

Japan at A Glance

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Prepared by CAN Japan

Climate Policies

The “Voluntary-based” Kyoto Protocol Target Achievement Plan

The overarching framework of Japanese climate policies is called the **Kyoto Protocol Target Achievement Plan** (hereafter “The Plan”). The Plan was formally adopted by the Global Warming Prevention Headquarters under the Cabinet but it has been mainly managed by two ministers, namely, the Ministry of the Environment (MoE) and the Ministry of Economy, Trade and Industry (METI).

The Plan sets out allocation of emission reduction effort to six gases, sinks and Kyoto Mechanisms (Table 1). For each section, measures and actions to achieve the allocated reductions are listed, though they typically lack polices to ensure their implementation. In case of CO₂ from energy use, further detailed allocation of reduction efforts are also indicated on the basis of sector by sector (Table 2).

The largest part of emission reduction of CO₂ from energy use comes from the **Voluntary Action Plan (VAP)** by industry. VAP is, as the name speaks itself, a set of plans voluntarily adopted by industry groups such as power, steel, paper and pulp, etc. The whole set of plans is managed by the largest industry association called **Keidanren** and it sets the overall emission reduction target as 0% (stabilization) at the 1990 level by 2010.

VAP has two major flaws. First, there is **no official penalty for not achieving the plans**. The progress of those plans is reviewed annually by the government and this semi-formal nature gives a basis for industry groups to refuse mandatory policies as long as they are taking the targets seriously. In fact, some major companies are buying Kyoto credits to fulfill these supposedly voluntary targets and will surrender those credits to the government. Second, VAP allows industry groups to choose one of the four types of indicator. That is, an industry group can set its target(s) in terms of either energy consumption, energy intensity, CO₂ absolute emission or CO₂ intensity. The fact that industry groups are allowed to choose “intensity” targets (whether it is on energy or CO₂) makes it **theoretically impossible to ensure the stabilization goal of absolute emissions**.

In a nutshell, a largest part of the Plan relies on industry’s voluntary will, which has considerable uncertainties. In addition, the list of measures and actions included are often not supported by policies. This makes even more uncertain if the Plan actually achieves the target.

Table 1: Allocation of Targets to GHGs, sinks and Kyoto Mechanisms

Sections	Targets	
	Estimated 2010 Emissions [MtCO ₂]	% of the Total Base Year Emissions
GHGs	CO ₂ from Energy Use	1,076~1,089 +1.3~+2.3%
	CO ₂ from non-Energy Use, CH ₄ and N ₂ O	132 -1.5%
	HFCs, PFCs and SF ₆	31 -1.6%
Sinks	-48	-3.8%
Kyoto Mechanisms	-20	-1.6%
Total	1,171~1,184	-6.2%~-7.2%

Source: Kyoto Protocol Target Achievement Plan

Table 2: Allocation of Emission Reduction Efforts to Sectors

CO ₂ Emissions from Energy Use	Base Year Emissions	Indicative Targets for Sectors in 2010	
	MtCO ₂	MtCO ₂	% to Base Year Emissions
Industry	482	424~428	-12.1~-11.3%
Commercial	164	208~210	+26.5~+27.9%
Household	127	138~141	+8.5~+10.9%
Transport	217	240~243	+10.3~+11.9%
Energy Conversion	68	66	-2.3%
Total	1,048	1,076~1,089	+2.7%~+3.9%

Source: Kyoto Protocol Target Achievement Plan

Too Low to Promote Renewables: RPS

There was a slight chance that Japan might have introduced the Feed in Tariff (FIT) scheme, rather than the Renewable Portfolio Standard (RPS) scheme to promote renewables in Japan. Instead, the Agency for the Natural Resources and Energy (ANRE) chose RPS for some reasons. The targets for RPS were set at very low levels: **1.35% of sold electricity generation by 2012, about 1.6% by 2014**. Some even argue that the low targets actually hinge the growth of renewable electricity.

Limited Trial of Emissions Trading

One month before the G8 Toyako Summit in Japan, the Prime Minister Fukuda announced his plan to start a trial scheme of emissions trading from Fall, 2008. The announcement was a surprise not only to the opponents of an emissions trading scheme but also to the proponents of the scheme because Japan was simply not ready to implement a full-blown scheme.

Although PM Fukuda had to resign due to a political situation, the implementation of the trial scheme has been carried out as announced. The official launch was announced in October and the details were revealed to the public.

As suspected, the scheme was basically **a voluntary scheme with no economy-wide cap**. Companies can voluntarily join the scheme with their voluntary targets, though many companies are expected to join including power and steel companies. In many cases, companies will have to create their voluntary targets in line with existing targets in the VAP. However, since the targets in VAP are set by industry grouping such as chemical, paper and pulp, electronics, etc, they need to translate those group targets into company-level targets. There will be some governmental screening of individual targets but it is not likely that the government will ask companies to set targets significantly higher than ones in VAP.

This is NOT a comprehensive trial of cap&trade as it lacks both cap setting and initial allocation exercises and it is **rather a very limited, partial trial at the best**. This was created so that it could fit with the existing VAP. Hence any viable assessment on emissions trading scheme cannot and should not be expected from this trial.

However, it is a half-step forward (though very little one) in a sense that now the government moved to implement something, rather than continuing to talk with no outcomes. Back in 2004, it was unthinkable to even officially discuss emissions trading in Japan. From that baseline, this is a half step forward; there is now even a slight possibility to introduce emissions trading in Japan.

No Target, No Plan in the post-2012

The former Prime Minister Fukuda announced Japan's long-term target before the G8 Toyako Summit 2008. **The target is 60-80% reduction of GHG emissions by 2050 compared to the current level**. Japan had already announced its idea about the global target, which is 50% reduction compared to the current level.

In the same speech, PM Fukuda also mentioned the necessity of the mid-term target. He did not specify a concrete target but made a reference to some number, "14% compared to 2005" based on the Outlook for Long-term Energy Supply and Demand. The number was severely criticized by NGOs because it is in fact 4% (excluding sinks) when it is converted into % to the 1990 level, which is even lower than the current Kyoto target. As to the timing, he only stated that it should be decided at "some appropriate time" in the next year.

The current PM Aso has not announced the specific timing yet. Once asked about his plan in the Diet session, he could not even properly state the already agreed long-term target. He, however, set up an advisory committee to discuss it and showed at least his willingness to announce the target in 2009.

Greenhouse Gas Emissions

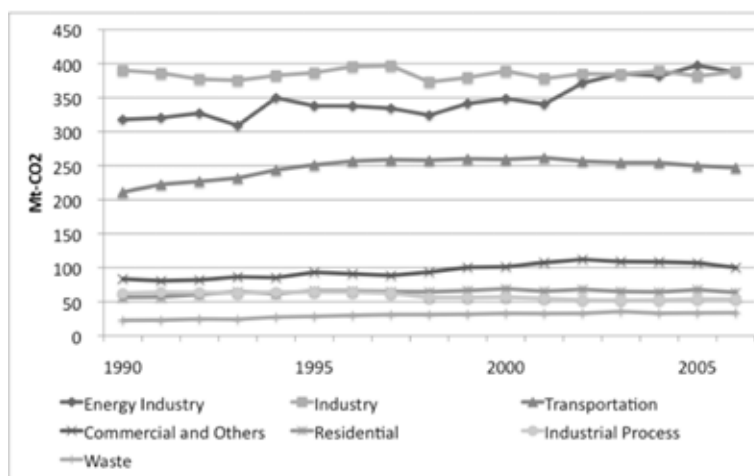
GHG emission trends

As the world's fifth largest emitter, Japan has a commitment for a 6% reduction in greenhouse gas emissions under the Kyoto Protocol.

Japan's GHG emissions (fiscal year 2006) amounted to 1.34 billion t-CO₂, representing a 6.2% increase compared to the base year, and representing a 12.2% gap compared to the target reduction of 6%. CO₂ emissions account for about 90% of the total GHG emissions and have increased by 11.3% since 1990 (Figure 1) as efforts to date have been inadequate.

The government plans to meet its target by utilizing forest sinks (3.8%) and purchasing carbon credits overseas (1.6%), but, even with those measures, Japan is in a difficult position to meet its target and meeting the target requires more Kyoto credit if the current pace continues.

Figure 1: Sector-by-sector trends in CO₂ emissions (direct emissions)

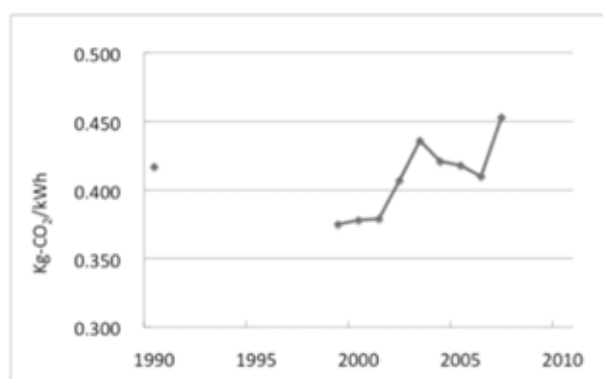


Source: GHG Inventory Office (2008) GHG Emissions Data of Japan (1990-2006)

CO₂ emission trends, by sector

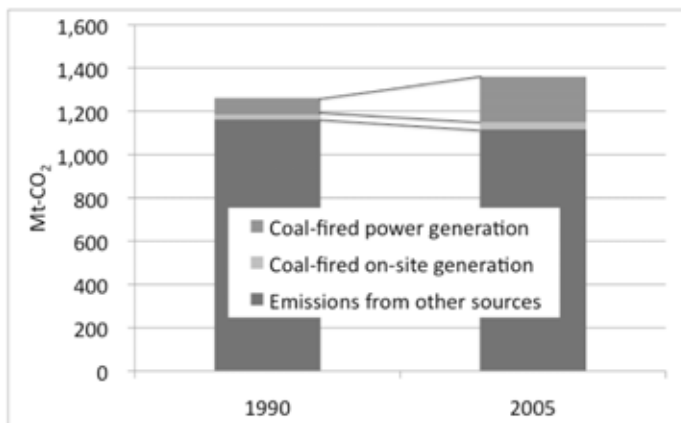
The energy industry sector (mainly power generation) is the largest emitter and its increase is the most noticeable (Figure 1). More than half of the increase in Japan's emissions from 1990 to 2006 was from power sector. The reasons for this increase are an increase in electricity consumption in the commercial and residential sectors, as well as deterioration in emission factors in the electricity sector (Figure 2). The reason behind this major increase in the emission factor is a dramatic increase in emissions from coal-fired power plants (Figure 3). Such increase was also partly caused by the general nature of Japanese climate policy, which is highly dependent on nuclear power. When the nuclear power plants had to be shut down due to accidents, the government had to rely more on coal. The increase in emissions from coal-fired power plants since fiscal year 1990 is greater than the increase in emissions from Japan as a whole.

Figure 2: Trend of Emission Factor in Power Sector



Source: Federation of Electric Power Companies of Japan. "Environmental Action Plan in Electricity Industry" (2002-2008 Versions)

Figure 3: Trend in CO₂ emissions from coal-related activities and other sources.

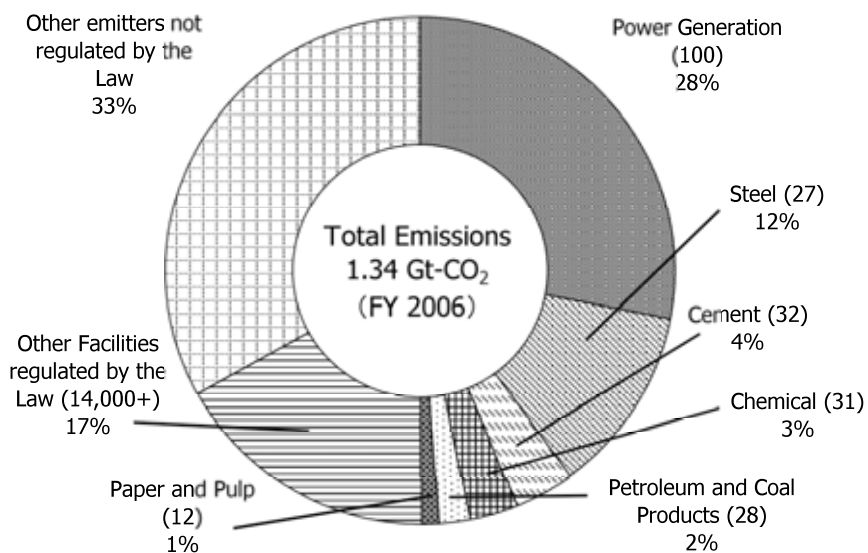


Source: Agency for Natural Resources and Energy. The Energy Balance Sheet.

CO₂ emissions, by facilities

It is recognized that only 200 facilities account for about 50% of Japan's total emissions. The bulk of emissions comes from a small number of big emitting facilities. Of particular note, just 111 facilities in the power generation and steel sectors account for 40% of Japan's emissions.

Figure 4: Share of Emissions by Type of Facility



Source: Kiko Network's estimate based on the data published under the Climate Change Policy Law
 * Each figure in a bracket indicates the number of facilities in the category.

Japan's Reduction Potentials – still PLENTY

Industry claims that there is little potential for further reduction for Japan's efficiency is already No.

1 in the world. However, the energy intensity of Japan’s manufacturing industry has deteriorated since 1990 (Figure 5).

Having looked at energy and GHG data by facilities, there are significant differences in energy efficiency within the same industry (Figure 6). There are also differences of fuels used in the facilities. By making the less efficient facilities introduce best available technology (BAT) and achieve the highest efficiency, as well as by switching fuels, e.g. from coal to gas, Japan could find considerable potentials for emissions reduction in each industry. What is lacking is a proper domestic policy to give incentives to promote fuel switch and improvement of energy efficiency, such as putting a price on carbon, including cap & trade emissions trading scheme and carbon tax.

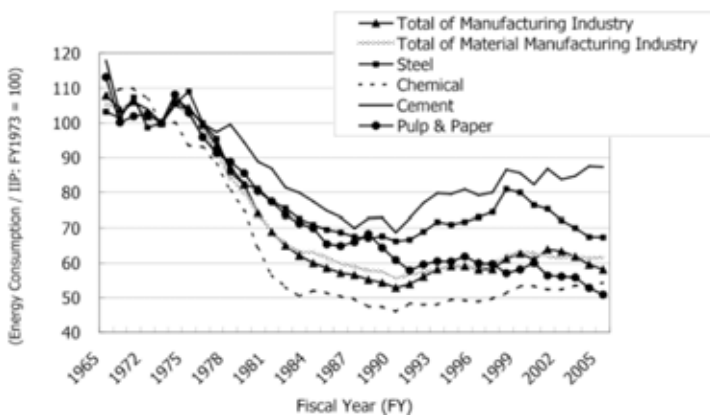
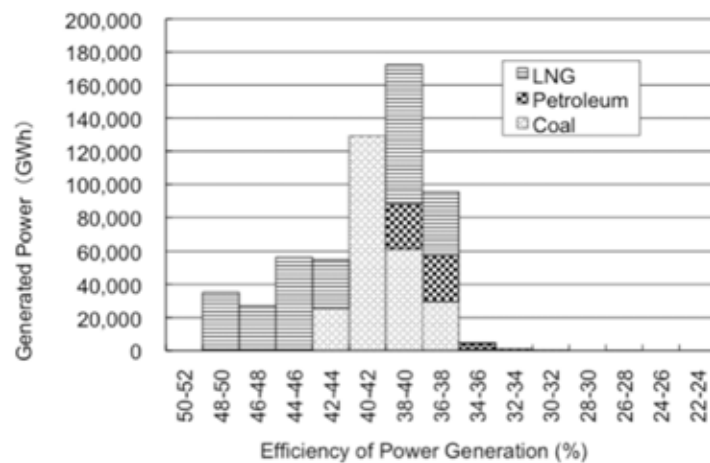


Figure 5: Change in energy efficiency of manufacturing sector (Energy Consumption per Indices of Industrial Production)

Source: Energy Data and Modelling Center, Institute of Energy Economics. (2008) *Handbook of Energy & Economic Statistics in Japan*. Energy Conservation Center, Japan.

Figure 6: Distribution of Power generation efficiency of thermal power plants



Source: Agency for Natural Resources and Energy, METI (2005) *Summary of Electric Energy Supply and Demand (2003)*. Tokyo: Chuwa.

BOX : Difference between *direct* and *indirect* emissions.

‘Direct emissions’, common practice internationally, are calculated by counting emissions of electricity generation at power stations as power industry’s emissions, whereas ‘indirect emissions’, Japan’s conventional approach of calculation, are calculated by allocating emissions associated with the generated electricity to the final consumption sectors, such as factories, offices, and households. In indirect emissions, it is difficult to see the effort of power sector and an increase in emissions caused by worsening per unit CO₂ could be falsely blamed upon the final consumption sectors. In *indirect* emissions, remarkable increase is seen in CO₂ emissions since 1990 in the transport (+16.7%), commercial (+39.5%) and residential (+30.0%) sectors whereas the industrial sector’s emissions decrease 4.6% since 1990. Industry association (Keidanren) is claiming that industry has made significant efforts in VAP.

Sectoral Approach Proposal

Sectoral Approach (SA) is one of the top Japanese government’s favorite proposals in the international climate change negotiation. This section outlines what Japan’s SA is, why Japan favors it, and how it should evolve.

What is Japanese SA proposal?

It consists of two parts;

(1) Bottom-up approach for setting targets for developed countries.

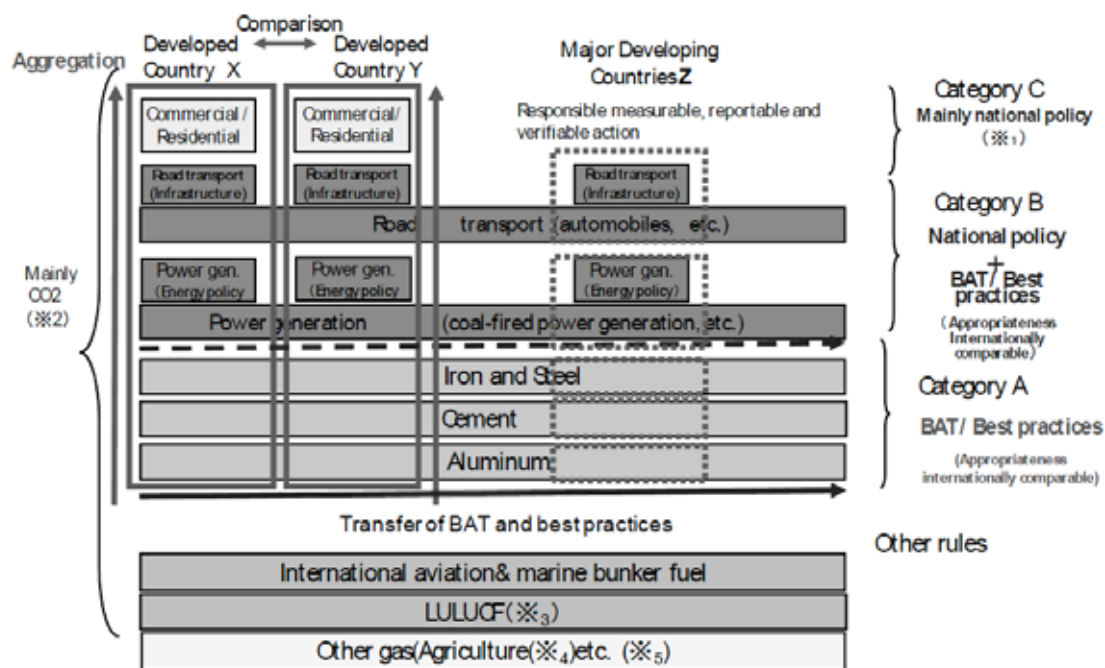
It aggregates sectoral reduction volumes, after calculating each sector’s reduction potential using the common indicator across the countries.

(2) A method for deviation from BAU in major developing countries.

Analyze the reduction potential of certain sectors in major developing countries by identifying the dissemination rate of best practices and/or intensity improvement potential.

It categorizes sectors into three sections, (A) energy intensive industries (steel, cement and aluminum), (B) power and transport, and (C) commercial, residential, other industries. It then applies cross-border analysis using the same indicator within the category and aggregates each sector’s reduction volumes to set the target.

.Figure 7: Japanese Sectoral Approach



Source: The Government of Japan Accra Submissions
 (http://unfccc.int/resource/docs/2008/awglca3/eng/misc02.pdf)

Japan further proposes to set binding sectoral targets for certain sectors and/or binding national energy intensity target in major developing countries in its Poznan submission.

http://unfccc.int/files/kyoto_protocol/application/pdf/japanbap300908.pdf

Background of Japanese SA; why Japan likes it

Japanese policies and measures are strongly influenced by industries' voices. Japanese government is promoting SA mainly because of industries' pressure, who claim that Japan needs to avoid the mistake it made at the Kyoto Protocol. Japanese industries believe that KP targets were unevenly unfair to Japan, because it didn't take into account the efficiency which Japan prides itself of. Also, energy intensive industries, who are one of the strongest influencer of policy decisions, put huge pressure on the government by arguing that, unless emerging economies' industries are treated with the common rule, Japanese economies will be severely damaged. As a result, Japanese SA is designed to avoid a strong target for Japan, and set the mitigation obligation to emerging economies.

Japan has started the idea of SA since 2005, referring SA as "a means to include China and India in the post 2012 framework" in its future framework committee held by METI (Ministry of Economy, Trade and Industries). In July 2005, Japan as well as six other big emitting countries (USA, Canada, Australia, South-Korea, China, India) started Asia Pacific Partnership (<http://www.asiapacificpartnership.jp/>), a voluntary public-private partnership scheme, which aims for identifying the common energy indicators/the best practices of energy intensive sectors, such as power and steel. Japan also depends on IEA research for establishing the indicators.

When Japan presented its idea of SA to the international world in the run-up to G8 Toyako summit in early spring in 2008, it was exposed to severe international criticism, because at that time it reflected more of the above mentioned intention of industries. Through the international pressure, its proposal evolved over time and came to the point where it clearly states that "SA won't substitute nationally binding target of developed countries, won't set the same target to developing countries (although it implicitly takes it for granted to apply the same indicator), respects common but differentiated responsibilities and won't intend to introduce any trade sanctions."

Concerns about Japanese SA; how it should evolve

(1) Does Japan want to avoid high target?

- ✓ Japan still has not presented its mid-term target, promising to announce it sometime appropriate in 2009.
- ✓ In the "Outlook for Long-term Energy Supply and Demand" released by METI revealed that Japan can reduce only 4 % by 2020 compared to 1990, even in the case of maximum introduction of technology.

(2) Does Japan request developing countries to have binding targets without putting any concrete financial support proposal on table?

- ✓ Japan has not yet proposed neither financial mechanism nor tech transfer mechanism that should enable the developing countries' action.

"Outlook for Long-Term Energy Supply and Demand" 3/19/2008 by METI

Vision of 2020 with Maximum Introduction of Technology

Much higher energy efficiency compared with European region is to be retained (improvement of energy efficiency by about 30%).

This leads to GHG emission reduction, the level of which is comparable with the EU target.

Energy efficiency

Total Primary Energy Supply / GDP

(million tons of oil equivalent / US\$1,000)

JAPAN 0.11(2005) → 0.08(2020)

EU 0.20(2005) → 0.13(2020)

Total GHG emissions 1,214 million t-CO₂

(-11% from the 2005 level, -4% from the 1990 level, excluding sinks)

SA can be one of the useful ways to enable developing countries' nationally appropriate mitigation actions (NAMAs). However, only elaborating the method of identifying mitigation potential in major developing countries without Japan's own mid-term target and any financial mechanism to support NAMAs, raises serious doubt among developing countries. Further international eyes on Japanese SA proposal are needed.

Financial Contribution

Cool Earth Partnership

At the Davos conference 2008, the former Prime Minister Fukuda announced the “Cool Earth Partnership” as a financial mechanism to support developing countries in the fight against climate change. The total size was announced as **US\$ 10 billion** but it includes various types of assistance such as loans, technical assistance and even expected investments from private companies while the largest part comes from Official Development Assistance (ODA).

Many details are not yet completely fixed even today but it basically consists of two parts (Table).

The first part is the assistance to **the Adaptation and Improved Access to Energy**, to which **US\$ 2 billion** is allocated. For adaptation, bilateral support such as grant aid and technical assistance, as well as aid through international organizations, are planned. Something called “Environment Program Grant Aid” is also supposed to be created. For Improved Access to Clean Energy, two types of activities are planned. One is the electrification with geothermal energy in rural areas. The other is “co-benefit” projects.

The second part has five components, to which **US\$ 8 billion** is allocated in total. The first component is ODA loans. This is called “**Climate Change Japanese ODA Loan**” and it would use half of the total allocation (about \$4 billion). This loan will be provided with preferential interest rates.

The remaining four components are all about assisting private projects, which are counted as another half of the US\$ 8 billion contribution. The second component is the establishment of Facility for Asia Cooperation and Environment (FACE) at Japan Bank for International Cooperation (JBIC). FACE will assist mitigation projects by private sector through capital contribution and/or guarantee. The second component is projects by a governmental agency, NEDO (New Energy and Industrial Technology Development Organization). The government gives money to NEDO and the NEDO as an agency commissions projects to private companies. In many cases, those companies bare a part of the cost of a given project. The third component is trade and investment insurance for projects implemented by Japanese companies. The insurance will be provided by a governmental insurance association, the Nippon Trade and Investment Insurance (NTIX). The last component is aid through The Asian Clean Energy Fund at Asia Development Bank (ADB).

Although the total figure of the Cool Earth Partnership looks large, it **is not yet clear how much of these are truly new and additional financial contribution**. It includes ODA, whose total amount has not been increasing and it seems to include contributions from private sector too.

Table 3: Summary of the Cool Earth Partnership

Total Size		US\$ 10 billion
Managing bodies	Ministry of Foreign Affairs (MoFA), Ministry of Economy, Trade and Industry (METI), Ministry of Finance (MoF), Ministry of the Environment (MoE) and Ministry of Agriculture, Forestry and Fishery (MAFF)	
Areas		
Adaptation	Grant aid, technical assistance and aid through international organization	US\$ 2 billion
Improved Access to Clean Energy	Electrification with geothermal energy in rural areas; “co-benefits” projects	
Mitigation to Climate Change	Facility for Asia Cooperation and Environment (FACE) at JBIC NEDO projects Insurance by NTIX ADB	US\$ 8 billion

Source: based on MoFA's website (<http://www.mofa.go.jp/>)

Clean Investment Funds (CIF)

There was discussion about new multilateral funds to in the running up process towards G8 Toyako Summit 2008. The discussion mainly took place among US, UK and Japan and it led to the establishment of two types of funds under the World Bank right before the G8 summit: **Clean Technology Fund (CTF) and Climate Strategy Fund (CSF)**. Together they are called Clean Investment Funds (CIF). CTF provides assistance for low-carbon technology development in developing countries while CSF provides support for lowering vulnerability to climate change.

Ten countries (Australia, France, Germany, Japan, the Netherlands, Norway, Sweden, Switzerland, the UK, and the US) have already made pledges to CIF and the total amount is US\$ 6.1 billion to date. **Japan pledged US\$ 1.2 billion**, which is the second largest contribution after US.

There are two major concerns expressed by NGOs and others about CIF. One is about the fact that it has been established under the World Bank, **outside UNFCCC**. Developed countries have been long criticized for not providing enough resources to the existing funds under UNFCCC. In addition, it took a considerable time to reach agreement on those existing funds especially in terms of governance systems. Yet the developed countries created those new funds under WB. This was taken as a destructive move to the existing UNFCCC funds, even though CIF have sunset clauses not to prejudice any future climate regime. The other point is that **this fund is basically counted towards ODA**, which means ODA for other areas such as public health and poverty alleviation could be reduced in the donor countries given the fact that the total amount of ODA is not increasing in many of them.

Little Contribution to the Existing UNFCCC funds

Japan has made little contribution to the existing UNFCCC funds. Table 4 shows status of pledges and contribution to the Special Climate Change Fund (SCCF). Japan's name does not show up in the table, which means Japan has made no contribution to this fund.

Table 5 shows status of pledges and contributions to the Least Developed Countries Fund (LDCF). **Japan has made a contribution of US\$ 250,000**. This represents a **tiny 0.1% of the total pledges/contributions** and approximately 3% of the already paid amount of the total. US\$ 250,000 is not small money but it is not a very big amount considering that Japan is the world's second largest economy, whose GDP is approximately US\$ 4.4 trillion in 2007.

Table 4: SCCF Status of Pledges and Contributions

Country	Amount
Canada	12,894,703
Denmark	6,588,547
Finland	2,636,331
Germany	14,532,824
Ireland	1,600,000
Italy	10,000,000
Netherlands	3,128,880
Norway	8,698,457
Portugal	1,299,099
Spain	2,598,000
Sweden	3,738,293
Switzerland	2,986,893
United Kingdom	19,594,994
Total	90,296,912

Source: Global Environmental Facility (2008) Status Report on the Climate Change Funds as of March 4, 2008

Table 5: LDCF Status of Pledges and Contributions

Source: Global Environmental Facility (2008) Status Report on the Climate Change Funds as of March 4, 2008

Country	Amount	Country	Amount
Australia	6,600,750	Luxembourg	5,639,249
Austria	580,400	Netherlands	16,548,470
Canada	6,518,366	New Zealand	2,509,740
Denmark	16,256,614	Norway	6,675,406
Finland	4,854,110	Portugal	64,065
France	15,862,747	Spain	987,178
Germany	57,653,872	Sweden	886,747
Ireland	7,749,794	Switzerland	2,366,860
Italy	1,000,000	United Kingdom	19,836,546
Japan	250,000	Total	172,840,913

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