

Revised Kyoto Protocol Target Achievement Plan -- Overview and History of Revision --

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In a statement on the Cabinet's decision on a revision to the Kyoto Protocol Target Achievement Plan, Prime Minister Yasuo Fukuda said: "Global warming now poses real problems that can greatly affect our lives and economic activities. We must immediately strengthen our efforts to tackle global warming." The Cabinet at last decided on the revised Kyoto Protocol Target Achievement Plan¹ after discussions that lasted for one and a half years. This report introduces discussions toward the Cabinet decision and details of the revised Kyoto Protocol Target Achievement Plan.

1. History of Kyoto Protocol Target Achievement Plan

The revised Kyoto Protocol Target Achievement Plan originates from the "Outline for Promotion of Efforts to Prevent Global Warming" as compiled in 1998. The Conference of the Parties to the U.N. Framework Convention on Climate Change² in December 1997 produced the Kyoto Protocol³ requiring industrial countries to reduce GHG emissions. It requires Japan to stabilize GHG emissions to 94% of the level for the base year⁴. In response, the Cabinet decided on the "Outline for Promotion of Measures to Prevent Global Warming" in 1998, specifying Japan's measures to achieve its Kyoto Protocol target. When the Kyoto Protocol took effect in February 2005, the Cabinet

¹ Kyoto Protocol Target Achievement Plan is the Japanese basic policy on measures to tackle global warming based on the Law Concerning the Promotion of Measures to Cope with Global Warming.

² The U.N. Framework Convention on Climate Change states that its ultimate objective is to achieve "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system." It also states, "Such a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner." The convention was adopted in May 1992 and took effect in 1994. Japan signed the convention at the U.N. Conference on Environment and Development in June 1992 and ratified it in May 1993. As of April 2008, 192 countries had ratified the convention.

³ The Kyoto Protocol subjects carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride (SF₆) to quantified emission limitation and reduction commitments. With a view to reducing industrial countries' overall emissions of these gases by at least 5% below 1990 levels in the first commitment period from 2008 to 2012, the protocol provides for a binding quantified commitment for each industrial country. Japan is required to cut GHG emissions by 6%. It takes removals by GHG sinks into account as part of the commitments and provides for the Kyoto Mechanism including flexible measures for achieving national targets. The protocol took effect on February 16, 2005.

⁴ The base year is set at 1990 for CO₂, methane and nitrous oxide, and at 1995 for HFCs, PFCs and SF₆.

decided on the Kyoto Protocol Target Achievement Plan to succeed the "Outline for Promotion of Measures to Prevent Global Warming." Since then, Japan has promoted various measures to abate GHG emissions. Article 9 of the Law Concerning the Promotion of the Measures to Cope with Global Warming⁵ states, "In 2007, the government shall assess goals and measures in the Kyoto Protocol Target Achievement Plan and promptly revise them if any revision is considered necessary." The revision to the Kyoto Protocol Target Achievement Plan was carried out under this provision. Since the plan was first compiled in 1998, the government has so far made three major revisions -- in March 2002, April 2005 and March 2008.

2. Discussions toward FY 2007 Revision

The assessment of the Kyoto Protocol Target Achievement Plan for the latest revision started in November 2006 when the Global Environment Subcommittees of the Industrial Structure Council's Environment Committee (at the Ministry of Economy, Trade and Industry)⁶ and the Central Environment Council (at the Ministry of the Environment)⁷ began to jointly assess policy progress after their separate discussions. After 30 meetings during the 13 months from November 2006, a draft final report was released in December 2007 on the revision to the Kyoto Protocol Target Achievement Plan. A total of 615 groups and persons made 1,589 opinions on the draft through the public comment procedure. Based on these opinions, the final report on the revision to the Kyoto Protocol Target Achievement Plan was announced on February 8, 2008. The final report was subjected to public comments again. After 51 groups and persons made 189 opinions, the Cabinet decided on the revision.

An interim report given in August 2007 stated that Japan's amount of GHG emission reductions will be short by 20 million to 34 million tons CO₂ equivalent from its target, prompting people to concern that Japan could fail to achieve the Kyoto Protocol target. However, the draft final report released in December concluded that Japan would be able to achieve the Kyoto Protocol target if each sector takes additional measures to cut GHG emissions. Council members then gave high ratings to the process for consideration of additional emission-cutting measures. But some questioned if the proposed systems would really work. Particularly, they complained that no specific policy had been proposed to secure the implementation of national movements to cut

⁵ The Law Concerning the Promotion of the Measures to Cope with Global Warming provides for a framework for the central and local governments, enterprises and citizens to tackle measures against global warming in response to the adoption of the Kyoto Protocol. The law was enacted on approval by the House of Councillors on October 2, 1998, and promulgated on October 9 of the same year.

⁶ Majority of the commission members belongs to industry and research institutes.

⁷ Majority of the commission members is university professors.

GHG emissions through the so-called "cool biz"⁸ and "warm biz"⁹ initiatives for setting air-conditioner temperatures at appropriate levels, water consumption conservation, eco-driving practices including elimination of idling, selection of energy-saving products, bringing of shopping bags, strict unplugging of electrical appliances, etc. Some council members feared that GHG reductions would depend on citizens' eco-consciousness. Other opinions suggested that a domestic emissions trading system be created to ensure specific reductions and that higher goals be set for introduction of new energies.

Controversial issues discussed just before compilation of the final report included implementation of emissions trading system, environmental taxes and a daylight saving time system. Discussions on these new systems failed to produce conclusions. The revision has thus been limited to enhancement of GHG emission reduction measures in each sector, with the framework of the 2005 plan maintained.

3. Overview of Revised Kyoto Protocol Target Achievement Plan

The Kyoto Protocol Target Achievement Plan describes the basic philosophy of global warming countermeasures as follows: "The emission of greenhouse gases is closely related to economic activities and the lives of the citizens. Therefore, Japan will boldly implement global warming countermeasures founded on the basic philosophy of 'compatibility between the environment and the economy'." Japan's GHG emissions in FY 2005 totaled 1,359 million tons CO₂ equivalent, up 7.7% from 1,261 million tons CO₂ equivalent in the base year of FY 1990. Moreover, the FY 2005 emissions were 13.7% more than the Kyoto Protocol target at 1,186 million tons CO₂ equivalent. While emissions of methane, nitrous oxide, HFCs and PFCs were reduced, energy-related CO₂ emissions that account for nearly 90% of Japan's total GHG emissions increased. Factors for the increase in energy-related CO₂ emissions were slack capacity utilization ratios for nuclear power plants from the first half of 2002, an economic recovery, expanded floor space of office buildings and a rise in the number of personal computers and electrical home appliances in use. The commercial sector, which accounts for some 20% of Japan's total energy-related CO₂ emissions, expanded by 45.4% from FY 1990. The residential sector, which accounts for some 10% of Japan's total energy-related CO₂ emissions, also expanded by 36.4% (see Table 1). In response to such situation, the latest revision to the Kyoto Protocol Target Achievement Plan focused on measures to curb energy CO₂ emissions. Table 2 shows major additional measures adopted through

⁸ "Cool Biz" is the dress code which advises workers to starch collars so they stand up and to wear trousers made from materials that breathe and absorb moisture.

⁹ "Warm Biz" suggesting that people wear heavy turtleneck shirts instead of a tie and collar.

the latest revision and estimated additional emission reductions through these measures.

Table 1 Gas-by-gas Emissions and Target Reductions under Kyoto Protocol Target Achievement Plan

	Base-year emissions (10,000 t-CO ₂)	FY 2005 emissions (10,000 t-CO ₂)	Compared with base year (%)	FY 2010 target emissions (10,000 t-CO ₂)	Target reductions from base year (%)	(Reference) Target reductions under Kyoto Protocol Target Achievement Plan before revision
GHG emissions	1261	1359	7.7%	1,239-1,252	▲1.8%-▲0.8%	▲0.5%
Energy CO ₂ (see Note 1)	1,059	1,201	11.3%	1,076-1,089	1.3%+2.3%	0.96%
Industrial sector	482	452	▲6.1%	424-428	▲12.1%-▲11.3%	▲8.6%
Commercial sector	164	239	45.4%	208-210	26.5%-27.9%	15.0%
Residential sector	127	174	36.4%	138-141	8.5%-10.9%	6.0%
Transportation sector	217	257	18.1%	240-243	10.3%-11.9%	15.1%
Energy conversion sector	68	79	16.5%	66	▲2.3%	▲16.1%
Non-energy CO ₂	85	91	0.4%	85	▲0.04%	▲0.3%
CH ₄	33	24	-0.7%	23	▲0.9%	▲0.4%
N ₂ O	33	25	-0.6%	25	▲0.6%	▲0.5%
Three fluorinated gases	51	18	▲2.6%	31	▲1.6%	0.1%
Absorption by forest sinks					▲3.8%	▲3.9
Kyoto Mechanism					▲1.6%	▲1.6%
Total target reductions (compared with base year)					Total ▲7.2%-▲6.2%	▲6%

Note 1: Sector-by-sector percentages reductions are approximate targets. Percentage changes from the base year are those from base-year emissions in the respective sectors.

Sources: Kyoto Protocol Target Achievement Plan (revised in 2008), March 28, 2008

Kyoto Protocol Target Achievement Plan (revised in 2005), April 28, 2005

Table 2 Major Additional Domestic Measures and Additional Emission Reductions

	Specific additional measures	Estimated additional emission reductions
Promotion of voluntary action plans	(1) Expanding the number of participated industry (Specified-size electric utilities, information services, etc.) (2) Quantification of qualitative targets (Telecommunications, buses & taxis industry, etc.) (3) Implementation of strict review by the government (Pharmaceuticals, LP gas, trading companies, etc.) (4) Higher targets for sectors that have surpassed targets (Chemicals, electrical machinery and electronics, paper products, etc.)	About 21 million t-CO ₂
Improvement of energy-saving performances for houses and other buildings	(1) Regulations under the revised energy conservation law will cover certain small- and medium-sized buildings. Measures will be enhanced to secure emission reductions for large buildings. Incentives will be introduced for house builders and sellers to improve energy-saving performances of houses. (2) Tax incentives will be created for promotion of house renovation for energy-saving purposes. Tax incentives to	About 2 million t-CO ₂

	<p>promote investment in the energy supply and demand structure reform will be extended and expanded for reforms for commercial buildings.</p> <p>(3) The government will provide budget funds for promoting small and medium enterprises' introduction of energy-saving construction technologies, for enlightening consumers about energy conservation through businesses, for supporting model housing and building projects introducing advanced and effective CO₂-saving technologies and for developing methods for assessment of overall energy-saving performances of houses including housing equipment.</p>	
Top-Runner products	<p>(1) Additional Top-Runner products DVD recorders compatible with terrestrial digital broadcasting will be added.</p> <p>(2) Tougher energy-saving standards Standards will be toughened for electrically heated lavatory seats, fluorescents, vending machines and non-residential air conditioners.</p>	About 2 million t-CO ₂
Improvement of vehicle fuel efficiency	<p>(1) New fuel efficiency standards will be introduced for passenger cars for attainment by fiscal 2015.</p> <p>(2) The world's first fuel-efficiency standards will be introduced for heavy vehicles for attainment by FY 2015.</p>	About 3.5 million t-CO ₂

Sources: Kyoto Protocol Target Achievement Plan, March 28, 2008

4. Conclusion

The government has assessed and revised Japan's efforts to achieve the Kyoto Protocol target three times based on the Law Concerning the Promotion of Measures to Cope with Global Warming, since the Outline for Promotion of Efforts to Prevent Global Warming was approved in 1998.

Through the past revisions, the government has implemented additional various types of measures to achieve the Kyoto Protocol target and expanded the scope for these measures.

However, there are many measures which cannot secure emission reduction. GHG emissions of the residential and commercial sectors, for instance, have increased steadily even though some measures had been introduced. It indicates that it is very difficult to curb emissions in these sectors. In the residential sector, introduction of binding measures forcing each citizen to cut back on energy consumption will be difficult. Under such circumstances, the latest revision pushes the industrial sector to reduce CO₂ emission rather than residential sector. Because the revision judges industry's Voluntary Action Plan is more feasible measure which ensures emission reductions than the no-binding measures in the residential sector. It also secures

methane, nitrous oxide, HFC and PFC emission reductions for which technical innovation has made progress. In reality, however, emission reduction potentials in these areas may be limited in the future. While the government plans the expansion of forest sinks to account for 3.8 percentage points of the 6% emission reduction, the increase in emissions removed by forest sinks in FY 2005 was limited to 9.7 million carbon tons (amounting to 2.8 percentage points). Under the present situation, a reduction shortfall of 1.1 million carbon tons by forest sink is expected in the first commitment period under the Kyoto Protocol.

In response to such conditions, the latest revised Kyoto Protocol Target Achievement Plan calls for strict annual checks on progress in measures. Under the revised plan, the government is set to provide a projection of Japan's total GHG emissions in the first commitment period. In addition, the government plans to make a comprehensive assessment of progress in measures and policies cited in the plan in FY 2009. This is designed to pave the way for the government to promptly take effective additional measures and policies to achieve the target in the remaining three years of the first commitment period.

Discussions are expected to grow in the future on whether to promote emission reductions in the residential and commercial sectors where binding measures are difficult to introduce. Whether to maintain target emission reductions in the latest revision, whether to expand utilization of the Kyoto Mechanism to attain the target and whether to introduce domestic emissions trading and other new systems.

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