

# Governments Should Discuss the Certain Attainment of Targets and Global Environmental Targets

*CASA welcomes the Kyoto Protocol's entry into force!*

**UNFCCC COP10**

6-17 December 2004, Buenos Aires, Argentina



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## Main Points

- The Kyoto Protocol is the only international framework for arresting global warming, for which its entry into force is the vital first step. CASA sincerely welcomes the protocol's entry into force.
- The framework for 2013 and thereafter must accord with certain logical rules and have a long-term perspective. Its foundation is the Kyoto Protocol.
- A report prepared by a deliberative council of the Ministry of Economy, Trade and Industry (METI) exhibits little sense of crisis over advancing climate change, and lacks the will to try and stop it. CASA finds serious problems in the perception of METI and some members of corporate Japan toward the climate change issue, and in their wish to have a lenient framework for 2013 and thereafter.
- For long-term environmental targets, concerned parties should discuss which pathways would lead to levels that are dangerous, and which would not. Such discussion would make parties see that we need to immediately make substantial emission cuts, and that doing so is essential to assure sustainable development.
- Japan must substantially reduce emissions, but CASA's calculations indicate that it is fully possible. Merely implementing domestic measures pertaining to technology, power production, and demand would make it possible to reduce 2010 greenhouse gas (GHG) emissions by 11% from the baseline year.

## **1. Welcoming the Kyoto Protocol's entry into force**

On November 18, 2004 Russia's Kyoto Protocol ratification instrument was deposited with the UN secretary-general, and on February 16, 2005 the protocol will enter into force. The Kyoto Protocol is the only international framework for combatting global warming, and its entry into force is the vital first step for that purpose. CASA warmly welcomes its entry into force.

## **2. The US and Australia should ratify.**

We emphatically seek ratification of the Kyoto Protocol by the US, Australia, and other countries which show no such intention, and we ask that parties which have yet to complete ratification procedures do so immediately.

## **3. Certain attainment of reduction targets under the protocol**

Although the Kyoto Protocol's reduction targets are a very small part of reductions needed to stem global warming, their certain attainment is the first step toward that purpose. Yet instead of reducing their GHG emissions, many of the Annex I parties (developed nations) are in fact increasing them. It is predicted that in 2010 the developed countries' overall emissions will have increased about 10% over the baseline year. These nations should immediately formulate and implement effective policies and measures that will unfailingly attain their own targets for reducing and limiting emissions. Further, they should not depend too much on the Kyoto mechanisms, hot air, sinks, and the like, but should as a rule meet their targets with domestic measures in line with their past responsibilities for GHG emissions.

## **4. The framework for the second commitment period and thereafter should have higher reduction targets under the Kyoto Protocol.**

Article 3.9 of the Kyoto Protocol stipulates that the parties must start considering targets for the second commitment period and thereafter (2013 and beyond) at least seven years before conclusion of the first commitment period. As with the Berlin Mandate (1995) and the Buenos Aires Plan of Action (1998), parties must set a deadline for conclusion of discussion on the second commitment period. CASA thinks the discussion should conclude by the end of 2007, when the first commitment period starts.

To achieve the large reductions that IPCC reports indicate are needed, targets for the second commitment period and thereafter must be far higher than those for the first commitment period. To accomplish steady emission reductions, institutional design must carry over the Kyoto Protocol framework, including total emission reductions, legally binding provisions, and the compliance regime.

The Kyoto Protocol framework, which is the product of a decade of international negotiations beginning at COP1, must be respected to the maximum extent, and the framework for 2013 and thereafter must accord with certain logical rules and have a long-term perspective. For long-term environmental targets, there should be discussion on which pathways would lead to levels that are dangerous, and which would not. Such discussion will make parties see that we need to immediately make substantial emission cuts, and that doing so is essential to assure sustainable development.

## **5. No telling if Japan can achieve its 6% reduction.**

### **(1) Serious large emissions increase**

Japan is one of the world's major GHG emitters, and the host of COP3 where the parties agreed on the Kyoto Protocol. Therefore its responsibility to take the initiative and discharge its reduction obligations under the protocol is greater than that of the other parties. However, Japan's 2002 GHG emissions increased 8% over the baseline year. According to calculations by METI and other agencies, it is predicted that even if Japan implements all current policies and measures to combat global warming, its 2010 GHG emissions will be as high as 5% over the 1990 level.

### **(2) Problems in the review of the "National Climate Change Policy Program"**

In 1998 Japan formulated the "National Climate Change Policy Program" to attain its 6% reduction (the Program was revised in 2002). However, the Program has been criticized for a number of problems including: It discounts domestic measures by trying to achieve a 5.5% reduction using sinks and

the Kyoto mechanisms, and it sanctions a large 2% increase in three CFC substitutes by depending entirely on voluntary action plans by industry.

Japan's government is now assessing and reviewing the Program, but METI's draft of this Program Review makes hardly any changes to the current Program despite the increase in emissions. This is because industry emphatically insists on putting off measures and avoiding tougher policies. In particular, industry bitterly opposes the introduction of a carbon tax and domestic emissions trading, claiming they are "economic control."

The biggest problem with METI's Program Review is that in many ways the government cannot take responsibility for carrying out the Program. For instance, METI pins its hopes on voluntary initiatives to reduce emissions instead of guaranteeing reductions through policy. Some specific problems are:

- (1) Despite the many industries whose energy efficiency is flagrantly bad, METI claims without sufficient grounds that the Keidanren Voluntary Action Plan on the Environment is making progress, and the Review includes no far-reaching additional policy measures for the industry sector, which is the largest emitter.
- (2) The Program Review fails to examine the mass-production, mass-consumption society, and it leaves in place the "sound economic growth" (belief in GDP growth) that sanctions physical expansion. It also concludes that remedial global warming measures will make industry less internationally competitive, but it discounts the positive effects of remedial measures.
- (3) Under the assumption that "safety will be assured," the Review includes provisions for building new nuclear power plants, but this is an extremely unrealistic plan in view of the heavy mistrust that many Japanese have because of, for example, the deaths in the Kansai Electric Mihama nuclear plant accident in 2004, and the inspection data coverup by Tokyo Electric in 2002.
- (4) It includes provisions for developing innovative global warming remedial technologies and CO<sub>2</sub> fixing technologies, but without adequate technology assessments or cost calculations.
- (5) It says that if the target cannot be attained, it will make the figure come out to a "6% reduction" by expedient use of the Kyoto mechanisms.

### **(3) Problems in the "Energy Supply and Demand Outlook for 2030"**

Underlying this problem-fraught Program Review is Japan's new energy plan, called the "Energy Supply and Demand Outlook for 2030." The current "Long-Term Energy Supply and Demand Outlook" estimates energy supply and demand up to 2010, while the 2030 Outlook estimates energy supply and demand up to 2030 through several scenarios based on technological advances, nuclear power, and external macro factors (Table 1). Some of its serious problems are as follows.

- (1) Energy policy must have long-term targets, but the 2030 Outlook totally lacks a philosophy and policy doctrine meant to solve environmental problems. There is no policy doctrine like that of the British government's 2003 *Energy White Paper*, which provides for a nuclear power phaseout and a 60% reduction from 1997 in CO<sub>2</sub> emissions by 2050.
- (2) Almost all the scenarios assume a substantial increase in energy consumption, and total 2003 consumption is 9 to 30% over the 1990 level. In one scenario, CO<sub>2</sub> emissions (from energy consumption) in 2030 range between -10% and +15% of the 1990 level. CO<sub>2</sub> emissions in 2010 are estimated at between 0% and +11% of the 1990 level, showing that even attaining the Program's "stabilization at 0%" target will be difficult.
- (3) Compared with the Long-Term Outlook's plan for building 10 to 13 new nuclear power plants by 2010, the 2030 Outlook just delays that target by calling for 8 to 10 new plants by 2030; there is no change at all in the policy of nuclear power dependence. What is more, it anticipates that the nuclear plant utilization rate will rise from 82% in 2000 to 85 or 90% in 2010. This gives rise to concerns that the government is disregarding the need for plant safety inspections necessitated by

equipment aging. There are hardly any expectations for industry sector measures, which in the Program are heavily dependent on the Keidanren Voluntary Action Plan on the Environment, which also has only a low target for 2010.

- (4) No consideration is given to qualitative transformation of the economy. For example, the Agency for Natural Resources and Energy's document "On Achieving the Targets in the National Climate Change Policy Program" states, "Any reduction in performance indicators and the like, which would in turn mean lowering living standards or economic activity, is fundamentally inappropriate."
- (5) Few sources and data are offered on simulation results, and the bases for calculations are nearly unknowable. For example, no forecasts are provided for material production quantities such as steel, cement, and paper/pulp, which heavily influence energy consumption. Despite the use of an econometric model, many important data are missing, such as employment changes and the employment structure.

**Table 1 Predictions of the "Energy Supply and Demand Outlook for 2030"**

	Case	Industry	Household-service	Transport	Totals		
					consumption	CO2 emissions	
	1990 data	172	89 (Household43, Service46)	83 (Passengers43, Freight39)	344	286 -	
2010 prediction	Reference	188(+9%)	127(+43%) (Household60, Service67)	106(+28%) (Passengers64, Freight42)	420(+22%)	318 (+11%)	
	Current measures	187(+9%)	123(+38%) (Household58, Service65)	101(+22%) (Passengers62, Freight39)	411(+19%)	301 (+5%)	
	Additional measures	187(+9%)	118(+33%) (Household55, Service63)	97(+17%) (Passengers60, Freight36)	402(+17%)	287 (+0%)	
2030 prediction	Baseline	Reference	188(+9%)	136(+53%) (Household64, Service72)	101(+22%) (Passengers66, Freight35)	425(+24%)	311 (+9%)
	Energy technology progress	Energy saving progress	185(+8%)	114(+28%) (Household52, Service62)	78(-9%) (Passengers49, Freight29)	377(+10%)	258(-10%)
		New energy progress	188(+9%)	136(+53%) (Household64, Service72)	101(+22%) (Passengers66, Freight35)	425(+24%)	299 (+5%)
	Nuclear power	High nuclear power	188(+9%)	136(+53%) (Household64, Service72)	101(+22%) (Passengers66, Freight35)	425(+24%)	300 (+5%)
		Low nuclear power	188(+9%)	136(+53%) (Household64, Service72)	101(+22%) (Passengers66, Freight35)	425(+24%)	314 (+10%)
	External macro factors	High economic growth	202(+17%)	143(+61%) (Household68, Service74)	104(+25%) (Passenger cars67, Freight	448(+30%)	329 (+15%)
		Low economic growth	169(-2%)	123(+38%) (Household58, Service65)	98(+18%) (Passenger cars67, Freight	390(+13%)	281 (-2%)
		High oil prices	184(+7%)	132(+48%) (Household64, Service68)	100(+20%) (Passengers66, Freight34)	416(+21%)	-
		High oil prices and change in	184(+7%)	133(+49%) (Household65, Service68)	100(+20%) (Passengers66, Freight34)	417(+21%)	-
		Low oil prices	191(+11%)	142(+60%) (Household65, Service77)	103(+24%) (Passengers66, Freight37)	437(+27%)	-
	Combination	Energy saving progress,	200(+16%)	121(+36%) (Household56, Service66)	81(-2%) (Passengers50, Freight31)	402(+17%)	276 (-3%)

## 6. Japan must and can reduce its emissions significantly.

Japan's 2002 GHG emissions were 1,331,000,000 tons (CO<sub>2</sub> equivalent), a 7.6% increase over the baseline year, showing that not only has Japan fallen short of the 6% reduction the Kyoto Protocol stipulates, it must now achieve an 14% reduction because of policy failure. Total emissions of CO<sub>2</sub>, which accounts for 90% of GHGs, amounted to 1,247,600,000 tons, an 11.2% increase over 1990. Japan must achieve significant emission cuts, but METI and industry assert that Japan has few possibilities for reducing GHG emissions. However, CASA's calculations show this is well within the realm of possibility.

Characteristics of Japan's CO<sub>2</sub> emissions are that the industrial sector accounts for more than 50% (including energy conversion and industrial processes), and that adding emissions from the service and transport sectors (trucks and other sources) brings the share for business to about 80%. But the National Climate Change Policy Program is a plan fraught with uncertainties because with regard to domestic measures it calls a large increase in nuclear power, which stands no chance of happening, and on the Keidanren Voluntary Action Plan on the Environment, which is not backed by government policy.

CASA used its independently developed "bottom-up end-user model" to examine the possibilities for reducing CO<sub>2</sub> emissions (from energy consumption) by exploring two scenarios: (1) technological measures only, and (2) a combination of measures involving technology, power production, and demand-side management. Both scenarios envision policies unlike those of the government by counting on no new nuclear power plants at all, and assuming that each nuclear plant will be decommissioned once it completes 30 years of service. Translating these CASA scenarios into reality will require the introduction and reinforcement of various policies and measures using regulatory, economic, and inducement means in all areas, and this aspect was also considered.

For CFC substitutes (HFCs, SF<sub>6</sub>, and PFCs; "three gases") we assumed that HFCs, which have many alternatives, would be quickly replaced by substitutable natural substances, and that PFCs and SF<sub>6</sub>, for which substitutes have not been specified, would be strictly managed on site. We predicted 2010 emissions under these assumptions.

Results show that using only domestic measures involving technology, power production, and demand-side management would be sufficient to achieve an 11% reduction (about 9% CO<sub>2</sub>, about 2% three-gas total) from the baseline year in Japan's GHG emissions in 2010 (Table 1, Fig. 2).

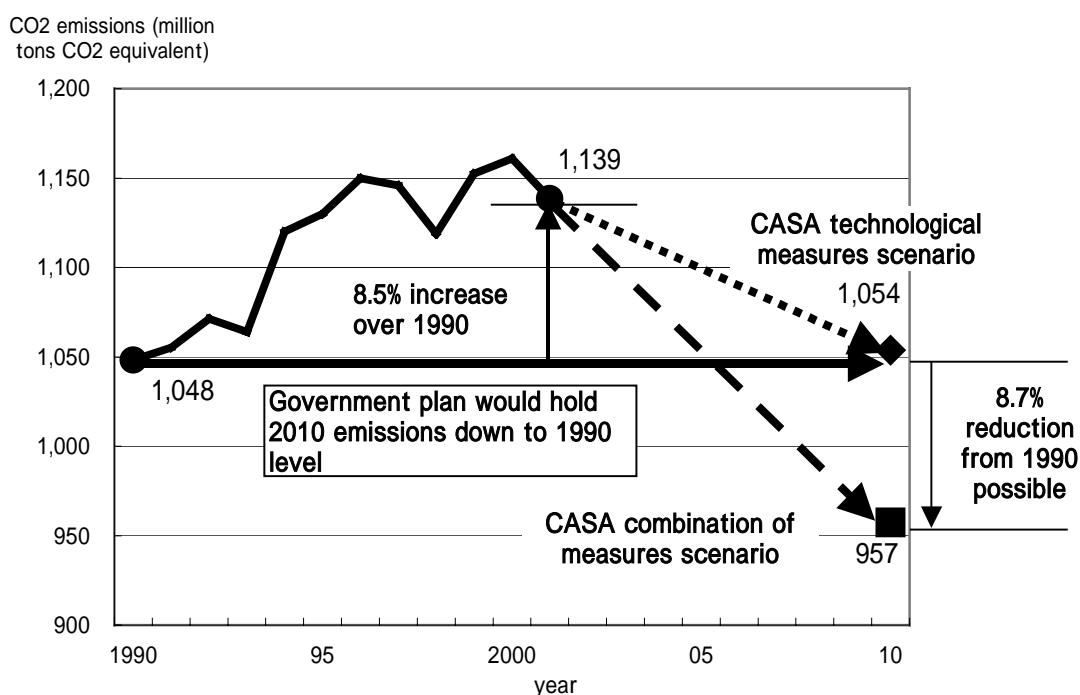
- (1) Policies depending on technological measures alone would only lower CO<sub>2</sub> emissions to the 1990 level in 2010 (CASA technological measures scenario, 30-year nuclear phaseout case).
- (2) If the government used appropriate policies and measures to comprehensively implement three types of remedial measures involving technology, power production, and demand-side management, it could reduce CO<sub>2</sub> emissions about 9% off the baseline year level in 2010 (CASA combination of measures scenario, 30-year nuclear phaseout case).
- (3) If HFCs are basically replaced by substitutes, if PFCs and SF<sub>6</sub> are strictly controlled on site, and if currently available technological measures are implemented, it would be possible to reduce the total three-gas emissions about 2% below the 1995 level in 2010.
- (4) Comparing the cost of technological measures to reduce CO<sub>2</sub> and the amount by which energy costs are cut yields a positive effect of about ¥2.7 trillion on a 2010 single-year base.

**Table 2 Effectiveness of Japan's CO2 Emission Reduction in 2010 According to CASA Scenarios**

Gas type		CASA scenarios		Reference: New Guideline
		(1) Technological measures	(2) Combination of measures	
CO <sub>2</sub> (from energy use)	Energy conversion sector	+ 0.8%	- 2.5%	-
	Industrial sector	- 6.4%	- 14.9%	- 7.0%
	Transport sector	+ 13.8%	- 2.6%	+ 17.0%
	Service sector	- 9.1%	- 14.0%	- 2.0% (Service, household)
	Household sector	+ 14.4%	+ 6.1%	
	<b>CO<sub>2</sub> total</b>	<b>+ 0.5%</b>	<b>- 8.7%</b>	<b>± 0.0%</b>
HFC · PFC · SF6			- 2.0%	+ 2.0%
<b>Total for CO<sub>2</sub>, HFCs, PFCs, and SF6</b>		<b>+ 0.5%</b>	<b>- 10.7%</b>	<b>+ 2.0%</b>

\*Note: Baseline year for CO<sub>2</sub> is 1990; for HFCs, PFCs, and SF6 it is 1995

**Fig. 1 Predicted CO2 Emissions (from Energy Use) in 2010**



## 7. Discussion on a future framework for Japan: Problems in the METI proposal

Since 2002 there has been lively discussion on Japan's future framework by government councils and other bodies. In particular, CASA finds serious problems with two reports prepared by METI councils, and with books written and edited by METI officials to present those reports to general audiences. Problems with the Industrial Structure Council's latest report released in October 2004, "A Future Sustainable Framework Concerning Climate Change (Interim Summary [Draft]," can be summed up as follows.

- (1) The report accords very little significance to the serious impacts of climate change on ecosystems and human society, and gives no attention at all to the precautionary principle.
- (2) Even though Japan hosted the conference at which the Kyoto Protocol was adopted, the report expresses dissatisfaction about the unfairness of decisions already made. In particular, the report's proposals attempt to almost completely abolish the

- achievements of international negotiations.
- (3) Despite IPCC warnings about the immediate need to substantially cut GHG emissions, the report places great dependence on future technological development, and seeks an even more lenient framework in 2013 and thereafter. Specifically, it dismisses short-term reductions by developed countries as meaningless, and virtually gives the highest priority to eliminating reduction obligations.
  - (4) It calls for having the major emitting countries move ahead with decision-making on their own, shutting out island nations and other victim countries, and turning conferences that discuss humanity's future while considering the benefit of the whole world into meetings for reconciling competing interests in the narrow sense.

## 8. Discussion on the sound implementation of the Kyoto Protocol, and on global environmental targets

In 2003 there were many extreme weather events including the European heat wave that claimed as many as 10,000 lives in France, heavy flooding in southeast China, and forest fires in southern Europe and North and South America. In 2004 Japan had unprecedented hot temperatures which broke records for the number of midsummer-temperature days around the country. Usually one large typhoon hits Japan a year, but this year there were 10, causing many deaths and extensive damage. News reports say that in the United States four hurricanes killed 120 people and caused \$10 billion in damage. The last two years have provided a concrete sense that climate change is proceeding far more quickly than we had imagined.

CASA supports the Climate Action Network's position that if we do not keep the rise in temperature below 2°C compared to pre-industrial revolution temperature, irrevocable global environmental damage could threaten the sound survival of humanity. Already the average global temperature has risen 0.7°C over the last 100 years. There is not much time left.

In response to the Kyoto Protocol's entry into force, CASA emphatically asks governments to work steadfastly on policies and measures meant to attain their commitments, and to immediately begin discussions on global environmental targets having a long-term perspective.