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# Bring the Kyoto Protocol into Force Even without the U.S.

CASA Position Paper

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Citizens Alliance for Saving

the Atmosphere and the Earth

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## **1. CASA's Position for COP 6 Part Two**

Negotiations meant to have the Kyoto Protocol take effect have been thrown into disarray by the U.S. government's declaration of withdrawal from the Protocol. In particular, the muddle has been aggravated because the government of Japan, which hosted COP 3, has not stated that it will ratify. If Japan continues to shy away from saying it will ratify, it is quite possible that the Protocol will languish without ever coming into effect.

**CASA's position for the sixth session part two comprises the following three points.**

- **Even without U.S. participation, the parties should agree on Kyoto Protocol implementation rules at COP 6 part two, and ensure that it takes effect in 2002.**
- **Japan's government should turn down the new sink proposal that gives preferential treatment to Japan alone, and immediately announce that it will ratify the Protocol.**
- **The U.S. government should immediately return to the Kyoto Protocol negotiating table.**

## **2. Bring the Protocol into Force in 2002**

### **2.1 The Protocol Must Take Effect in 2002 to Combat Global Warming**

The Intergovernmental Panel on Climate Change (IPCC) warns that global warming is proceeding quickly, and that even stabilizing atmospheric greenhouse gases (GHGs) at their present levels would require an immediate 50 to 70% reduction in the emissions of anthropogenic GHGs. This IPCC warning means two things: First, there is no time to waste in taking action on global warming, and second, Kyoto Protocol targets are insufficient to prevent global warming, thereby necessitating higher reduction targets in the second commitment period.

While the Protocol's reduction targets are a small step, they are an important first step. To arrest global warming it is therefore essential to make the Protocol take effect soon and implement concrete measures. Article 3.2 of the Protocol states, "Each Party included in Annex I shall, by 2005, have made demonstrable progress in achieving its commitments under this Protocol," and Article 3.9 requires the Conference of the Parties to "initiate the consideration of such commitments at least seven years before the end of the first commitment period." These terms require that the Protocol take effect no later than 2002.

### **2.2 Japan's Ratification Will Determine the Protocol's Fate**

The U.S. government's March 28 declaration of withdrawal from the Protocol negates the more than 10 years of negotiations on the Framework Convention and Protocol, and is a serious breach of faith toward citizens of the world and future generations. Because the U.S. emits one-fourth of the world's GHGs and is the largest emitter, it has a duty to take the initiative in combating global warming. The U.S. government should immediately return to the bargaining table. If the U.S. does not do so, the fate of the Kyoto Protocol will depend on whether Japan ratifies it. If, by the time COP 6 part two convenes, Japan's government does not express its intent to ratify the Protocol, then Japan's role will be to help bury it.

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As the host of COP 3, where the Kyoto Protocol was adopted, and as the industrialized country with the second-largest GHG emissions after the U.S., Japan should indicate that it will ratify the Protocol by 2002.

### **2.3 Japan Should Renounce the Sink Proposal That Favors Only Itself**

The text of COP 6 President Jan Pronk, which was released on June 11, includes commendable elements such as placing a ceiling on credits arising from sink activities and exercising prudence in the use of nuclear power facilities in JI as well as CDM, but it also has many problems. For example, it does not put a numerical limit on supplementarity in the Kyoto mechanisms, and it is hardly capable of limiting hot air trading.

The biggest problem is that it gives preferential treatment in sinks to Japan alone. According to the text, if a party meets criteria including those on energy efficiency, forest cover, and population density, it gets an exemption on the application of the discount up to 13 megatons of carbon. Because Japan is the only Annex I country that meets these conditions, this proposal gives special treatment only to Japan, which can therefore count on sink absorption of 3.0% of its 1990 emissions. This amount is 50% of Japan's reduction target. Further, the sink loophole for Annex I Parties as a whole is bigger than that of previous proposals. As this proposal gives special treatment to only a few countries, it is not fair to everyone and it creates serious future negotiating problems. Japan should turn down this proposal, which gives special treatment only to itself.

**Table 1 Sink amounts under President Pronk's Proposals  
(compared to 1990 emissions levels)**

Proposal date	2000.11.23	2001.4.9	2001.6.11
Japan	0.6%	0.6%	3.0%
Canada	0.4%	3.0%	3.0%
U.S.	2.6%	3.2%	3.2%
Developed countries	1.6%	2.1%	2.3%

## **3. How the Kyoto Protocol Should Be Implemented**

### **3.1 Do Not Change the Protocol's Basic Framework**

The Kyoto Protocol comprises the following basic framework, and if that framework were changed, the Protocol would become a different document.

1. Annex I Parties have obligations and take the lead: common but differentiated responsibilities
2. The Protocol calls for reductions: Annex I Parties as a whole must reduce their GHG emissions from their 1990 levels.
3. The Protocol is legally binding.
4. There are specific reduction targets and deadlines for attaining them.
5. Domestic actions for reduction take precedence.

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In particular, the Protocol's specific reduction targets and attainment deadlines were agreed upon over nearly three years of negotiations following COP 1, and constitute the Protocol's basic substance. Discussing revisions to these targets and deadlines could turn the clock back to 1995 and require doing everything over. Such discussion is a pretext used by the countries that do not want to ratify it, and it serves only to delay the Protocol's entry into force.

### **3.2 Rules for Protocol Implementation**

CASA believes that in view of the Kyoto Protocol's basic framework, COP 6 participants should reach agreement as follows on the main themes.

#### (1) Developing countries

- Establish a funding mechanism for developing countries (especially a global warming adaptation fund).
- Make explicit the developed countries' obligation to pay their contributions, and develop a system to encouragement payment (determine each country's share, etc.).

#### (2) Kyoto mechanisms

- Confirm that use of the Kyoto mechanisms is supplementary to domestic action, and set numerical ceilings on the use of the mechanisms.
- Establish a system for supplementarity under which parties submit information (making them accountable), and the compliance committee examines it for supplementarity.
- Create strict rules for using the Kyoto mechanisms (for example, restrictions on use of hot air, commitment period reserves, not allowing fungibility of credits, and requirements for project additionality and eligibility).
- Do not allow nuclear power projects under the clean development mechanism or joint implementation.

#### (3) Sinks

- New activities pertaining to sinks (Protocol Article 3.4) should not be applied to the first commitment period.
- Sinks should not be projects under the CDM.

#### (4) Compliance regime

- The compliance regime should bring about legally binding consequences.
- When allowing the deduction of excess emissions from the assigned amount of the subsequent commitment period, a high penalty should be assessed on the excess, and international monitoring should assure that the party discharges its obligations.
- Cutting excess emissions from future commitment periods should as a rule be done through domestic action.

## **4. Possibilities for CO<sub>2</sub> Emission Reductions in Japan**

### **4.1 Japan Can Achieve a 6% Reduction Through Domestic Action Alone**

Under President Pronk's new text, Japan could count sinks toward half its reduction target,

but Japan's government still maintains that this is insufficient for Japan's ratification.

However, after studying this issue CASA has concluded that even if Japan does not rely on sinks and the Kyoto mechanisms, it can by 2010 achieve an approximate 9% reduction from its 1990 level using domestic actions alone.

## 4.2 The Deceptiveness of the "6% Reduction" Policy

In June 1998 Japan's government formulated the Guideline of Measures to Prevent Global Warming, whose purpose is to achieve a "6% reduction." However, this document attaches little importance to domestic measures and is seriously flawed, which is evident from its main elements: (1) construction of many more nuclear power plants (about 20); (2) excessive estimate of CO<sub>2</sub> absorption by forests (sinks); (3) purchase of assigned amounts from other countries under the Kyoto mechanisms; (4) excessive expectations for "development of innovative technologies" and "further efforts by citizens from all walks of life"; and (5) it condones a large 51% increase over 1995 in the emissions of three CFC substitutes (equal to a 2% increase over the base year in total GHG emissions). Additionally, the document has policy process flaws. For example, it presents almost no additional policy measures; instead, most of the measures are those already implemented by project-oriented government agencies for other purposes, and just reinterpreted by the Guideline. Additionally, there is no system for reinforcing policy while monitoring the state of implementation.

**Table 2 Detail of "6% reduction" (Guideline of Measures to Prevent Global Warming)**

Measure	Item	Effect
Domestic reduction	CO <sub>2</sub> emission mitigation ( including new construction of 20 nuclear power plants )	±0.0%
	CO <sub>2</sub> emission reduction by "development of innovative technologies" and "further efforts by citizens from all walks of life"	- 2.0%
	Methane and N <sub>2</sub> O emission reduction	- 0.5%
	CFC substitutes emission mitigation	+ 2.0%
Sink	excessive estimate of CO <sub>2</sub> absorption by forests (sinks)	- 3.7%
Kyoto Mechanism	purchase of assigned amounts from other countries under the Kyoto mechanisms	- 1.8%
Total		- 6.0%

As a consequence, even though Japan is in a recession, Japan's GHG emissions continue to increase (in 1999, an approximate 9% increase over 1990) owing to the belatedness of domestic policy. The main causes are as follows.

- (1) Although the Guideline calls for about 20 new nuclear plants, sitting is not proceeding according to plan, and the government is being forced into the considerably smaller

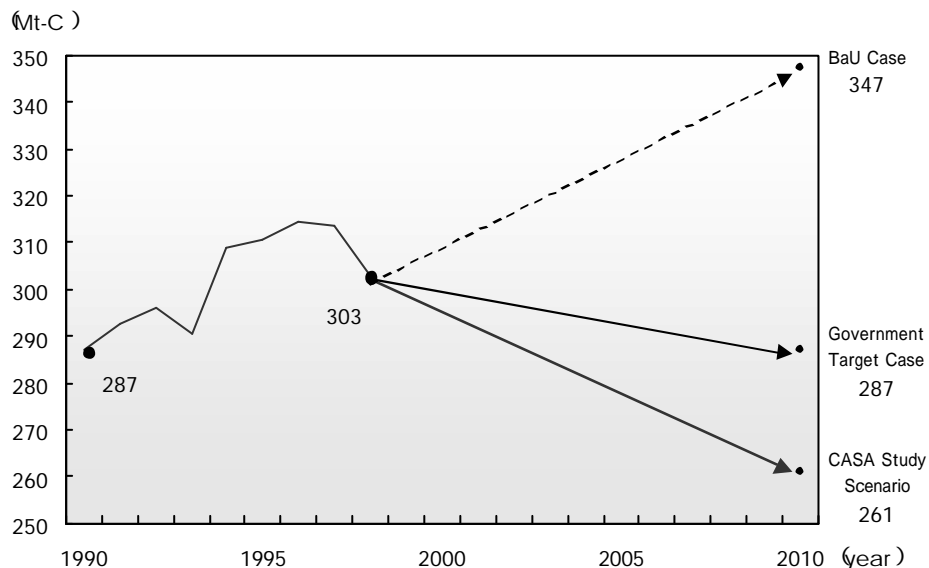
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number of 10 to 13 in the plan currently under development (actually there is only hope of sitting several plants). Failure to site new plants is doubtless because the citizens are wary of nuclear power owing to reasons such as the 1999 Tokaimura criticality accident, several instances of data manipulation, and the concealment of accidents.

- (2) Meanwhile, low fuel prices are encouraging the construction of new thermal power plants fired by coal, which emits the most CO<sub>2</sub>.
- (3) Policies to encourage energy conservation and to promote the wider use of renewable energy and other technologies to cut CO<sub>2</sub> emissions are totally ineffective. A major reason is that while the current Energy Conservation Law indeed has energy conservation standards for electrical appliances, motor vehicles, and the like, those standards are lax and do not cover many energy-consuming devices. Energy conservation standards for new buildings are mere voluntary targets, and in many cases are not attained. Furthermore, places of business are not required to make their energy conservation plans public, and no penalties whatsoever are imposed even if targets are not met. Thus, the Energy Conservation Law has no legal force and affords almost no hope of effectiveness.
- (4) The Law Concerning the Promotion of Measures to Cope with Global Warming was promulgated in October 1998, but it has no direct connection to policy measures that guarantee concrete GHG emission cuts, such as public education activities.

#### 4.3 CASA's Calculations Indicate a 9.1% CO<sub>2</sub> Reduction Possible

CASA's "enhanced action scenario" shows that if actions in the three areas of technology, power production, and demand are implemented in an integrated manner using appropriate policies and measures, Japan could reduce its CO<sub>2</sub> emissions to 9.1% of its 1990 level by 2010. CASA's "technological action scenario" indicates that with technological measures alone, CO<sub>2</sub> emissions would increase 0.1%.



**Figure 1 Trend of CO<sub>2</sub> emission from energy consumption in Japan**

[Technological measures]

- By using policies that include the strengthening of energy conservation standards and reform of the tax system, the 94 most energy-efficient technologies already in practical use in Japan as of 1999 (the top runners) would be incorporated into the industrial, transportation, household, service, waste management, and power plant sectors.

[Power production actions]

- Design policies to expedite wider use of the most advanced LNG thermal power production and renewable energy sources.
- Stop new construction of coal-fired thermal plants (government plans call for building about 20 new plants).
- Stop construction of new nuclear plants, and phase out existing plants as they reach their 30th years of operation (51 plants are presently operating, but 21 of them will have been decommissioned by 2010 if they are phased out on their 30th anniversaries).
- Top preference in power production will be given to the most advanced LNG-fired plants, which have low CO<sub>2</sub> emissions (presently nuclear and coal account for most power production).

[Demand-side measures]

- Industrial structure reform: Reduce public works by half (compared to Western countries, Japan spends two to three times as much on public works as a percentage of GDP, and many wasteful projects are carried out despite objections); build a cyclical economy, etc.
- Reducing motor vehicle traffic: Greater efficiency and modal shift in distribution; building public transit systems; putting into effect measures for traffic demand management; etc.
- Use policies to support and encourage energy-conserving behavior in homes, stores, offices, and other places.

**4.4 Measures to combat global warming (i.e., reduce CO<sub>2</sub> emissions) will as of 2010 bring about economic benefit of about 2.7 trillion yen.**

**Table 3 Lists of energy-efficient technologies**

Sector	technology
Industrial	
Steel	Coke oven coal moisture adjusting equipment, Closed system Linz-Donawitz gas recovery, etc. (14 technologies)
Cement	Waste heat power generator, Efficiency mill /grinding, etc. (5 technologies)
Pulp and Paper	Diffuser bleaching equipment, Boiler for lignin combustion, etc. (14 technologies)
Chemical	High efficient Polyethylene process (1 technology)
Transportation	Hybrid gasoline passenger, etc. (9 technologies)
Household	Pair glass, Improved efficiency of Heat Pump Air-conditioner, etc. (19 technologies)
Service	Task-Ambient Lighting, Gas engine Heat Pump (Air-Conditioner), etc. (24 technologies)
Waste management	High temperature and pressure power plant (1 technology)
Electricity	LNG advanced convened cycle gas turbine, Repowering, Wind power plant, etc. (7 technologies)
Total	94 technologies

**Table 4 Effect by using high energy-efficient technologies**

**Industrial sector (4 major industries)**

Energy efficiency improvement (1990-2010)	CASA study	Government target
Steel	11.9%	1.5%
Paper and Plup	16.5%	12.0%
Cement	19.1%	0.0%
Chemical (ethylene)	11.0%	10.0%

**Vehicle**

Fuel efficiency improvement (1997-2010)	CASA study		Government target	
	Fuel efficiency improvement	Hybrid car (million cars)	Fuel efficiency improvement	Clean energy car (million cars)
Gasoline passenger	63.6%	287	22.8%	89
Small gasoline passenger	47.6%	0	0.0%	
Diesel passenger	45.6%	0	(2005) 14.9%	51
Gasoline truck	25.2%	6	13.2%	19
Small gasoline truck	12.0%		0.0%	
Small diesel truck	21.0%	12	(2005) 6.5%	60
Large diesel truck	16.5%	12	0.0%	46
Gasoline bus	25.2%	0	0.0%	
Small diesel bus	21.0%	0.3	0.0%	
Large diesel bus	16.5%	4	0.0%	
Total		321		265

**Equipment and building**

Energy efficiency improvement (1990-2010)	CASA study	Government target
Air-conditioner	44.0%	(2004) 39.0%
Refrigerator	47.0%	(2004) 30.0%
TV	40.0%	(2003) 16.4%
Lighting	20 ~ 80%	(2005) 14.0%
Computer	80.0%	(2005) 45.0%
Insulation building	14.0%	14.0%
Energy efficiency improvement (buildings and stores)	10.0%	10.0%
Solar system (for Hot Water)	4163 (10 billion kcal)	4163 (10 billion kcal)
Renewable energy	666 (10 billion kcal)	666 (10 billion kcal)



**Table 5 CASA study result -CO<sub>2</sub> emission in 2010**

**CO<sub>2</sub> emission (energy consumption)**

(Mt-C)	1990	1997	BaU case	Government target case	CASA technological action scenario	CASA enhanced action scenario
Electricity	2,111	2,277	2,550	2,206	2,260	2,185
Industrial	13,372	13,454	14,172	12,542	12,148	11,051
Transportation	5,793	7,028	8,114	6,772	6,736	5,767
Service	3,395	3,886	4,660	3,354	3,564	3,372
Household	3,766	4,238	5,253	3,854	4,030	3,736
Others	278	496	0	0	0	0
Total	28,715	31,380	34,748	28,728	28,738	26,111
Compared to 1990	-	9.3%	21.0%	0.0%	0.1%	<b>-9.1%</b>

**CO<sub>2</sub> emission (others)**

(Mt-C)	1990	1997	BaU case	Government target case	CASA technological action scenario	CASA enhanced action scenario
Industrial process	1,604	1,623	1,837	1,804	1,632	1,362
Waste management	349	401	666	666	666	532
Total	1,953	2,024	2,503	2,470	2,298	1,894
Compared to 1990	-	3.6%	28.2%	26.5%	17.7%	-3.0%

**CO<sub>2</sub> emission (total)**

(Mt-C)	1990	1997	BaU case	Government target case	CASA technological action scenario	CASA enhanced action scenario
Total	30,668	33,404	37,251	31,198	31,036	<b>28,005</b>
Compared to 1990	-	8.9%	21.5%	1.7%	1.2%	<b>-8.7%</b>

**Table 6 "Technological action" cost and energy consumption reduction cost (in 2010)**

Sector	Item	Investment for equipment (100 million Yen)	Energy cost reduction (100 million Yen)	CO <sub>2</sub> emission reduction (10 thousand ton)	CO <sub>2</sub> emission reduction cost	
					Total (100 million Yen)	Cost per ton (10 thousand Yen/t)
Industrial	Steel	872	1,454	317	-582	-1.8
	Cement	922	524	125	397	<b>3.2</b>
	Paper and Pulp	585	1,244	171	-659	-3.9
	Chemical (ethylene)	83	188	27	-104	-3.9
Transportation	Gasoline passenger	5,612	14,370	810	-8,758	-10.8
	Small gasoline passenger	1,907	1,591	88	316	<b>3.6</b>
	Gasoline truck	89	644	36	-555	-15.6
	Diesel passenger	895	1,519	137	-624	-4.6
	Diesel truck	419	2,315	209	-1,896	-9.1
	Bus	8	123	11	-115	-10.4
Household	Energy efficiency improvement equipment	4,066	14,526	495	-10,460	-21.1
	Building insulation	3,295	2,586	193	710	<b>3.7</b>
	Solar system (for Hot Water)	2,400	2,757	213	-357	-1.7
Service	Energy efficiency improvement equipment	3,074	3,765	250	-691	-2.8
	Energy efficiency improvement building	2,128	6,210	502	-4,082	-8.1
		<b>26,355</b>	<b>53,815</b>	3,583	<b>-27,459</b>	-7.7