



MK0700003

Climate Change Policy Measures in Japan -NEDO's Activities to Promote CDM/JI-

Kazunori FUKASAWA*, Kazuhiko SEKI** and Takeshi SAKURAI**

New Energy and Industrial Technology Development Organization (NEDO)

**10, Rue de la Paix 75002 Paris, France*

***18F MUZA Kawasaki, 1310 Omiya-cho, Saiwai-ku, Kawasaki City, Kanagawa 212-8554 Japan*

Introduction

The Kyoto Protocol, which obliges developed countries to reduce emissions of greenhouse gases (GHG), was adopted at the third session of the conference of the parties to the United Nations Framework Convention on Climate Change (UNFCCC) in Kyoto, Japan, on 11 December 1997. Japan subsequently ratified the Kyoto Protocol in 2002 and is required thereunder to reduce GHG emissions by 6% below 1990 levels by 2008-2012.

Japan, having already tackled development and promotion of energy conservation technologies after the second oil crisis, emits the lowest level of CO₂ of developed countries (approximately 9.4 tons per capita in the year 2000). Consequently, Japan is able to contribute to CO₂ emissions reduction in developing economies as well as in economies in transition by application of Japan's energy conservation technologies.

Because the Clean Development Mechanism (CDM) and Joint implementation (JI) of the Kyoto Mechanisms are efficient tools, the Japanese government's policy towards emission reduction makes active use of CDM/JI, thereby supporting domestic efforts in realizing Japan's reduction commitment.

The Ministry of Economy, Trade and Industry (METI) of Japan is one of the key ministries to administer governmental policymaking on climate change, and is undertaking establishment of a system to facilitate the Kyoto Mechanisms. The New Energy and Industrial Technology Development Organization (NEDO), under the jurisdiction of METI, supports CDM and JI project activities implemented by Japanese private sector enterprises. In this report, the authors briefly introduce climate change policy measures in Japan and NEDO's activities to promote CDM/JI.

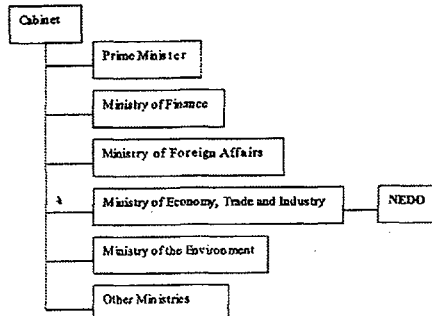
1. Outline of NEDO

The New Energy and Industrial Technology Development Organization (NEDO) was established in October 1980, immediately after the second oil crisis, as a semi-governmental organization under the (former) Ministry of International Trade and Industry of Japan, which is now the Ministry of Economy, Trade and Industry (METI). NEDO is a unique organization in that it works to coordinate the funds, personnel, and technological strengths of both the public and private sectors in Japan. In October 2003, NEDO was re-organized as an "Incorporated Administrative Agency." The position held by NEDO in the

Government is shown in Fig.1.

NEDO's principal activities are categorized under three topics:

- θ Research and Development (R&D) of industrial technology as well as new energy, energy conservation, and environmental technologies.
- θ Introduction of new energy and energy conservation technologies.
- θ International cooperation.



NEDO's CDM/JI activities are included under international cooperation.

Fig. 1. Position of NEDO in Government

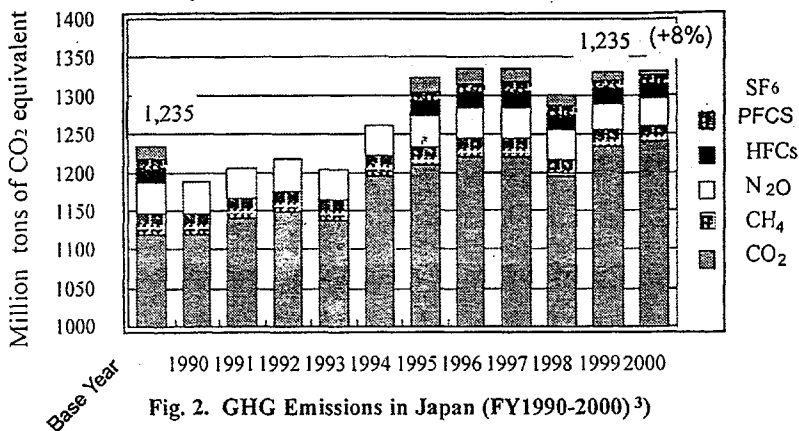
2. Current Situation of GHG Emissions in Japan

Table 12) illustrates quantitative targets by sector for GHG emissions reduction in order to achieve Japan's overall target of 6% below 1990 levels, as stipulated in the Kyoto Protocol. However, domestic GHG emissions have been increasing since 1990, and were 3% above 1990 levels in 2000 (Fig.23)).

The major source of GHG emissions in Japan is energy combustion, contributing approximately 90% of total emissions. Over the decade 1990-2000, substantial increases in CO₂ emissions (Fig.33)) have been particularly evident in the transportation sector (20.6% increase over 1990) and business/home sector (21.3%). On the other hand, CO₂ emission levels from the industry sector have shown little increase since 1990 due to Japan's lengthy experience mentioned above relating to development and promotion of energy conservation technologies. Therefore, energy conservation technologies in Japan have great potential to contribute CO₂ emission reduction in developing economies and economies in transition. Because CDM/JI project activities offer the dual effects of reducing GHG emissions in such economies and transferring CO₂ reduction credits to Japan, CDM/JI utilization has become more significant.

Table 1. GHG Emission Reduction Strategies in Japan²⁾

CO ₂ emissions from energy use	± 0%
CO ₂ emissions from non-energy use, methane emissions, and nitrous oxide emissions	-0.5%
Emissions of HFCs, PFCs and SF ₆	+2.0%
Reductions by innovative technologies and change of lifestyle	-2.0%
Sinks	-3.9%
Kyoto Mechanisms	-1.6%



and JI projects. The Help Desk serves as a focal point for CDM/JI government approval and inquiries from private sector enterprises. METI has further designed a financial support scheme for CDM/JI project developers and CDM capacity building programs in Asia that utilizes non-ODA (Official Development Assistance) funds. NEDO is actively conducting CDM/JI support programs as well as CDM capacity building programs.

These activities have led the Japanese government to approve a total of nine (9) CDM/JI projects to date (Table 2).

Table 2. Approved CDM/JI Projects in Japan²⁾

CDM/JI	Country	Applicants	Project Name	Amount of CER/ERU expected
CDM	Brazil	Toyota Tsusho Corporation	V&M do Brazil Fuel Switch	1,130,000 ton-CO ₂
CDM	Thailand	Electric Power Development Co., Ltd.	Rubber Wood Residue Power Plant Project in Yala	60,000 ton-CO ₂
CDM	South Korea	INEOS Fluor Japan Limited	HFC Decomposition Project in Ulsan	1,400,000 ton-CO ₂
CDM	Bhutan	Kansai Electric Power Co., Inc.	e7 Bhu?an Micro Hydro Power CDM Project	500 ton-CO ₂
CDM	Vietnam	Japan Vietnam Petroleum Company	Rang Dong Oil Field Associated Gas Recovery and Utilization Project	680,000 ton-CO ₂
CDM	India	Sumitomo Corporation	Thermal Oxidation of HFC23 in Gujarat	3,380,000 ton-CO ₂
CDM	Thailand	Chubu Electric Power Co., Inc.	A.T. Biopower Rice Husk Power Project in Pichit, Thailand	84,000 ton-CO ₂
CDM	Chile	Electric Power Development Co., Ltd	Graneros Plant Fuel Switching Project	14,000 ton-CO ₂
JI	Kazakhstan	NEDO	The Madel Project for Increasing the Efficient Use of Energy Using a Gas Turbine Cogeneration System	62,000 ton-CO ₂

4. NEDO's Activities to Promote CDM/JI

4.1. NEDO's Financial Support Programs for CDM/JI Project Developers

The Kyoto Protocol will enter into force after being ratified by Russia, which accounted for approximately 17.4% of global GHG emissions in 1990. Therefore, CDM/JI projects presently carry great political risk (also other risks) for private sector enterprises in Japan. NEDO's financial support programs for CDM/JI projects are capable of reducing these risks and potentially encouraging CDM/JI project implementation.

4.1.1. CDM/JI Feasibility Study Program

The aim of NEDO's CDM/JI feasibility study (F/S) program is to assess and realize private sector projects that are expected to lead to future CDM or JI project activities. In order to receive support from this program, proposed CDM/JI projects must satisfy the following requirements.

- 1) To reduce GHG emissions through advanced technologies for increasing the efficient use of energy.
- 2) To contribute to sustainable economic development in the host country.
- 3) To be proposed by Japanese private sector firms.

NEDO initiated this F/S program in 1998 and has conducted 260 CDM/JI project feasibility studies in a total of 47 countries through July 2004 (Fig. 4). It is evident from the chart that Japanese private sector enterprises consider Eastern Europe, China and ASEAN hold high potential for future CDM/JI projects.

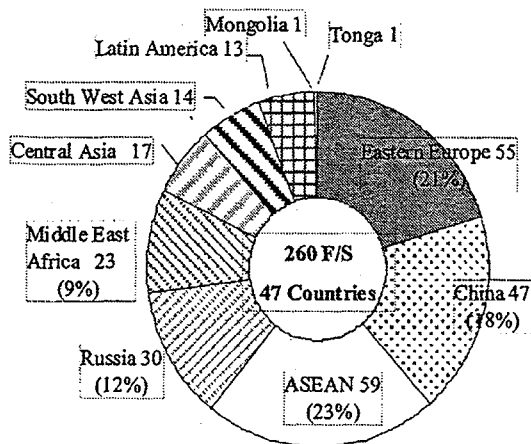


Fig. 4. NEDO's CDM/JI Feasibility Studies (FY1998-2004)

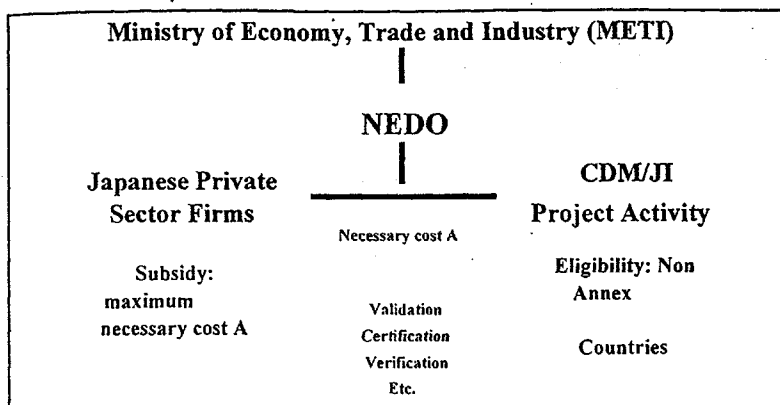


Fig. 5. NEDO's Subsidy System for CDM/JI Project

4.2. Contribution to CDM Capacity Building

CDM projects will contribute not only to global environment conservation but also to sustained development of host countries.

One of METI's roles is to plan, and sequentially implement, the "Asia CDM Capacity Building Program" agreed at WSSD (the World Summit on Sustainable Development) held in the Republic of South Africa in 2002.

The aim of CDM capacity building is developing incentives to accept CDM projects and assisting development of approval systems in host countries. Experiences of CDM capacity building by METI and/or NEDO are shown in Table 3. In addition, CDM capacity building by NEDO is being planned in the Philippines, Malaysia, and Indonesia in the near future.

Table 3. Experiences of CDM Capacity Building 2)

- CDM Workshop (China), Sep. 2004
- CDM Training course (Japan), June - Aug. 2004
- CDM Manuals (Vietnam and Thailand), 2003 - 04
- CDM Technology Needs Assessment (The Philippines), Dec. 2003-Mar. 2004
- CDM Training course (Japan), June - Aug. 2003
- CDM Seminar (Thailand), Mar. 2003
- Japan-ASEAN CDM Workshop (Indonesia), Jan. 2003

References

- 1) Carbon Dioxide Information Analysis Center (<http://cdiar.esd.ornl.gov>)
- 2) Ministry of Economy, Trade and Industry, Japan (<http://www.meti.go.jp>)
- 3) Ministry of the Environment, Japan (<http://www.env.go.jp>)

Kazunori FUKASAWA*, **Kazuhiko SEKI**** and **Takeshi SAKURAI****
New Energy and Industrial Technology Development Organization (NEDO)
**10, Rue de la Paix 75002 Paris, France*
***18F MUZA Kawasaki, 1310 Omiya-cho, Saiwai-ku, Kawasaki City, Kanagawa*
212-8554 Japan