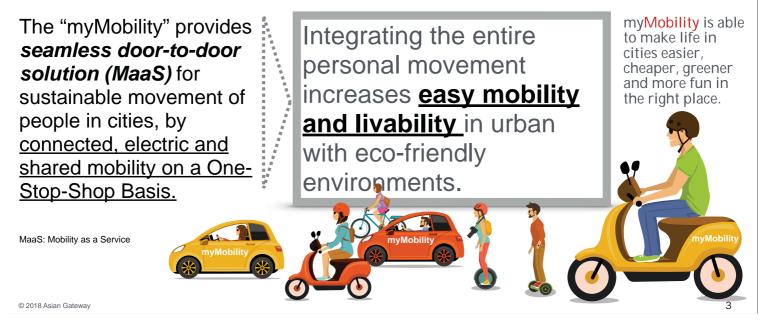
A company offers transportation service to users of light ZEV through connected internet service.

© 2018 Asian Gateway

"myMobility", Definition and Benefit

Definition (Our Mission)

Benefit (Our Vision)

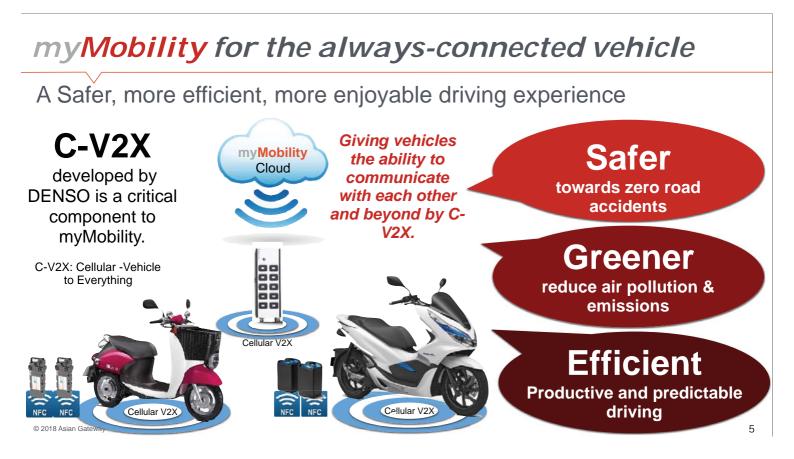


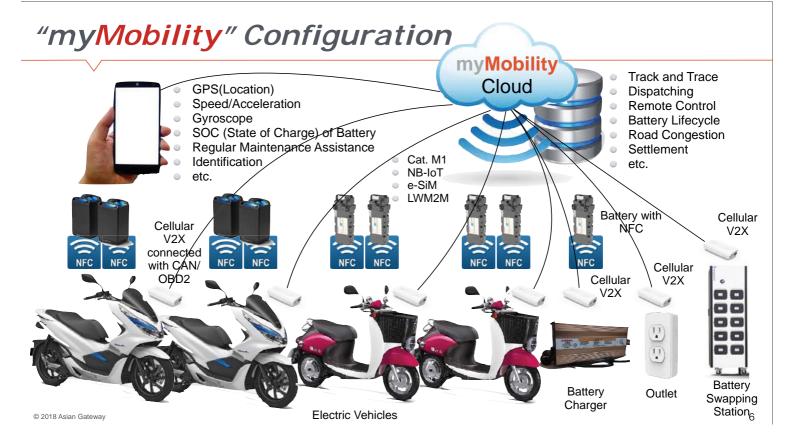
Light ZEV Sharing service model

Owner				
Peer-to-Peer	Shared use of private ZEV typically managed by	Individual sublease or subscribe to a ZEV owend by a	Fractional Ownership	
Lending Shopping	third party	third party	 Commuting/ZEV-carpooling Delivering Visiting on customer 	
• Sightseeing • Shopping • ZEV-carpooling	Roundtrip, Pay by the hour/mile or daily, Non- profit as public	Pay by the minute, Point to point, Fleet	 Always Commuting by ride sharing Shopping/Eating Transit on Public Transport 	
Roundtrip		operated, Street parking agreements	One-way	

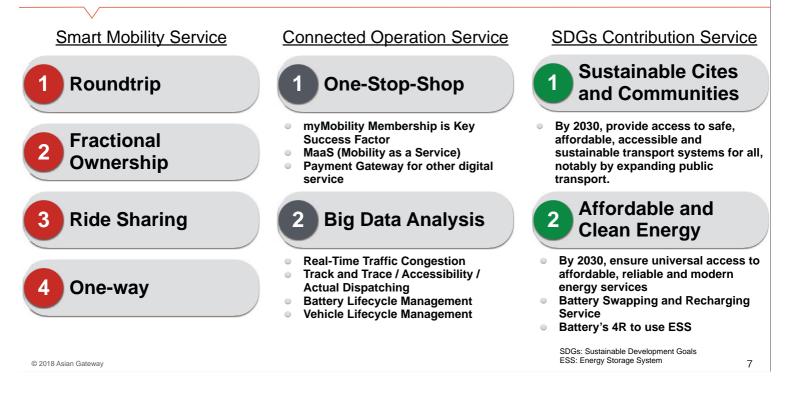
User

ZEV : Zero Emission Vehicle





myMobility Services for Bikesharing



"norinori" in Siem Reap



- Roundtrip Yamaha E-VINO with100 units to be rented by international tourist at over five star hotel in Siem
- No need for driver license

Reap 2018

- No need for leaving passport at shop or station
- Inclusive Service. Navigation, Insurance, emergency dispatch, Hotline and Helmet, with 35\$ for driving inside Angkor Park and City as you like for a full 24 hours

"myMobility" such as ownership



Smart Mobility Service

myMobility is able to do driving cost saving, cleaner air and effective/productive business.



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- Subscription basis with \$70 per month and Battery Swapping by \$1 per a battery cartridge
- Commercial usage at Bank, Police, sales office, customer service etc.,
- Delivery usage for post, pizza etc.,
- Closed Community Bikesharing, mainly roundtrip
- Bike-pooling for Commute
- Cost Effective and Eco-Friendly (SDGs)
- Productive Business

"myMobility" as a taxi service

Smart Mobility Service

myMobility is able to contribute less traffic, cleaner air and better public transit.



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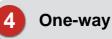




- Early of 2019 start
- First/Last-mile mobility for MaaS
- Seamless transit with Public Transportation Service
- Getting eTaxi connected at your home, your company and bus shelter
- Free of MaaS for commute by your company, located 2km within from Public Transportation Station
- Integrated with UBER/Grab/ GO JEK and e-Ticketing service

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"myMobility" in cities



Smart Mobility Service

myMobility is able to be even better than owning a motorbike in cities.





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- Early of 2020 start
- First/Last-mile mobility for MaaS by Public Sharing connected is able to be rented in half-hour increments for \$3 to \$5.
- One-way up to your favorite place of designated virtual stations
- Option: Peer-to-Peer is renting or borrowing hourly or daily from individuals via myMobility service

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Yamaha E-VINO vs ICE Bike



Yamaha Motor E-VINO (Released 2015)



THANK YOU! FOR YOUR ATTENTION





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