



Co-benefits Approach

Addressing Local and Global Environmental Issues
through Working on Climate Change Mitigation and CDM
in Developing Countries

December 2007



Ministry of the Environment, Japan

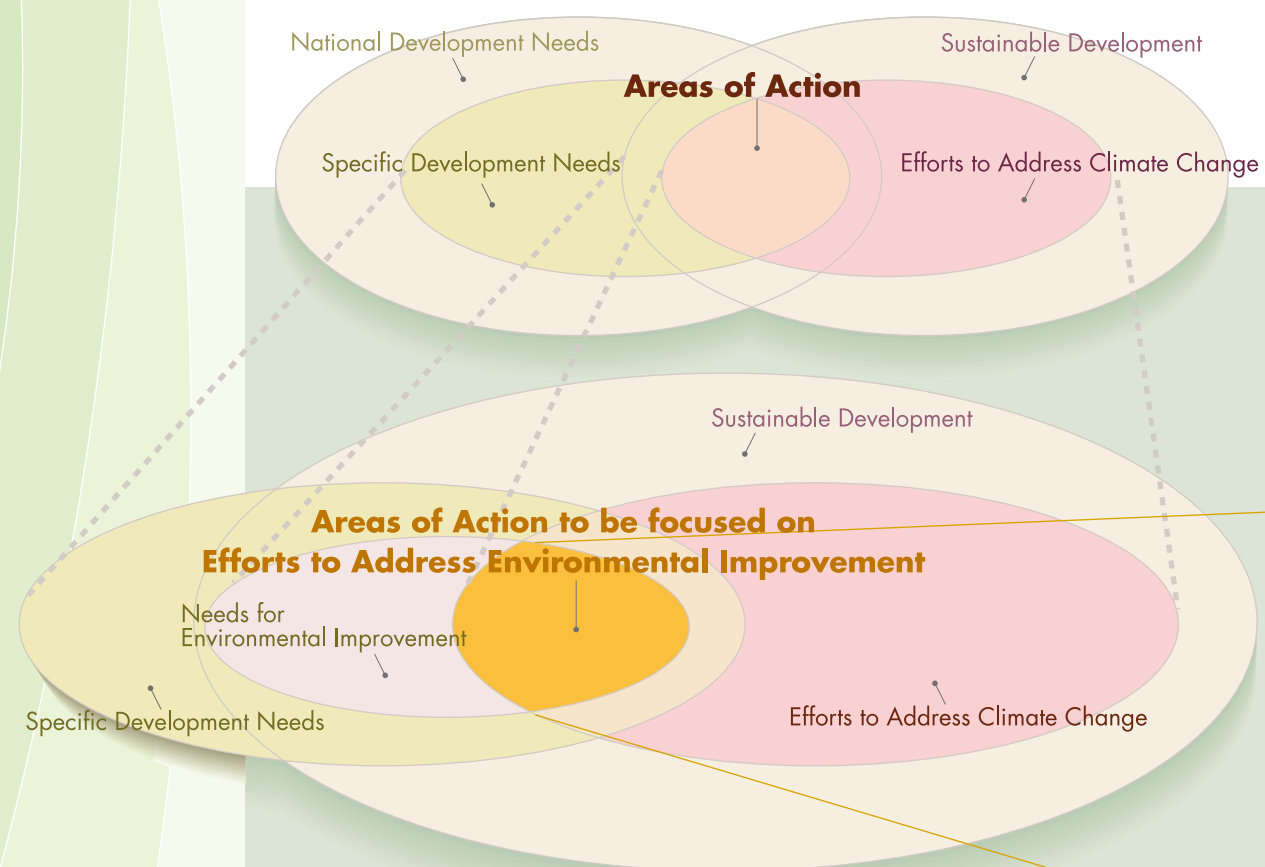
Overseas Environmental Cooperation Center, Japan

Co-benefits Approach to GHG Reduction and Local Environmental Issues



The co-benefits approach means integrated efforts to address climate change concerns, while meeting development needs in developing countries. Economic and Social Development, as a higher priority of developing countries, is put forward in this approach, and benefits of climate-related efforts are realized in alignment with development benefits.

The Ministry of the Environment, Japan (MOEJ) and the Overseas Environmental Cooperation Center, Japan (OECC) jointly launched an initiative on "Co-benefits Approach — Development Needs-oriented Efforts to Address Climate Change and CDM" in 2006 (see the first brochure on the left).



Among priority development goals in developing countries, there is an urgent need to address local environmental issues such as air and water pollution and waste management, due to the ever-greater environmental stresses imposed by rapid industrialization, urbanization, and population growth. Local environmental issues have sometimes caused serious health damage.

This brochure focuses on the co-benefits approach to climate change mitigation while also improving the local environment, as part of the development goals of developing countries.

Co-benefits Dialogues with Developing Country Partners and Relevant Stakeholders

Dialogues with partner countries and agencies have provided excellent opportunities to jointly formulate policies and strategies for cooperation. Recent efforts include the following:

Cool Earth 50 : Japan's Approach to the Issue of Climate Change was announced by the Japanese Prime Minister Abe in May 2007 to support developing countries' efforts fighting pollution and climate change.

Japan-China Dialogue on Co-benefits (Beijing, China, in August 2007), and **Japan-Indonesia Workshop on Co-benefits Approach** (Bogor, Indonesia, September, 2007) recognized that integrated efforts are crucial, and shared views on potential action areas of co-benefits in bilateral cooperation activities.

17th Asia-Pacific Seminar on Climate Change (Bangkok, Thailand, in August 2007) emphasized the value of establishing a climate and development platform that would foster co-benefits projects (www.ap-net.org).

Also, in the **Asia Pacific Environmental Conference (ECO ASIA)**, the **Asia-Pacific Economic Cooperation (APEC)**, and the **East Asia Summit (EAS)** in 2007, countries highlighted that the usefulness of the co-benefits approach to local environmental improvement and GHG mitigation.

Side Events of UNFCCC/KP Meetings have been an important window for ongoing communication with stakeholders. Since SB24, MOEJ and OECC have organized sessions to update their efforts and discussions with participants.

MOEJ and OECC welcome broader participation in such dialogues by developing countries and other important stakeholders.



Japan-China Dialogue on Co-benefits, August 2007



UNFCCC SB26 Side Event, May 2007



17th AP Seminar on Climate Change, August 2007

Examples of Co-benefits Action Areas

Co-benefits Action Areas	Project Examples	Environmental Improvement Benefits	Climate Mitigation Benefits
Air Quality Management	Improvement of combustion efficiency	Air Pollutant (SO _x , NO _x , 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	



2 Good Practices

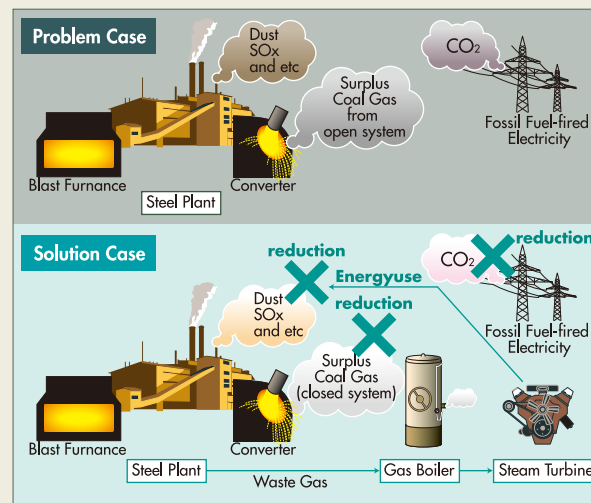
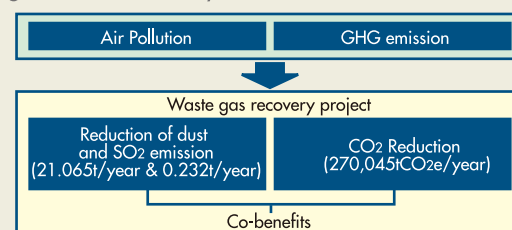
Many activities under the co-benefits approach have already been planned and implemented in the field. Good practices of the clean development mechanism (CDM) and official development assistance (ODA) are introduced below as case examples of such activities. These cases are a useful reference for those interested in developing co-benefits projects in future.

Air Quality Management

Air pollution has become a serious problem in many countries, especially where rapid industrial development is taking in place. Pollution substances (e.g. SO_x, NO_x, and dust) can cause serious health damage, but may be co-controlled together with GHGs by taking integrated measures.

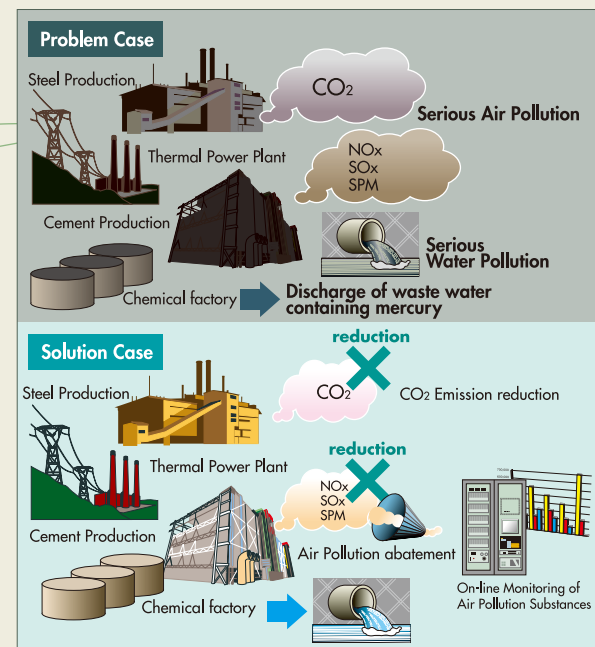
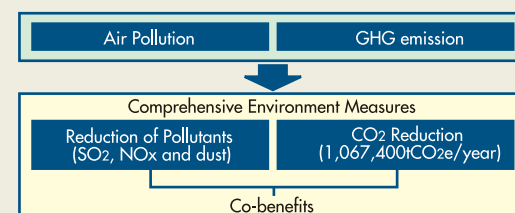
Showcasing a Good Practice in CDM

The Comprehensive Utilization of Waste Coal Gas for Electricity Generation Project in Shaanxi Xinglong Cogeneration Co., Ltd. in China will reduce GHG emissions by introducing a gas boiler and steam turbine for generating electricity from waste coal gas. The project will avoid dust pollution caused by the existing open flaring system, and wastewater will be recycled through a circulation system.



Showcasing a Good Practice in ODA and Other Schemes

The Environmental Model City Project in Guiyang is being implemented as a comprehensive countermeasure to improve the quality of urban environment, including reducing air pollution. Through technical and financial cooperation by the Japan International Cooperation Agency (JICA) and the Japan Bank for International Cooperation (JBIC), as well as active efforts by the Chinese authorities and local people, air pollution substances will be dramatically reduced: SO₂ will be cut by 80.54% or 163,500 t, PM by 66.37% or 57,080 t, and CO₂ by 1,067,400 t.

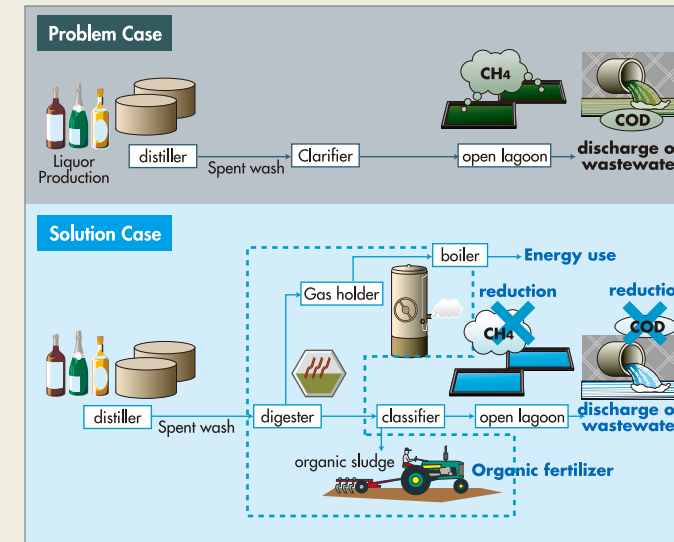
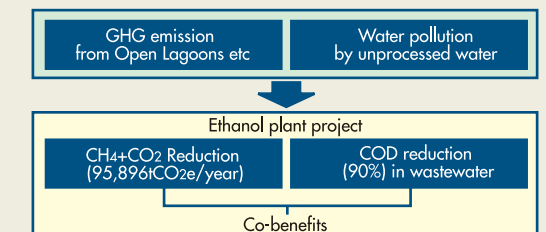


Wastewater Treatment

Water treatment is another key action area of co-benefits projects. Wastewater discharged from some industries and households in urban areas may cause water pollution if not properly treated. However, by introducing integrated measures, chemical oxygen demand (COD) or biological oxygen demand (BOD) can be reduced and GHG emissions can be curbed (e.g. CH₄ collection and energy utilization).

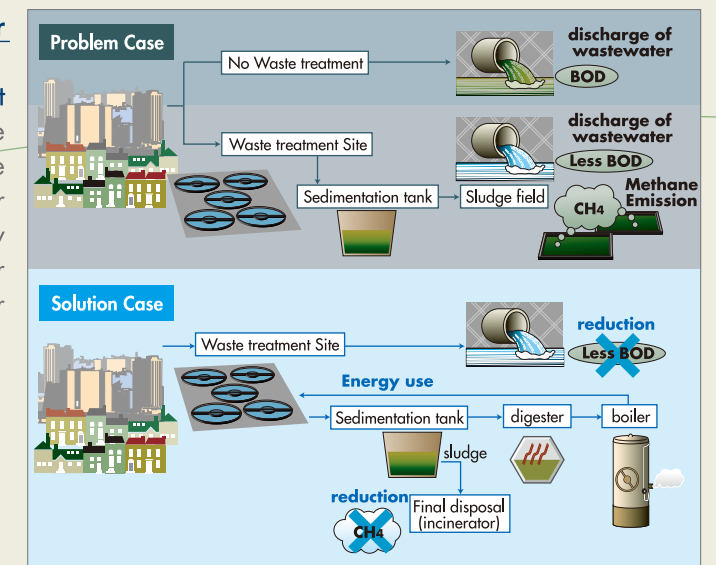
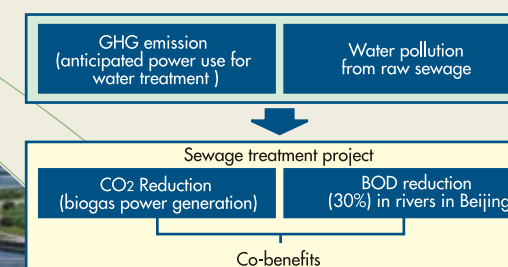
Showcasing a Good Practice in CDM

The Wastewater Treatment Using a Thermophilic Anaerobic Digester at an Ethanol Plant in the Philippines will reduce methane (CH₄) emissions from open lagoons, with total emission reductions are expected to be 95,896t CO₂e/year. The project will also remove COD(90%) by treating wastewater.



Showcasing a Good Practice in ODA and Other Schemes

The Beijing Gaobeidian Sewage Treatment Plant Construction Project was conducted under the Japanese ODA loan from JBIC. In addition, the Beijing City Government introduced digesters for recovering biogas (CH₄) from sludge for energy use. This combination project ensures proper treatment of 500,000 m³/day of waste water while reducing GHG emissions.

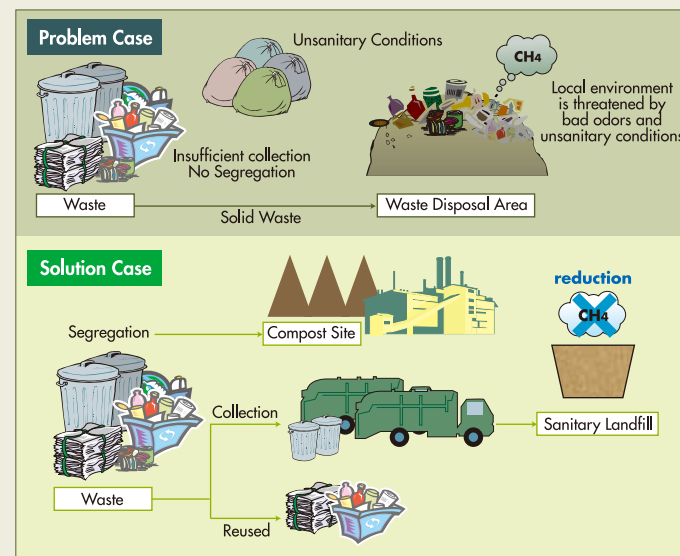
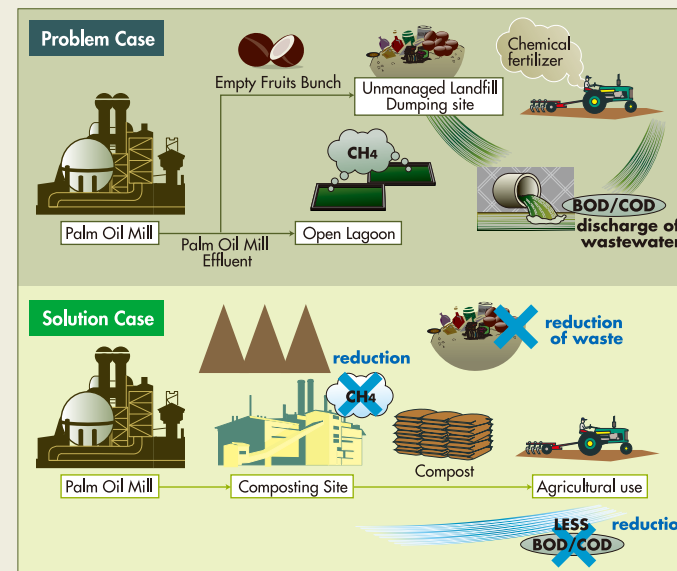
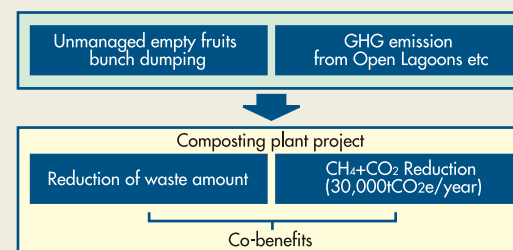


Waste Management

Many developing countries face increasingly serious waste management challenges, especially at the local government level. Taking countermeasures to reduce the amount of waste may also provide opportunities to reduce GHG emissions.

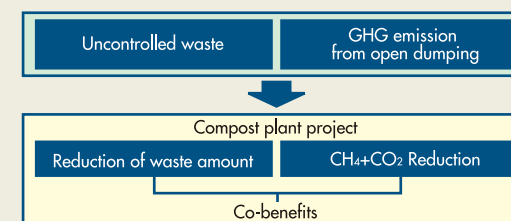
Showcasing a Good Practice in CDM

The Co-composting of EFB and POME project in Malaysia will reduce the dumping of organic waste at a landfill which causes CH₄ emissions. By utilizing Empty Fruits Bunch (EFB) and Palm Oil Mill Effluent (POME) to produce compost, the project will deliver the multiple benefits of reducing waste, water pollution, and CH₄ emissions.



Showcasing a Good Practice in ODA and other schemes

The Kolkata Solid Waste Management Improvement Project in India is promoting appropriate municipal solid waste management by developing a management system, including segregation, collection, and raising awareness of the 3R (reduce, reuse, and recycle) concept. As a result, the project effectively reduces the amount of waste and improves sanitary conditions as well as CH₄ emissions from landfill.



More Information on Waste Management and GHG Emissions Reduction

→ visit www.kyomecha.org/e

3 Next Steps to Be Taken

Good Practice Guideline for Co-benefits Projects

A good practice guideline is being prepared to assist practitioners in their actual work. This may include simplified tools to analyze project potential at a glance, a selection of useful technologies that can be employed, and other key knowledge relevant to the development and implementation of co-benefits projects.

Increasing Co-benefits Projects in Different Schemes


To attain tangible benefits, it is important increase actual action in the field by using existing schemes. For CDM, it may be useful to identify baseline and monitoring methodologies, and share successful case examples of co-benefits projects. For ODA, the GHG mitigation aspect can be highlighted, in combination with other development benefits. Also, the hybrid application of these schemes may deliver even larger co-benefits of development and GHG mitigation.

Establishing a Platform for Climate and Development

In order to help developing countries and stakeholders advance their efforts, a proposal was made to establish a platform for climate and development at the 17th Asia-Pacific Seminar on Climate Change (AP Seminar). The platform is expected to include a mechanism to support co-benefits activities, as well as integrated adaptation to climate change. A kick-off meeting of development planning and environmental officials will be organized in March, 2008.

Developing Quantitative and Qualitative Evaluation Methods

For a better understanding of the degree of contribution to sustainable development, methods for evaluating co-benefits activities will also be developed. Local environmental improvement activities, such as air quality management, water treatment, and waste management, are regarded as primary targets in developing such evaluation methods.



The leaflet was published to introduce a progress of policy survey on "Development Needs-oriented Co-benefits Approach to Climate Change", conducted by the Overseas Environmental Cooperation Center, Japan (OECC). The policy survey is a part of programmes of the Ministry of the Environment, Japan, to cooperate with partners in developing countries for jointly addressing climate change and development. It is not allowed to reproduce all the contents of this leaflet without a prior permission by OECC or the Ministry of the Environment, Japan.

Ministry of the Environment, Japan

Kasumigaseki 1-2-2, Chiyoda-ku, Tokyo 100-8975, Japan

E-mail: kyotomecha@env.go.jp

URL: www.env.go.jp/en/

Overseas Environmental Cooperation Center, Japan (OECC)

Shibakoen Annex 7th Floor, 3-1-8 Shibakoen, Minato-ku, Tokyo 105-0011 Japan

Phone: +81-3-5472-0144 Fax: +81-3-5472-0145

Email: info@kyomecha.org

URL: www.kyomecha.org/e