

The 12th Asia-Pacific Eco-Business Forum in Kawasaki



JFE

Case Studies:

Public-Private Collaboration for Waste Management

- Achieving Sustainable Society and Attractive Nation Building

February 18th 2016

Gen TAKAHASHI

Deputy General Manager

Global Business Development

JFE Engineering Corporation

- ▶ **About JFE Engineering**
- ▶ **Collaboration with L. Government**
- ▶ **Case 1 : Yangon (Tokyo - JFE)**
- ▶ **Case 2 : Bangalore (Yokohama-JFE)**



Group Structure




JFE

JFE Holdings
(holding company)

Turnover: **39 billion\$**


Employees: **57,500**

Fortune Global 500:
Ranked in **278**

JFE Engineering

Net Sales (million \$)
3,700

Employees
8,500



JFE Steel

Net Sales (million \$)
29,000

Employees
43,000



Japan Marine United

Net Sales (million \$)
3,600

Employees
6,000



JFE Shoji Trade

Net Sales (million \$)
19,000

Employees
6,000



Business Field



Industrial Machinery & Others



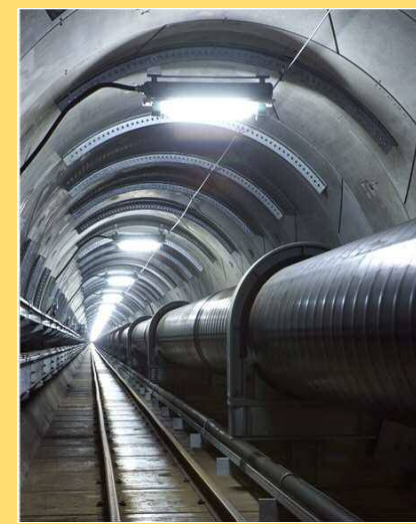
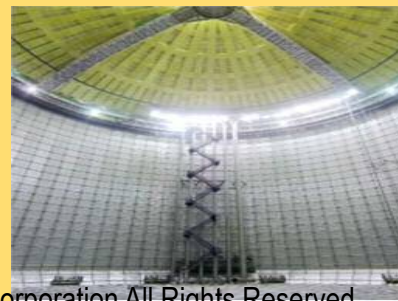
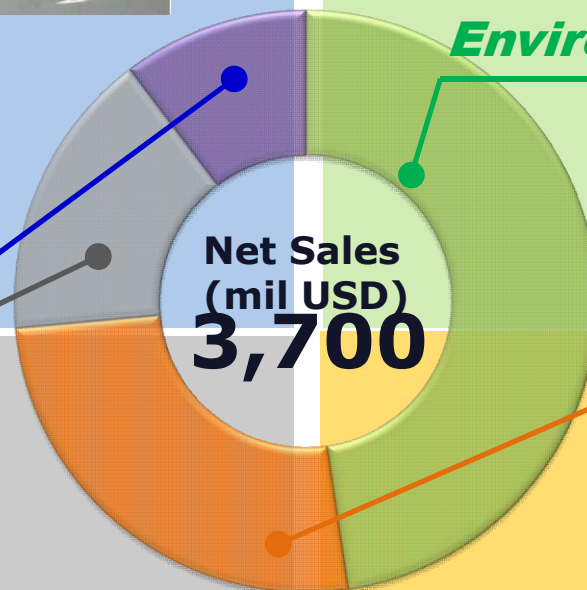
Steel Structure



Environment



Energy Plant & Pipeline



JFE's Environmental Solutions



Municipal Solid Waste



Waste to Energy Plant



RDF Production Plant



RDF Power Plant

Sewage Treatment



Sewage Sludge Incinerator



Power Generation using Digestion Gas

Biomass



Biomass Power Plant

Recycling

JFE KANKYO Corp.
and group companies



Home appliances



PET Plastic bottles



Florescent lamps

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Case Study : Waste treatment facility in City



Asian City Open Dumping Site



Japan Waste to Energy (Incineration) Plant



How?

Public Sector

Capacity Building,
Regulation Setting,
Finance Arranging, etc.



Private Sector

Cutting-Edge Technology,
Smooth and Safe
Operation/Maintenance, etc.

Waste Management Experience in Tokyo



Former Conditions



1930's
Fukagawa Garbage
Treatment Plant

Present Conditions



2010's
Shin-Koto
Incineration Plant



1957
Bell collection
by handcarts



2010's
Waste collection



1970's
Direct landfill disposal
of large-sized waste



2010's
Landfill site

Source: Study Council on International Cooperation for Waste Management, Clean Association of TOKYO 23

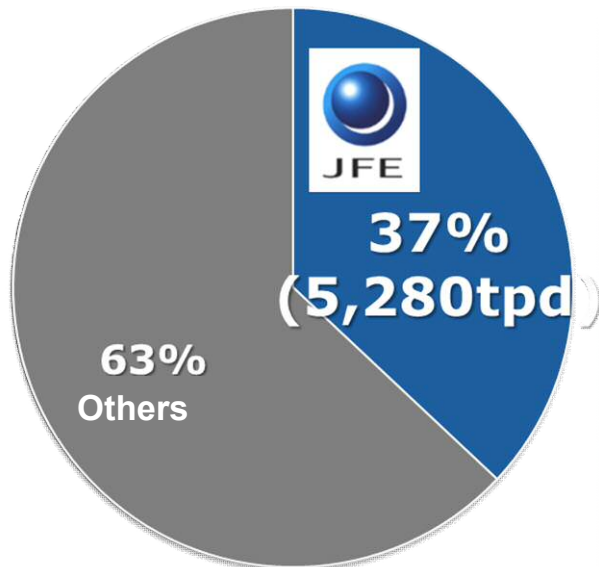
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WTE technology ; Stoker Furnace

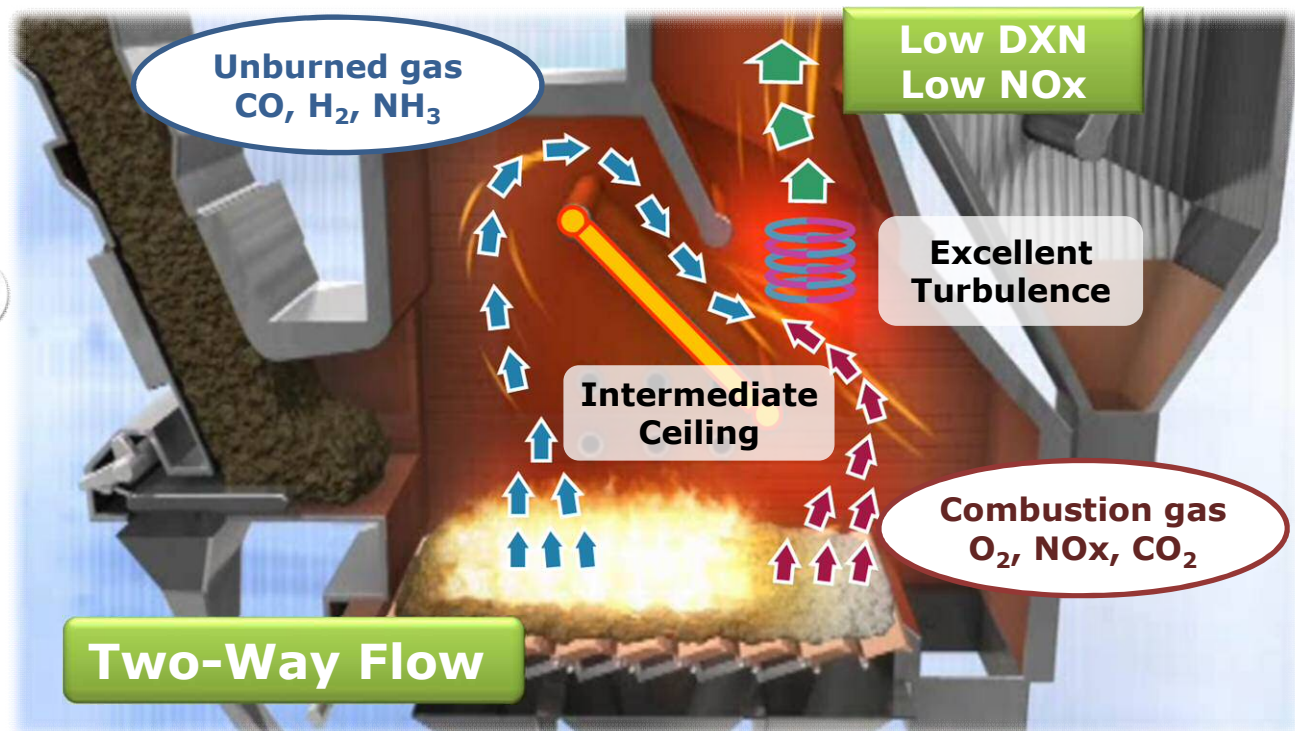


Proven Track Record

Minimization of environmental impact



FY 2007-2011
in Japan



Feasibility Study with Local Government for Asian Cities



[India]
JICA Pre FS: 2014
Waste to Energy in Bangalore
MOEJ JCM Pre FS: 2015
Waste to Energy in Bangalore



[Myanmar]
MOEJ FS: 2012-13
Waste to Energy in Yangon
MOEJ JCM FS: 2014
Waste to Energy in Yangon
MOEJ JCM Project: 2015-17
Waste to Energy in Yangon



[Thailand]
MOEJ JCM Pre FS: 2015
Waste to Energy in Bangkok



[Viet Nam]
JICA PPP FS: 2012-13
Waste to Energy in Da Nang



[Indonesia]
MOEJ FS: 2014
Waste to Energy in Denpasar, Bali



[Malaysia]
MOEJ FS: 2011
Waste to Energy in Kuala Lumpur

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Public – Private Collaboration for implementation of WTE



MOEJ FS Final Reporting Workshop on 14th February 2014

2012

2013

2014

2015

Analysis on current situation

Feasibility Study for **JCM Application**

Knowledge Building and Draft Proposal for **WTE with JCM Scheme**



MOEJ FS Phase1

MOEJ FS Phase2

JCM FS

JCM Model Project

Public – Private Collaboration for implementation of WTE



The Asian Network of Major Cities 21

JICA Program Phase1

JICA Program Phase2



Tokyo Metropolitan Government

Capacity Building for promoting benefit of WTE, 3R initiatives and policy making



2012

2013

2014

2015

Analysis on current situation

Feasibility Study for **JCM Application**

Knowledge Building and Draft Proposal for **WTE with JCM Scheme**



MOEJ FS Phase1

MOEJ FS Phase2

JCM FS

JCM Model Project

Project Overview of Yangon WTE



Image

First WTE Project with JCM

First WTE Project in Myanmar

Counterpart	Yangon City Development Committee
Site	Mingalardon area, Yangon City, MYANMAR
Technology	Waste to Energy(WTE) Incinerator : 60ton/day Generator : 0.7MW
GHG Emission Reduction	4,700t-CO₂/year



Ground Breaking Ceremony on October 10th

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Yokohama City & JFE Engineering



Hokubu Sludge Treatment Plant
Sewage Digestion
Gas Power Generation



Cycle Tree
Fully Automated
Bicycle Parking



**Partnership Agreement
for the International
Technical Cooperation**



**Earthquake Resistant
Drinking Water Storage Tank
Minato Mirai**



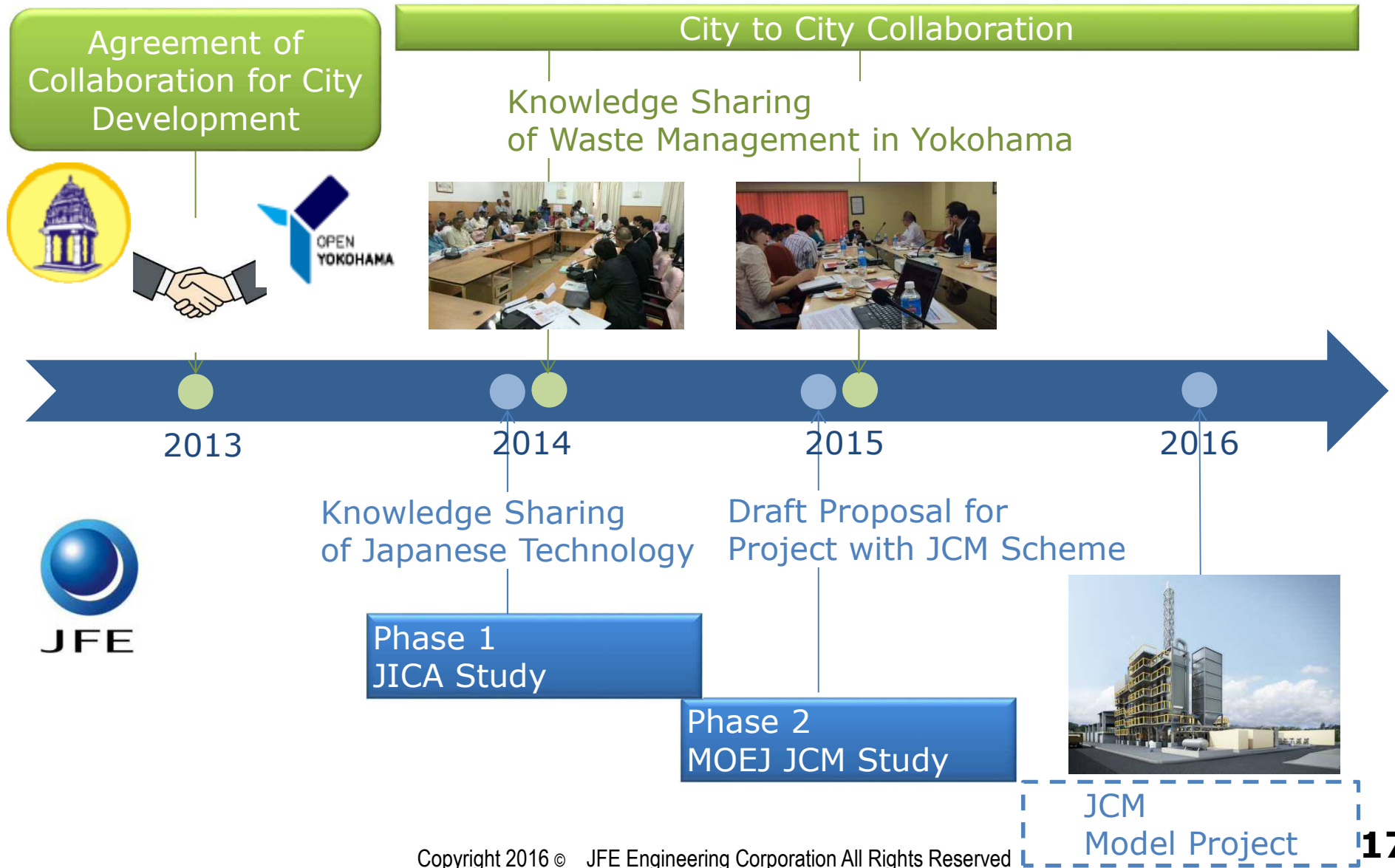
Tsurumi Tsubasa Bridge
3-span continuous
steel cable-stayed bridge



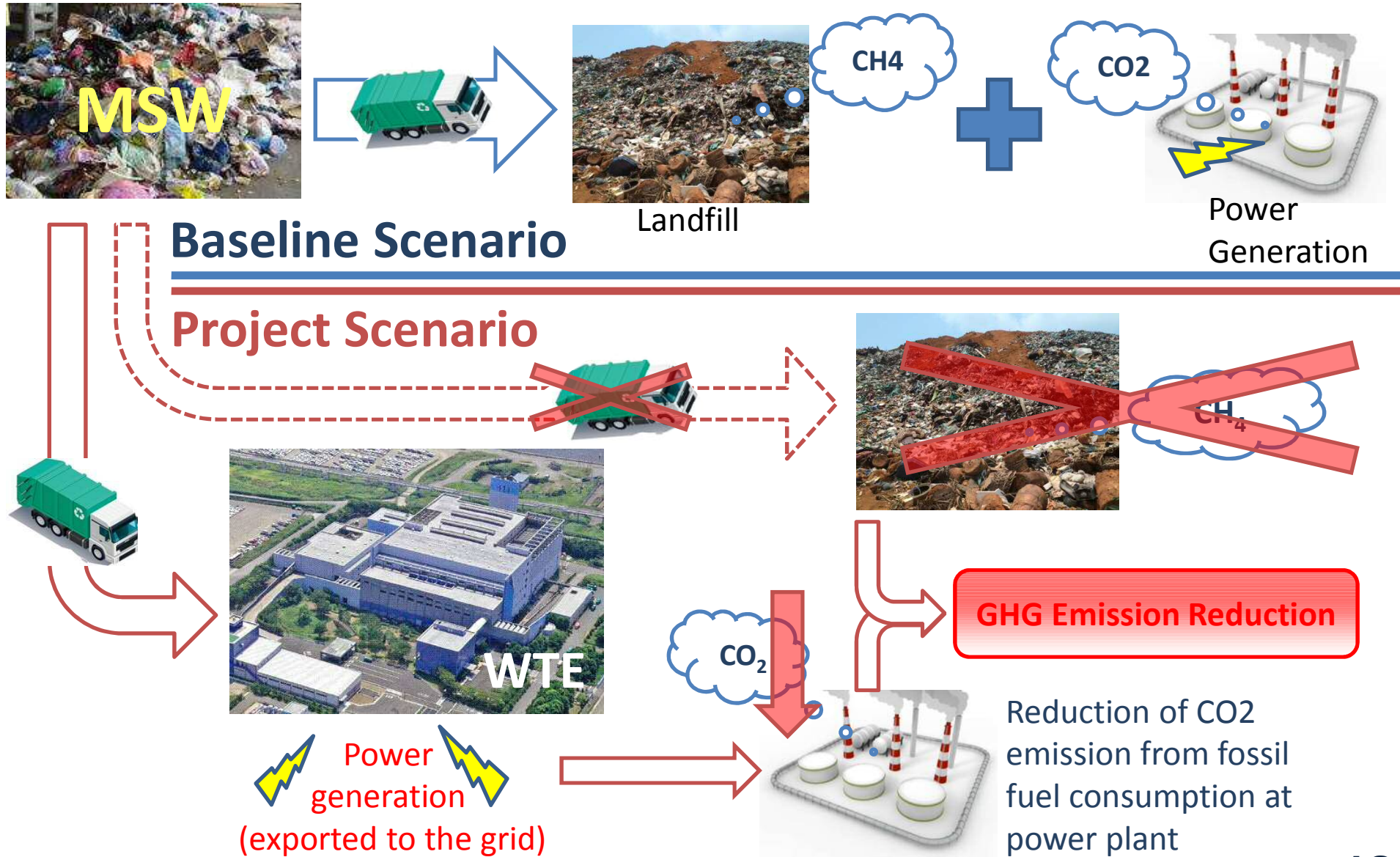
Kanazawa Plant
JFE WTE Plant (Stoker-Type)



Public – Private Collaboration for implementation of WTE



Baseline vs. Project Scenario of WTE





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Thank you for your kind attention.

<http://www.jfe-eng.co.jp/en/>