Japan's Policy on the Co-benefits Approach to Climate Change and Development

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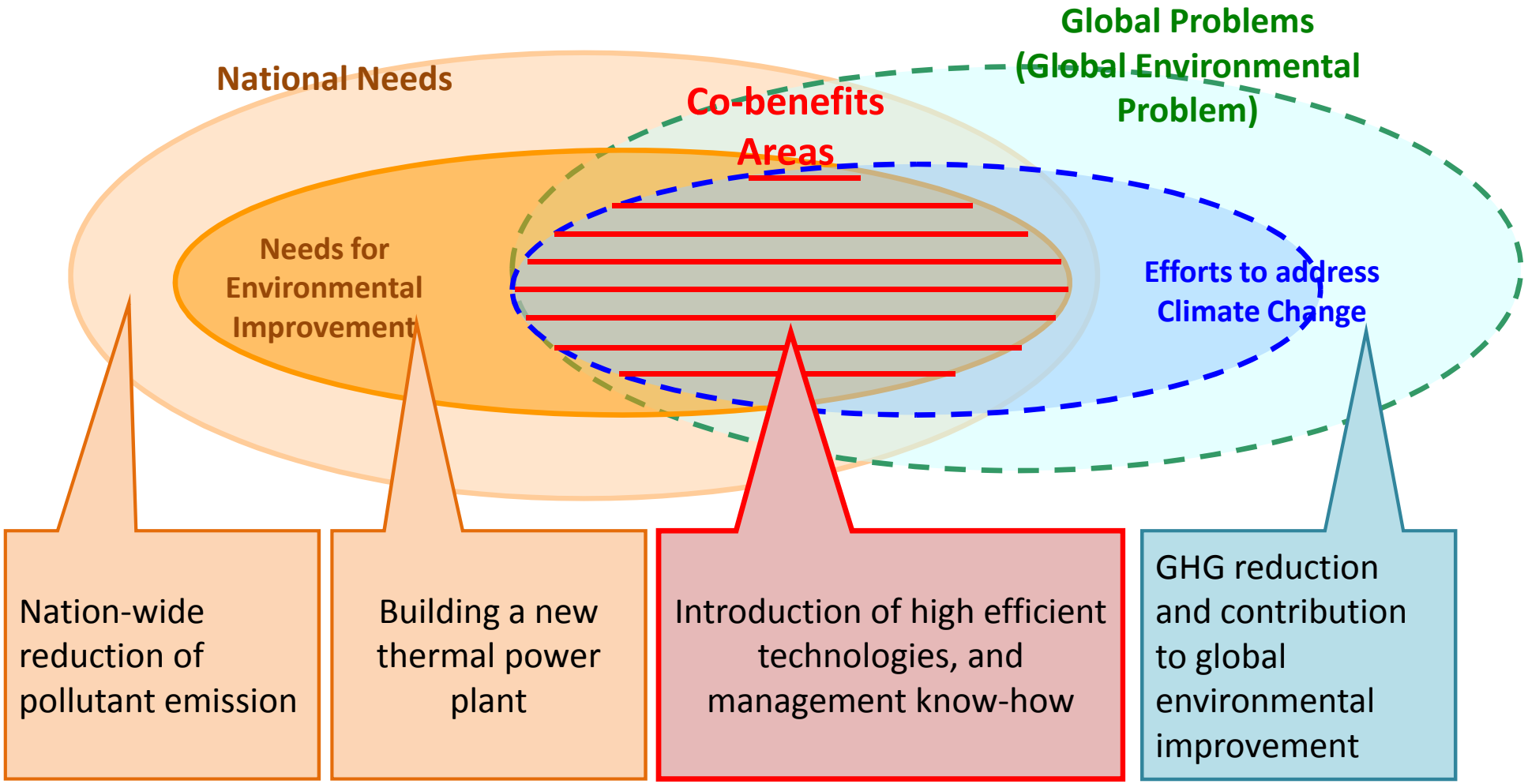
Outline

- Concept of Co-benefits
- Support Scheme for Co-benefits Activities
- Co-benefits CDM Model Projects
- Bilateral Cooperation on Co-benefits
- Technologies for Co-benefits
- Evaluation Tool
- Way Forward

Concept of Co-benefits Approach -Development Needs Oriented Way

- Promoting development offers a great potential to address greenhouse gas reduction!



Possible Target Areas of Co-benefits

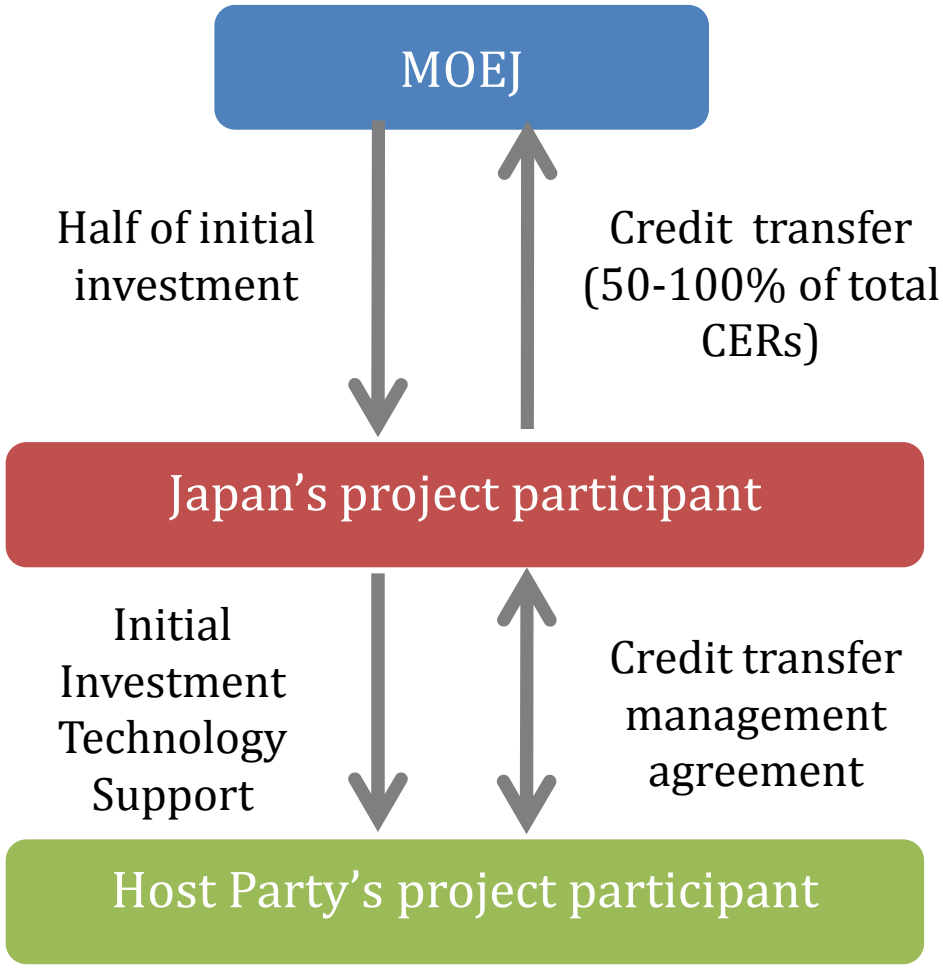
Co-benefits Action Area	Project Examples	Environmental Improvement Benefits	Climate Mitigation Benefits
Air Quality Management	Improvement of combustion efficiency	Air pollutant (SOx, NOx, and dust) reduction	CO_2 Reduction
	Waste heat recovery		
	Fuel Switching		
	Transport		
Wastewater Treatment	Prevention of methane emission from sludge	Improvement of water quality	CH_4 Reduction
	Utilization of biomass residue for energy		
Waste Management	Segregating & composting of municipal solid waste	Proper treatment of waste	CH_4 Reduction
	Utilization of biomass waste as energy	Reduction of waste amount	

Support Scheme for Co-benefits

- Current support schemes to promote and realize co-benefits projects
  - CDM/JI Feasibility Study
  - Financial support for development and implementation of co-benefits CDM model projects
  - Bilateral cooperation on co-benefits

Co-benefits CDM Model Projects

- Support scheme newly launched in 2008
- Financial support for initial investment of potential co-benefits CDM projects
- Climate Benefit + Environmental Benefits (air & water quality management and waste management)



Co-benefits CDM Model Projects

Selected 2 Model Projects in 2008

- Reduction of Methane Gas Emission and Early Environmental Improvement at Pulau Burung Landfill Site (Malaysia)
- Biogas from Ethanol Wastewater for Electricity Generation (Thailand)

Malaysia: Waste Management

- Open dumping of waste under anaerobic condition

  → Serious local environmental issues (pest, fire, odor, landslide and leachate) and climate change issue (CH_4 emission)
- Wastes are decomposed to methane (CH_4), not CO_2 under insufficient oxygen condition

Malaysia: Waste Management

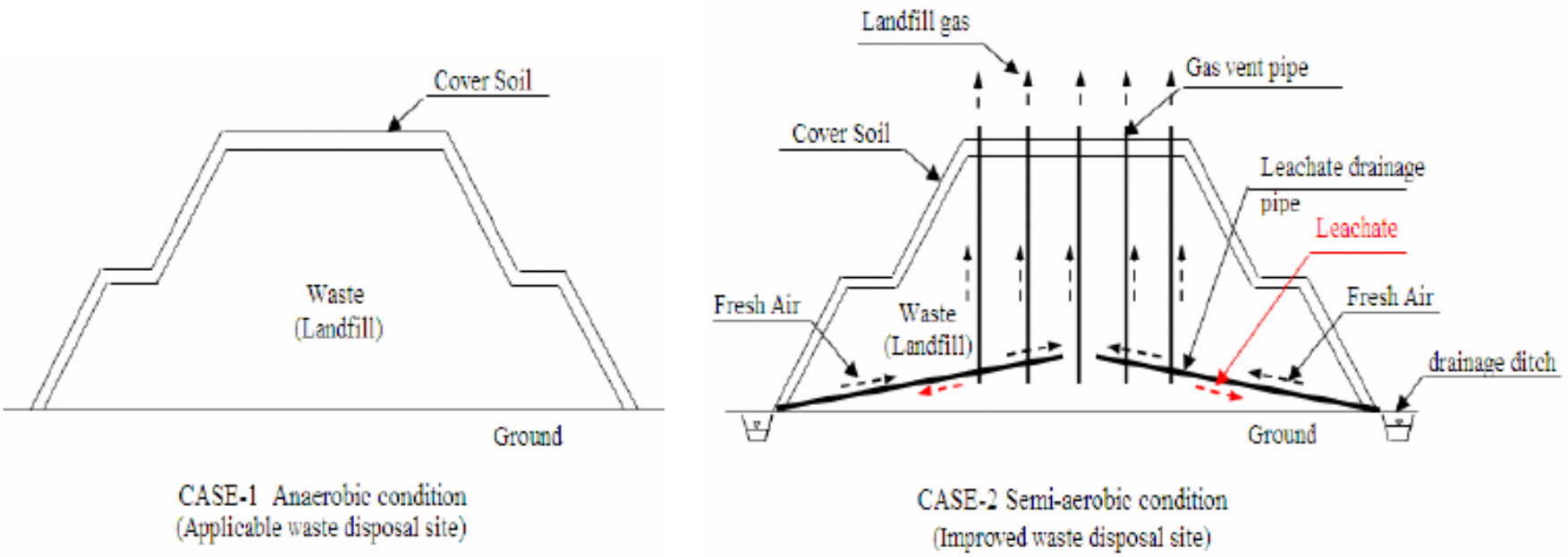


Fig. B.3-2 Overview of semi-aerobic condition

Climate Benefits

Estimated GHG emission reductions 162,846tCO2e/9years (Year2010-2018)

Local Benefits

Improvement of water quality
Reduction of explosion risk
Early safe closure of landfill site
Introduction of new technology
Prevention of odor

Thailand: Water Quality Management



- Ethanol wastewater → Serious local environmental issues (odor and BOD) and climate change issue (CH_4 emission)
- Biogas including CH_4 (methane) for electricity generation

Climate Benefits
Estimated GHG emission reductions
79,996tCO_2e/14years
(Year2010-2024)

Local Benefits
Improvement of water quality
Reduction of cost for fossil fuel

Bilateral Cooperation on Co-benefits

- In December, 2007, “Statement of intent on environmental protection through the co-benefits approach” singed between
  - Ministry of Environmental Protection (MEP), China and MOEJ
  - Ministry of Environment (MOE), Indonesia and MOEJ

China-Japan Cooperation

- Term: 3 years (2008-2010)
- Panzhihua (Sichuan Province) as a model city
  - Tangible co-benefits project
    - Environmental Improvement (pollutant emission reduction)
    - GHG emission reduction
  - Quantitative assessment of city's pollutant reduction plan in terms of GHG emission reduction
  - Capacity building

Indonesia-Japan Cooperation

- Term: 3 years (2008-2010)
- Banjarmasin (South Kalimantan Province) and Palembang (South Sumatra Province) as possible model cities
  - Tangible co-benefits projects
    - Environmental Improvement (Air/Water/Waste)
    - GHG emission reduction
  - Capacity building

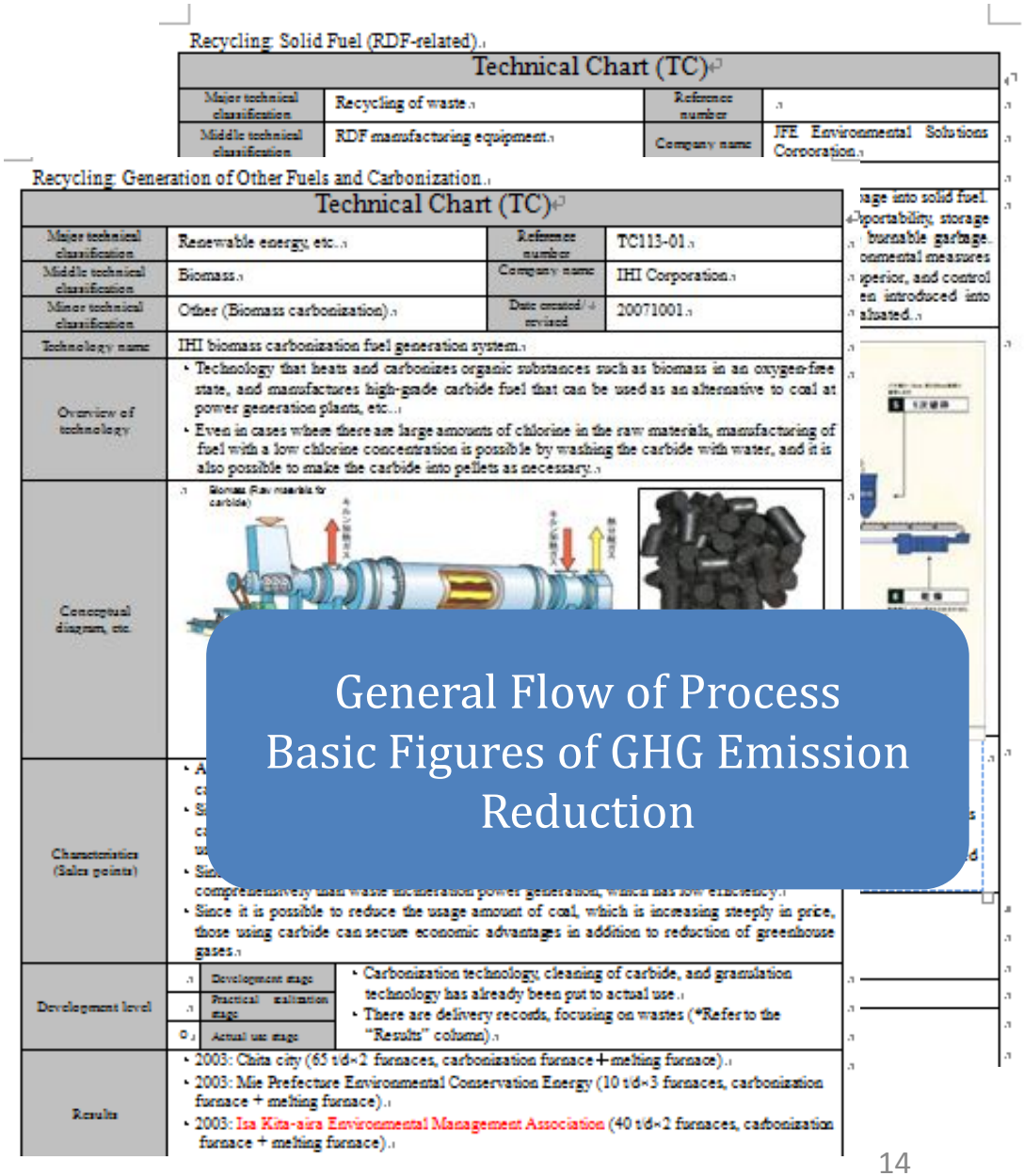




Technologies for Co-benefits

- Development of Co-benefits Technologies Map

  To accelerate co-benefits projects:
- Further R&D for Co-benefits Technologies
- Scheme for Information & Experience Sharing on Co-benefits Technologies in AP region



Recycling: Solid Fuel (RDF-related)

Technical Chart (TC)

Major technical classification	Recycling of waste	Reference number	
Middle technical classification	RDF manufacturing equipment	Company name	JFE Environmental Solutions Corporation

Recycling: Generation of Other Fuels and Carbonization

Technical Chart (TC)

Major technical classification	Renewable energy, etc.	Reference number	TC113-01
Middle technical classification	Biomass	Company name	IHI Corporation
Minor technical classification	Other (Biomass carbonization)	Date created/ revised	20071001
Technology name	IHI biomass carbonization fuel generation system		
Overview of technology	・Technology that heats and carbonizes organic substances such as biomass in an oxygen-free state, and manufactures high-grade carbide fuel that can be used as an alternative to coal at power generation plants, etc. ・Even in cases where there are large amounts of chlorine in the raw materials, manufacturing of fuel with a low chlorine concentration is possible by washing the carbide with water, and it is also possible to make the carbide into pellets as necessary.		
Conceptual diagram, etc.	Biomass (Raw materials for carbide)		
Characteristics (Sales points)	・Since it is possible to reduce the usage amount of coal, which is increasing steeply in price, those using carbide can secure economic advantages in addition to reduction of greenhouse gases.		
Development level	Development stage / Practical realization stage / Actual use stage: ・Carbonization technology, cleaning of carbide, and granulation technology has already been put to actual use. ・There are delivery records, focusing on wastes (*Refer to the "Results" column).		
Results	・2003: Chita city (65 t/d×2 furnaces, carbonization furnace+melting furnace). ・2003: Mie Prefecture Environmental Conservation Energy (10 t/d×3 furnaces, carbonization furnace + melting furnace). ・2003: Isa Kita-aira Environmental Management Association (40 t/d×2 furnaces, carbonization furnace + melting furnace).		

General Flow of Process
Basic Figures of GHG Emission Reduction

Evaluation Methods

- Development of quantified co-benefits evaluation methods manual to be completed
- Possible evaluation method
  - Tier1: “Semi-qualitative” evaluation by using intensity
  - Tier2: Quantified evaluation by collected and/or default data and calculation formula
  - Tier3: Quantified evaluation by collected data and calculation formula

Way Forward

- Schemes to support activities to bring tangible co-benefits into the reality
  - Evaluation Tool (“MRV” manner)
  - Qualitative/Quantitative Evaluation of Policy/Plan for Local Environmental Improvement
  - Technology Diffusion
- CDM improvement (e.g. high priority on co-benefits CDM)
- Institutionalization and scaling up of co-benefits (e.g. Development of co-benefits information platform in AP region)

Thank you!

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