

**Results of the 16th Annual
“Questionnaire on Environmental Problems and the Survival of Humankind”**

REPORT

THE ASAHI GLASS FOUNDATION

September 2007

Contents

Foreword	3
I. Facts about the 16 th Annual “Questionnaire on Environmental Problems and the Survival of Humankind”	4
II. Summary of Questionnaire Results	5
III. Questionnaire Results	7
A. Repeat Topics	7
1. Awareness of the Crisis Facing Human Survival—Environmental Doomsday Clock	7
2. Progress Toward Agenda	10
B. Main Focus of the Current Year’s Questionnaire	13
3. Global Warming.....	13
3-1. Approaches Beyond the First Commitment Period of the Kyoto Protocol (Post-2012 Approaches)	13
3-2. Long-term Measures	18
4. Energy Problems.....	22
5. Lifestyle Alteration	24
IV. Comments from Respondents.....	27
V. Data Book	37
VI. Questionnaire as Distributed to Respondents	42

Foreword

This report summarizes the results of this year's "Questionnaire on Environmental Problems and the Survival of Humankind," a survey conducted annually by the Asahi Glass Foundation since 1992.

While 15 years have already passed since the Earth Summit in Rio de Janeiro and five years since the Johannesburg Summit, the urgency and the importance of solving global environmental problems continue to grow ever greater. The start of the Kyoto Protocol Commitment Period is approaching next year. Earlier this year, Working Groups I through III of the Intergovernmental Panel on Climate Change (IPCC) each published the "IPCC Fourth Assessment Report." In particular, the report by Working Group I revealed that global warming has already begun to take effect, and that its cause is almost undoubtedly due to the increase in greenhouse gases caused by human activity. These developments resulted in global warming attracting extensive attention. Recognizing climate change as a grave threat requiring a global response, countries around the world are beginning discussions on solutions beyond 2012 when the Kyoto Protocol expires.

In this year's survey, the 16th, the questionnaire was designed to gauge the perceptions of environmental experts from both governmental and private sector organizations around the world, about the progress of endeavors to solve various environmental problems and to highlight how those observations reflect regional characteristics. The questionnaire continued to query respondents on the issues addressed in previous years, including the Environmental Doomsday Clock and Agenda 21. In addition, this year's survey also probed respondents about the pressing issue of global warming, and the related issues of energy problems and lifestyle alteration.

Once again, the Foundation received thoughtful responses from countless environmentally conscious experts in the private and public sectors around the world. We would like to extend our heartfelt gratitude to them for taking the time to respond to the survey. In addition, we would like to express our profound appreciation to Professor Akio Morishima, Special Research Advisor of the Institute for Global Environmental Strategies, for continuing to provide invaluable advice at all stages of the project, from the initial survey design, to the analysis of the results.

In closing, we appeal to readers of this report for advice on how to enhance the survey so that it can be made more comprehensive and relevant in the future.

Asahi Glass Foundation
September 2007

I. Facts about the 16th Annual “Questionnaire on Environmental Problems and the Survival of Humankind”

Response period: Questionnaires were sent out in April 2007 with a return deadline of May 2007.

Questionnaire respondent pool: Environmental experts selected from members of government organizations, NGOs, academic and research institutions, and corporations (based on the Asahi Glass Foundation database).

Questionnaires mailed: 3,890

Questionnaires returned: 715

Response rate: 18.3%

Breakdown of respondents by region, gender, and occupational affiliation:

Region	Number of responses	Percent of total
Developed Regions	473	66.2
Japan	322	45.0
United States & Canada	47	6.6
Western Europe	70	9.8
Asian Four (South Korea, Hong Kong, Taiwan, and Singapore)	34	4.8
Developing Regions	177	24.7
Rest of Asia	106	14.8
Latin America	36	5.0
Africa	35	4.9
Others	65	9.1
Oceania	18	2.5
Eastern Europe & former Soviet Union	30	4.2
Middle East	17	2.4
(Overseas Total)	(393)	(55.0)
Total	715	100.0

Gender	Number of responses	Percent of total
Male	571	79.9
Female	100	14.0
No response	44	6.1
Total	715	100.0

Occupational Affiliation	Number of responses	Percent of total
National government	70	9.8
Local government	92	12.9
University or research institution	143	20.0
Nongovernmental organization	136	19.0
Corporation	108	15.1
Others	126	17.6
No response	40	5.6
Total	715	100.0

Notes: * Unless otherwise noted, this report used the 715 responses as the basis for calculating percentages, which are rounded up from the first or second decimal place.

* In this report, “Asia” is all of Asia except Japan. Further, South Korea, Hong Kong, Taiwan, and Singapore are classified as the “Asian Four (A4).” Other Asian countries are classified as the “Rest of Asia (RoA).”

* Japan, United States & Canada, Western Europe, and the Asian Four are classified as “Developed region,” and while the remainder of the Rest of Asia, Latin America, and Africa are classified as “Developing region,” and Oceania, Eastern Europe & former Soviet Union, and Middle East are classified as “Others.”

* Please note that where it is marked “Percentages are based on the total number of responses,” the total number of responses refers to the total number of responses to that question, not to the total number of respondents to the survey. In the diagrams, “N” represents the number of valid responses.

II. Summary of Questionnaire Results

A. Repeat Topics

1. Awareness of the Crisis Facing Human Survival

The Environmental Doomsday Clock (Questionnaire 1)

- The average time on the environmental doomsday clock advanced for all regions except Asia and the Middle East. This resulted in the greatest advancement of the needle, to 9:31. This represented a progression of 14 minutes, even from the previous year when the needle had made its largest advancement since the start of the survey, reflecting an even higher sense of crisis than last surveyed.
- The average time on the environmental doomsday clock as marked by Japanese respondents also advanced, to 9:34, an advancement of 19 minutes.
- The average time for overseas respondents was 9:28, a 9-minute advancement of the needle in comparison to the previous year.
- Environmental Conditions of Concern in Determining the Doomsday Clock Time: The main environmental condition of concern among respondents from both Japan and overseas was “global warming,” followed by “deforestation, desertification, loss of biodiversity,” and “water shortage, food problems.” The number of respondents who cited “global warming” this year rose by 7 points for the total respondents, 6 points for Japanese respondents and 8 points for overseas respondents compared to the previous year.

2. Progress Toward Agenda 21 (Questionnaire 2)

As in previous years, the questionnaire surveyed respondents about the 10 categories of the action plan as outlined in Agenda 21.

- As in previous years, “promotion of environmental education” was the category most frequently cited as having made progress. In contrast, “lifestyle alteration” was the least cited category.
- Similar to last year, the categories in which more than 50% of respondents, from both Japan and overseas, indicated there had been progress included “promotion of environmental education,” “activities by local governments and citizens’ groups,” “environmental measures by industry,” “scientific and technological contributions,” and “formation of recycling systems.”
- As in previous years, more respondents reported no progress than those who reported progress in the following 5 areas, including “conservation of forest resources,” “greenhouse gas prevention measures,” “conservation of biodiversity,” “population and poverty problems,” and “lifestyle alteration.” In particular, “lifestyle alteration” was the only category this year in which more than 50% of respondents indicated no progress.

B. Main Focus of the Current Year’s Questionnaire

3. Global Warming (Questionnaire 3)

The questionnaire polled respondents about approaches beyond the First Commitment Period of the Kyoto Protocol as well as long-term measures past this period.

Approaches beyond the First Commitment Period of the Kyoto Protocol

- As the post-2012 regulatory framework, overall, 50% of respondents selected “a new structure will be in place where in addition to developed countries including the United States and Australia, major developing countries like Brazil, China and India will participate and be subject to regulations.”
- When considering how the discrepancies in economic development between developed and developing regions should be reflected in the process of creating a new framework, 50% of respondents stated “reduction obligations should be determined for each country with consideration to its level of economic development,” making this the most frequently cited response. “Developed countries only should bear emissions reduction obligations. Developing countries will fulfill some responsibility by accepting rules regulating emissions growth,” came next, at 31%.
- For the most important strategy to enable developing countries to accept some level of regulation, 53% of respondents selected the condition, “require developed countries to provide financial and technical support to enable developing countries to meet the regulations.” In particular, 66% of Japanese respondents made this selection, representing the highest percentage among all regions.

- For the most important consideration to make the post-2012 framework most effective, the most frequently cited condition was “create a system for technical and financial assistance to help enable developing countries to meet their regulatory objectives,” at 63%. This was followed by “incorporate new mechanisms in addition to the current Kyoto mechanisms to meet reduction objectives,” at 41%.

With regards to long-term measures:

- Ninety-two percent of respondents indicated the need to reduce greenhouse gas emissions by more than 50% from current levels by choosing either “such a reduction will unquestionably become necessary in the near future” or “it is possible that such a reduction will become necessary in the future.”
- In order to achieve a substantial reduction, respondents overall selected “create a new economic structure that assigns a value to carbon,” and “create new reduction objectives within a framework like the Kyoto Protocol and make a concerted effort towards its attainment,” at 32% each, followed by “create a powerful international organization and demonstrate enforcement mechanisms towards countries,” at 23%.
- “Promote the transition to low carbon technologies such as renewable sources of energy for electricity, heating, and transportation” was most frequently selected as an effective means to accomplish a substantial reduction, at 63%. This was followed by “strengthen technological development, and exponentially increase energy efficiency,” at 45%, and “reduce demand for products and services with high levels of carbon dioxide emissions” at 37%.

4. Energy Problems (Questionnaire 4)

- Overall, the most frequently cited source of energy to compensate for shortages from fossil fuels and nuclear energy was “solar power,” at 40%. In particular, more than 50% of respondents from Africa, Asian Four, and Oceania chose this energy source.

5. Lifestyle Alteration (Questionnaire 5)

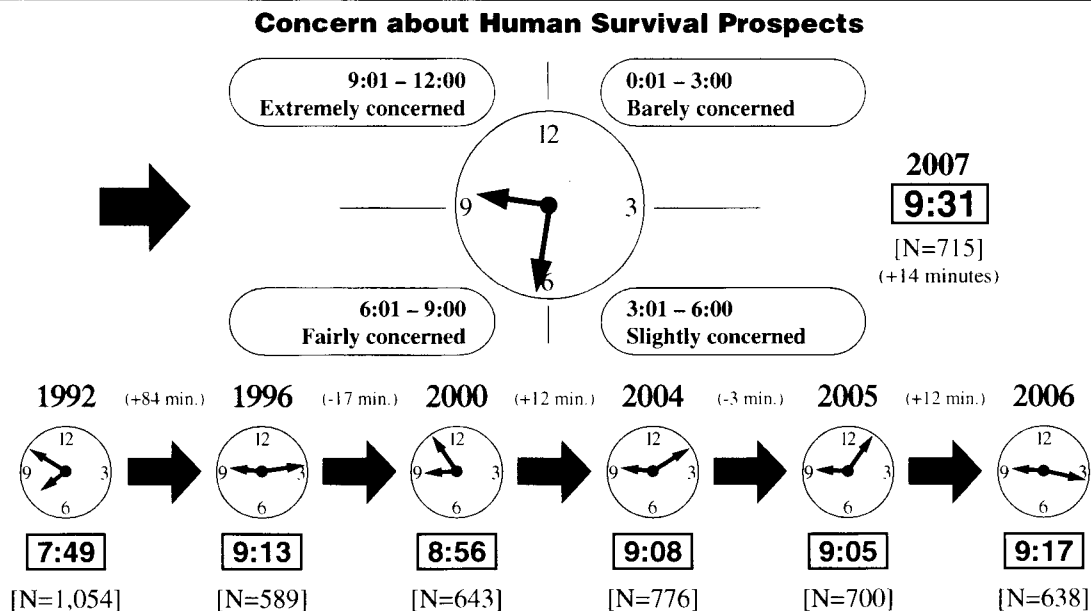
- When comparing current public awareness towards environmental problems with that of three years ago, the majority of respondents reported improvement, with a combined 75% selecting either “awareness has risen” or “awareness has slightly risen.” On the other hand, 19% of respondents stated “there has been no change in awareness,” and a combined 4% stated “awareness has slightly declined,” or “awareness has declined.”
- As the most effective ways to promote transformations in individual awareness, respondents overall selected “publicity of the global environmental situation through the media and other methods,” “strengthening the environmental curriculum at schools,” “implementation of incentives for products with small environmental footprints (burden),” and “introduction of a strong progressive pricing structure based on energy use” at approximately 20% each.

III. Questionnaire Results

A. REPEAT TOPICS

1. AWARENESS OF THE CRISIS FACING HUMAN SURVIVAL ENVIRONMENTAL DOOMSDAY CLOCK (QUESTIONNAIRE 1)

Question 1-1: To what extent do you feel that the current deterioration of the global environment has created a crisis that will affect the continuance of the human race? Write a time within the range 0:01 to 12:00 corresponding to the extent of your concern in the boxes below.



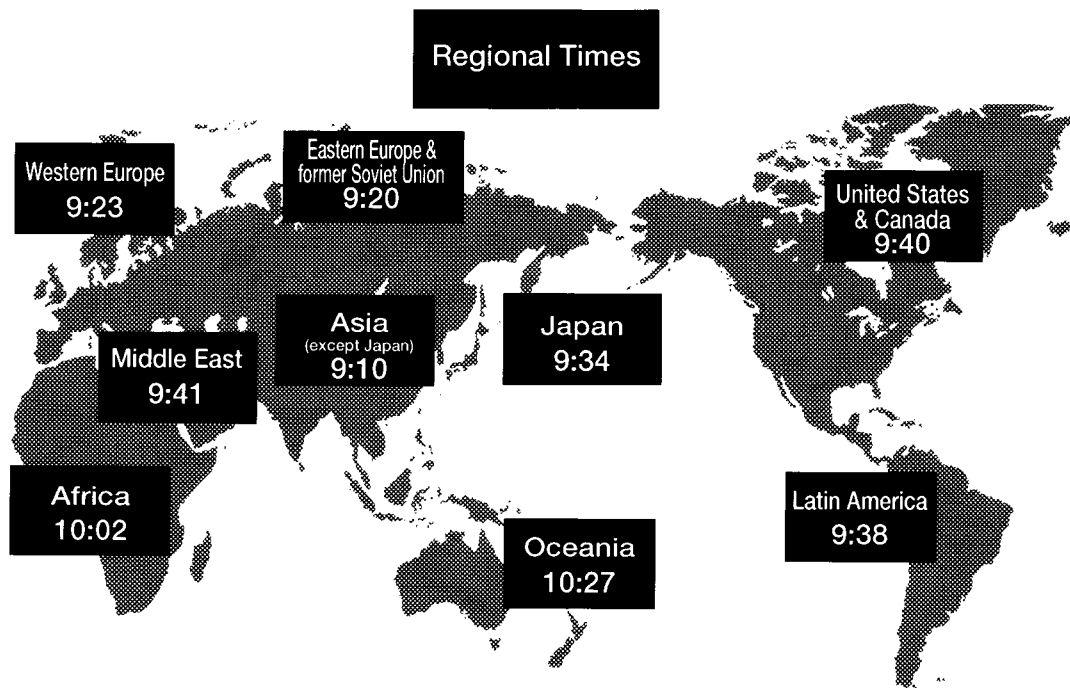
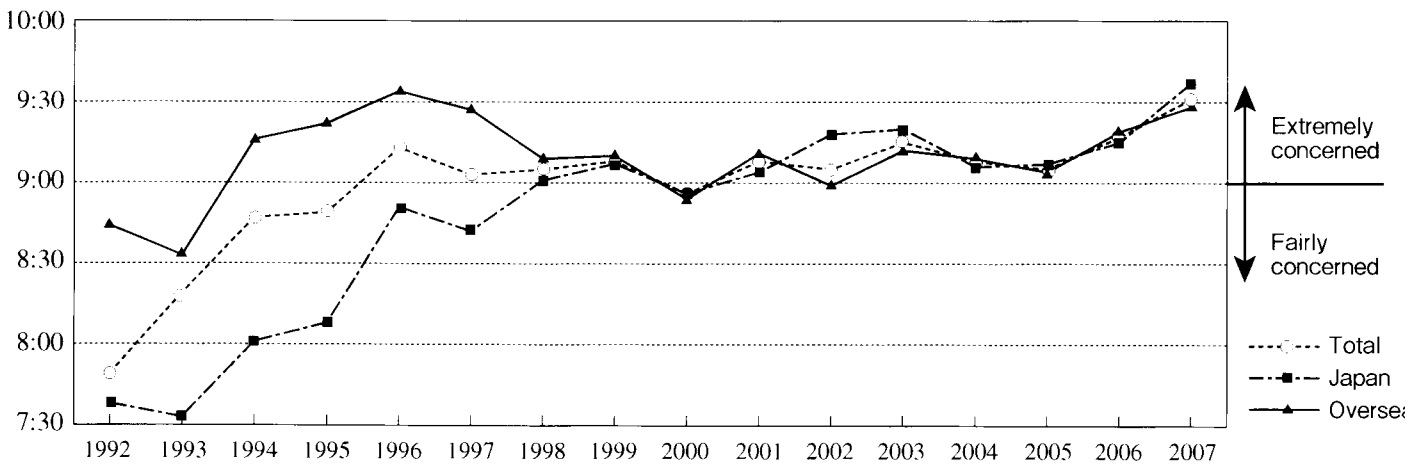
	Number of respondents (2007)	Changes in time from year to year			Changes in average time by region	
		1997 → 2006	2006 → 2007	2007	1997 → 2007	2006 → 2007
Total	715	9:04 → 9:17	→ 9:31		+27	+14
Japan	322	8:42 → 9:15	→ 9:34		+52	+19
United States & Canada	47	9:09 → 9:18	→ 9:40		+31	+22
Western Europe	70	9:53 → 9:08	→ 9:23		-30	+15
Asia	140	9:25 → 9:17	→ 9:10		-15	-7
Asian Four	34	* → 9:32	→ 9:30		*	-2
Rest of Asia	106	* → 9:07	→ 9:03		*	-4
Latin America	36	9:26 → 9:31	→ 9:38		+12	+7
Africa	35	9:15 → 9:32	→ 10:02		+47	+30
Oceania	18	8:52 → 9:18	→ 10:27		+95	+69
Eastern Europe & former Soviet Union	30	9:37 → 9:07	→ 9:20		-17	+13
Middle East	17	9:33 → 10:05	→ 9:41		+8	-24
Overseas Total	393	9:27 → 9:19	→ 9:28		+1	+9
Male	571	8:57 → 9:18	→ 9:30		+33	+12
Female	100	9:30 → 9:15	→ 9:35		+5	+20
Developed Regions	473	9:15 → 9:16	→ 9:32		+17	+16
Developing Regions	177	9:22 → 9:20	→ 9:21		-1	+1
Others	65	9:21 → 9:24	→ 9:44		+23	+20

- The average time on the environmental doomsday clock for all respondents advanced by 14 minutes from the previous year to 9:31. This is the furthest the needle has ever advanced since the survey began, representing a high sense of crisis.
- The average time on the environmental doomsday clock as marked by Japanese respondents also advanced, to 9:34, a movement of 19 minutes.

- The average time for overseas respondents was 9:28, a 9-minute advancement of the needle in comparison to last year.
- The needle on the doomsday clock advanced in all regions except in the Middle East where respondents designated a 24-minute reversal to 9:41, and in Asia, where there was a 7-minute reversal to 9:10. In contrast, the advancements were substantial. The needle advanced by 69 minutes for respondents in Oceania, placing the doomsday clock time at 10:27; a 30-minute advancement for respondents in Africa placed their doomsday clock time also beyond the 10 o'clock mark at 10:02; and the needle advanced by 22 minutes among respondents in the United States & Canada, who designated a time of 9:40.
- The doomsday clock time among male respondents advanced by 12 minutes to 9:30. The time among female respondents also advanced, by 20 minutes, to 9:35, representing a larger movement among female respondents.

Changes in the Environmental Doomsday Clock

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Total	7:49	8:19	8:47	8:49	9:13	9:04	9:05	9:08	8:56	9:08	9:05	9:15	9:08	9:05	9:17	9:31
Japan	7:38	7:33	8:01	8:08	8:51	8:42	9:01	9:07	8:56	9:04	9:18	9:20	9:06	9:07	9:15	9:34
Overseas	8:44	8:33	9:16	9:22	9:34	9:27	9:09	9:10	8:56	9:11	8:51	9:12	9:09	9:04	9:19	9:28
Overseas - Japan (min.)	66	60	75	74	43	45	8	3	0	7	-27	-8	3	-3	4	-6



1-2 ENVIRONMENTAL CONDITIONS OF CONCERN (QUESTIONNAIRE 1-2)

Question 1-2: When you selected the time, what were the main environmental conditions about which you were concerned? Please select up to three (3) of the following items of concern.

Environmental Conditions of Concern in Determining the Doomsday Clock Time for 2007

	Developed Regions				Developing Regions				Others						
	Japan [N=322]	United States & Canada [47]	Western Europe [70]	A4 [34]	RoA (106)	Latin America [36]	Africa [35]	Oceania [18]	Eastern Europe [18]	Middle East & former Soviet Union [30]	Overseas Total [393]	Developed Regions [473]	Developing Regions [177]	Others [65]	Total [1715]
General environmental problems	29	17	21	9	25	17	20	6	30	29	20	25	22	23	24
Global warming	80	70	70	94	57	69	66	78	53	82	68	79	61	68	73
Air pollution, water contamination, river/ocean pollution	17	26	30	47	46	31	26	44	57	35	38	22	39	48	28
Water shortage, food problems	45	51	36	35	31	31	54	39	20	35	36	44	36	29	40
Deforestation, desertification, loss of biodiversity	49	40	44	71	49	47	57	44	53	24	49	49	50	43	49
Peoples' lifestyles, waste-related problems	23	21	31	9	22	33	11	22	37	12	23	23	22	26	23
Environmental problems and economic/trade-related activities	13	9	19	9	13	22	3	6	30	0	13	13	13	15	13
Population, poverty, status of women	18	36	36	21	16	39	31	22	20	59	28	23	24	31	24
Others	5	19	4	3	4	0	0	11	0	6	5	6	2	5	5
No response	1	2	1	0	8	3	9	6	0	0	4	1	7	2	3

Notes: Figures enclosed by a double circle represent the answer with the highest number of replies. A single circle is used for the answer with the second highest number of replies. Please note that the totals for the various regions should add up to 300% since respondents were asked to select three items. However, some respondents marked less than three items, causing the aggregate total to be less than 300%.

- The main environmental condition of concern among respondents from both Japan and overseas when recording the doomsday clock time was “global warming,” followed by “deforestation, desertification, loss of biodiversity,” and “water shortage, food problems.” These were also the most frequently cited conditions in last year’s survey; however, the number of respondents from both Japan and overseas who cited “global warming” this year rose by 7 points for the total respondents, 6 points for Japanese respondents and 8 points for overseas respondents compared to the previous year.
- Responses from both developed and developing regions were consistent with the overall selections. However, while 79% of respondents from developed regions selected “global warming,” the percentage fell to 61% among respondents from developing regions. Respondents from other regions selected “global warming,” “air pollution, water contamination, river/ocean pollution,” and “deforestation, desertification, loss of biodiversity” in descending order.

2. PROGRESS TOWARD AGENDA 21 (QUESTIONNAIRE 2)

Question 2: Fifteen years have passed since Agenda 21 was adopted as an “action plan for the environment and development” at the Earth Summit in 1992. Please indicate the progress made *in your country* for the following 10 categories taken from the Agenda 21 action plan.

Comparison of Perceived Progress between 2002 and 2007

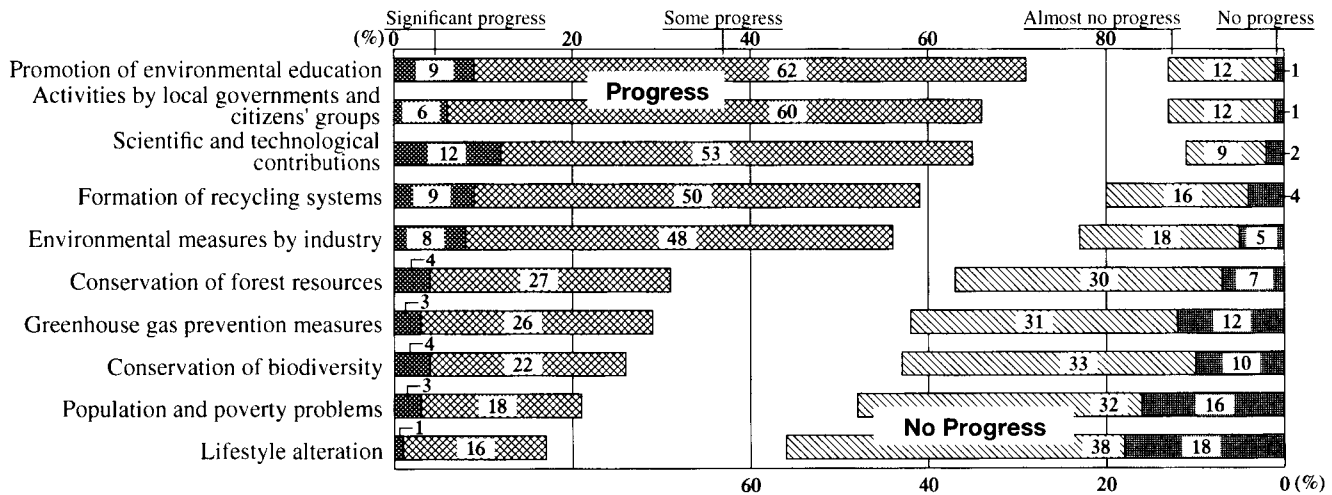
	Japan	United States & Canada	Western Europe	Asia	Asian Four	Rest of Asia	Latin America	Africa	Oceania	Eastern Europe & former Soviet Union	Middle East	Overseas Total	Total
2007 → 2002 →	[322] [303]	[47] [55]	[70] [79]	[140] [68]	[34] [*]	[106] [*]	[36] [27]	[35] [41]	[18] [24]	[30] [29]	[17] [12]	[393] [336]	[715] [639]
	↓ ↓	↓ ↓	↓ ↓	↓ ↓	↓ ↓	↓ ↓	↓ ↓	↓ ↓	↓ ↓	↓ ↓	↓ ↓	↓ ↓	↓ ↓
Promotion of environmental education	68 73	74 80	77 82	69 88	38 *	79 *	86 78	77 76	83 96	70 86	71 100	74 84	71 79 (%)
Activities by local governments and citizens' groups	65 76	94 87	76 80	54 65	50 *	55 *	86 81	57 61	89 100	43 83	65 83	67 77	66 77
Scientific and technological contributions	71 72	89 80	79 71	55 59	38 *	60 *	42 44	40 46	78 92	47 66	29 75	60 66	65 69
Formation of recycling systems	66 76	79 65	76 77	42 51	47 *	41 *	47 22	26 39	83 75	37 41	47 50	53 57	59 66
Environmental measures by industry	65 68	49 60	69 81	36 40	26 *	40 *	50 44	37 41	50 50	50 66	65 58	48 57	56 62
Conservation of forest resources	12 17	38 45	59 51	48 41	21 *	57 *	42 48	40 54	50 63	30 28	41 58	46 47	31 33
Greenhouse gas prevention measures	25 32	17 24	37 54	31 38	15 *	37 *	28 19	23 34	28 21	40 34	47 50	31 36	28 34
Conservation of biodiversity	9 18	23 33	44 46	38 46	15 *	45 *	53 48	46 56	50 63	30 41	53 50	40 46	26 33
Population and poverty problems	7 14	19 22	24 27	43 44	6 *	55 *	31 19	46 44	33 13	10 31	29 25	32 30	21 22
Lifestyle alteration	14 14	13 16	13 6	31 28	6 *	39 *	14 11	17 7	17 8	3 14	24 33	20 15	17 14

Note: Progress is calculated as the combined total of the “significant progress” and “some progress” categories.

As in previous years, we polled respondents about the progress they felt had been achieved in 10 categories taken from the Agenda 21 action plan. The results are listed in the chart in descending order, starting with categories with the greatest number of responses indicating “progress” (combines “significant progress” and “some progress”).

- As in previous years, the largest proportion of responses indicating progress continued to be “promotion of environmental education.” In contrast, the category with the least amount of responses indicating progress was “lifestyle alteration.”
- Forty percent of overseas respondents stated progress had been achieved in “conservation of biodiversity,” with more than 50% of respondents agreeing with the statement in Latin America, Middle East, and Oceania. In contrast, only 9% of Japanese respondents reported progress in this category, reflecting a large difference in perceptions.
- A large difference between respondents from Japan and overseas can also be seen in the category, “population and poverty problems.” 32% of overseas respondents indicated progress in this category, with such responses exceeding 30% in the Rest of Asia, Africa, Oceania, and Latin America. In contrast, only 7% of respondents from Japan stated progress had been made in this category.

Progress toward Agenda 21



- Similar to the previous year, the categories in which more than 50% of respondents from Japan and overseas reported progress included “promotion of environmental education,” “activities by local governments and citizens’ groups,” “scientific and technological contributions,” “formation of recycling systems,” and “environmental measures by industry.”
- In the five categories of “conservation of forest resources,” “greenhouse gas prevention measures,” “conservation of biodiversity,” “population and poverty problems,” and “lifestyle alteration,” the percentage of respondents who indicated there had been no progress surpassed those who stated progress had been made. Once again, “lifestyle alteration” was the only category this year in which responses indicating no progress exceeded 50%.

Comparison of Differences between 2002 and 2007

	Japan	United States & Canada	Western Europe	Asia	Asian Four	Rest of Asia	Latin America	Africa	Oceania	Eastern Europe & former Soviet Union	Middle East	Overseas Total	Total (%)
Promotion of environmental education	-5	-6	-5	-19	*	*	8	1	-13	-16	-29	-10	-8
Activities by local governments and citizens' groups	-11	7	-4	-11	*	*	5	-4	-11	-40	-18	-10	-11
Scientific and technological contributions	-1	9	8	-4	*	*	-2	-6	-14	-19	-46	-6	-4
Formation of recycling systems	-10	14	-1	-9	*	*	25	-13	8	-4	-3	-4	-7
Environmental measures by industry	-3	-11	-12	-4	*	*	6	-4	0	-16	7	-9	-6
Conservation of forest resources	-5	-7	8	7	*	*	-6	-14	-13	2	-17	-1	-2
Greenhouse gas prevention measures	-7	-7	-17	-7	*	*	9	-11	7	6	-3	-5	-6
Conservation of biodiversity	-9	-10	-2	-8	*	*	5	-10	-13	-11	3	-6	-7
Population and poverty problems	-7	-3	-3	-1	*	*	12	2	20	-21	4	2	-1
Lifestyle alteration	0	-3	7	3	*	*	3	10	9	-11	-9	5	3

Note: Differences are calculated to the first decimal place. Thus, the percentages may differ from those on the previous page which are rounded to the nearest integer.

When comparing the responses this year to those from five years ago in 2002,

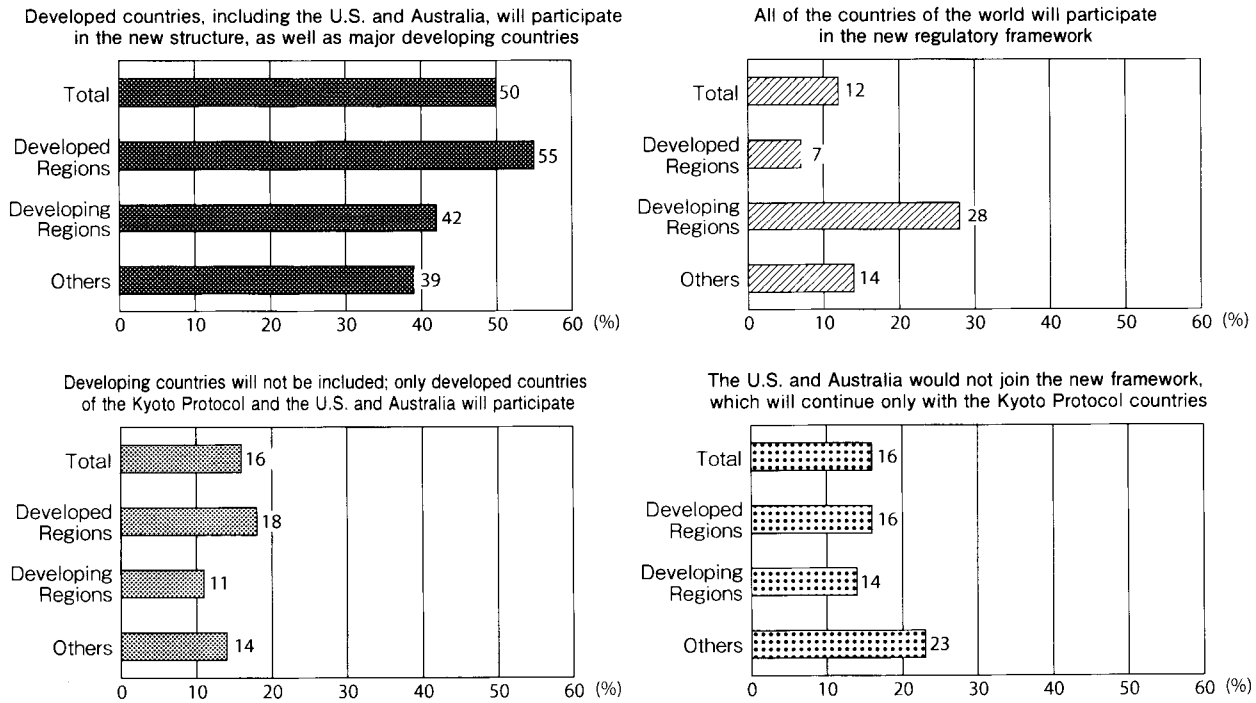
- Overall, there has been no change in the top five categories in which a high percentage of respondents reported progress, which included “promotion of environmental education,” “activities by local governments and citizens’ groups,” “scientific and technological contributions,” “formation of recycling systems,” and “environmental measures by industry.” The bottom five categories have also remained unchanged, and included “conservation of forest resources,” “greenhouse gas prevention measures,” “conservation of biodiversity,” “population and poverty problems,” and “lifestyle alteration.”
- Compared with 2002, in 2007, the percentage of respondents who indicated progress declined in all categories except “lifestyle alteration.”
- The number of respondents who indicated progress had been made in “promotion of environmental education” declined in all regions except Latin America and Africa. The number of respondents who indicated progress in “activities by local governments and citizens’ groups” declined in all regions except the United States & Canada and Latin America.

B. MAIN FOCUS OF THE CURRENT YEAR'S QUESTIONNAIRE
3. GLOBAL WARMING (QUESTIONNAIRE 3)

3-1. Approaches Beyond the First Commitment Period of the Kyoto Protocol (Post-2012 Approaches)

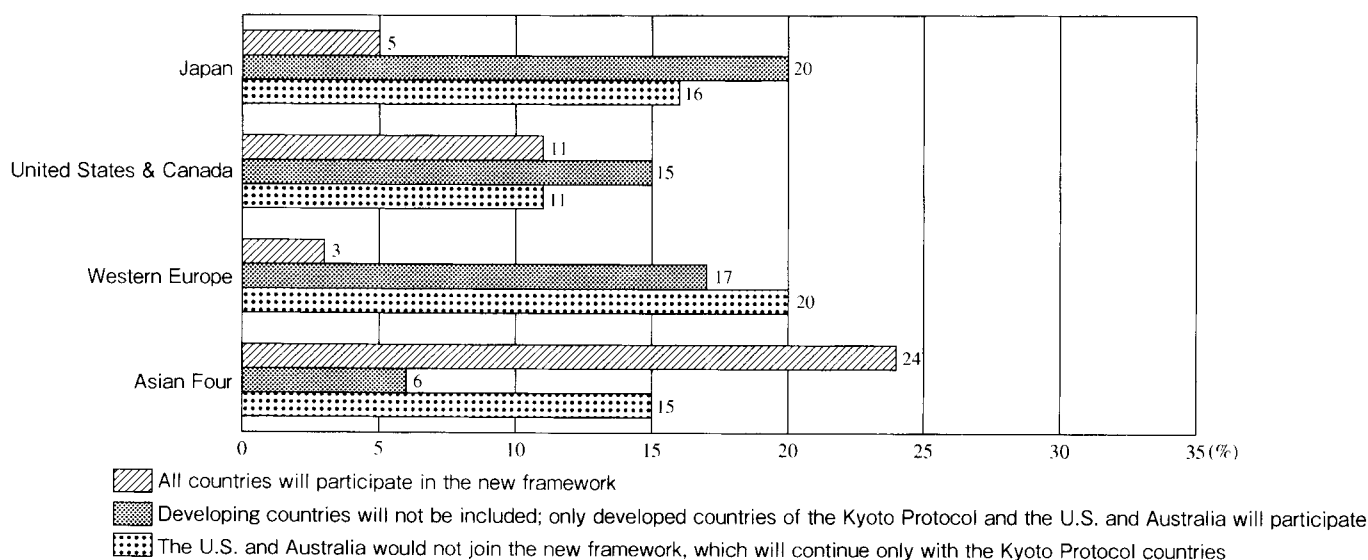
Question 3-1-1: What kind of regulatory framework do you expect to be in place in the period after 2012 when the first commitment period of the Kyoto Protocol comes to an end? Please circle one item from the following list that reflects your opinion.

Post-2012 Regulatory Framework



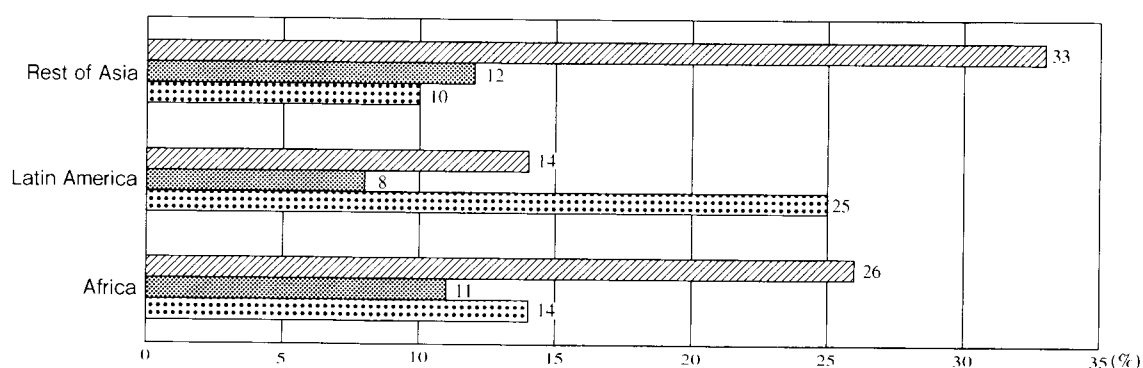
- Fifty percent of respondents overall selected “a new structure will be in place where in addition to developed countries including the United States and Australia, major developing countries like Brazil, China, and India will participate and be subject to regulations” as the new regulatory framework to take place in the post-2012 period.
- While 12% of respondents overall selected “there will be a new regulatory framework in which all of the countries of the world will participate,” differences arose by region. A comparatively high proportion of respondents from the Asian Four and Rest of Asia selected this item, at 24% and 33% respectively, whereas only 5% of Japanese respondents and 3% of Western European respondents made this selection. Similar differences arose when comparing developed and developing regions: whereas only 7% of respondents from developed regions selected this item, a relatively high percentage of respondents from developing regions made this selection, at 28%.

Differences in Responses among Developed Regions— Second Choice Responses and Below



- After the most frequently cited response of “a new structure will be in place where in addition to developed countries including the United States and Australia, major developing countries will participate,” there were regional differences among the respondents from the developed regions. In the United States & Canada, the second choice was “developing countries will not be included in the post-2012 regulatory framework, which will move forward only with the developed countries participating in the Kyoto Protocol and in addition to them, the United States and Australia,” at 15%. This was followed by “there will be a new regulatory framework in which all of the countries of the world will participate” and “the United States and Australia would not join the new framework, which will continue only with those countries currently participating in the regulations of the Kyoto Protocol” each at 11%. In contrast, the second most frequent response among respondents in Western Europe was “the United States and Australia would not join the new framework, which will continue only with those countries currently participating in the regulations of the Kyoto Protocol” at 20%, followed by “developing countries will not be included in the post-2012 regulatory framework, which will move forward only with developed countries,” at 17%. In Japan, the second choice was “developing countries will not be included in the post-2012 regulatory framework, which will move forward only with developed countries,” at 20%, followed by “the United States and Australia would not join the new framework, which will continue only with those countries currently participating in the regulations of the Kyoto Protocol” at 16%.

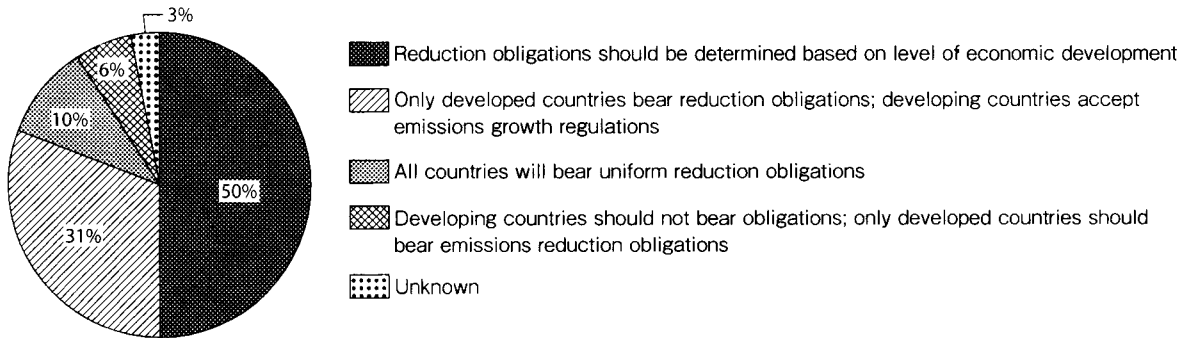
Differences in Responses among Developing Regions— Second Choice Responses and Below



- Similarly, there were regional differences among respondents from developing regions after the most frequently cited response of “a new structure will be in place where in addition to developed countries including the United States and Australia, major developing countries will participate.” The second choice among respondents in Rest of Asia, which includes the major developing countries of China and India, was “there will be a new regulatory framework in which all of the countries of the world will participate,” at 33%. This was also the second choice among respondents in Africa, at 26%, whereas the second most frequently cited selection among respondents from Latin America was “the post-2012 framework will continue only with those countries currently participating in the regulations of the Kyoto Protocol,” at 25%.

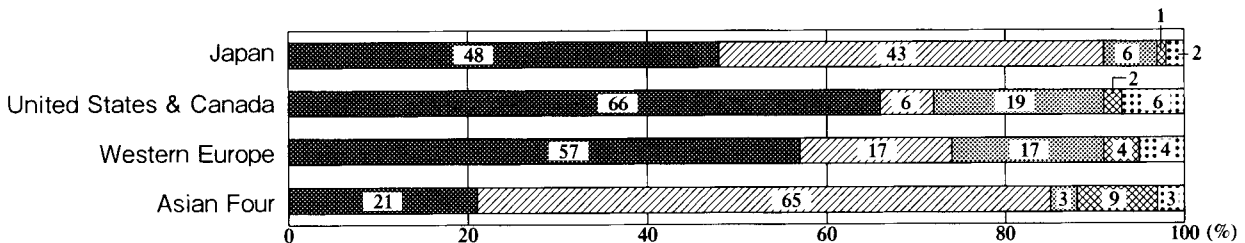
Question 3-1-2: There are significant discrepancies in (the path of) economic development thus far between developed and developing countries. How do you think these differences should be reflected in the process of creating a new framework? Please circle one item from the following list that reflects your opinion.

**Consideration for Discrepancies
between Developed and Developing Countries-Overall**



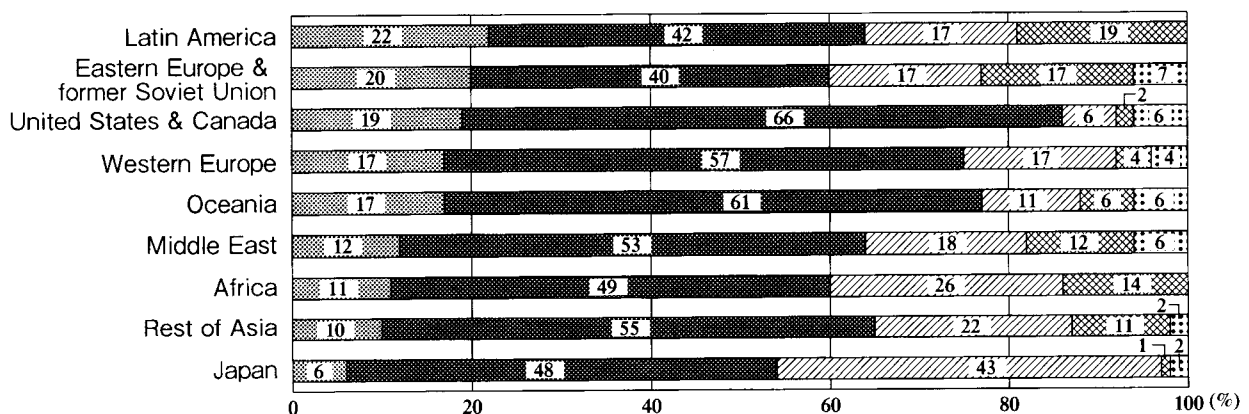
- Fifty percent of respondents stated “reduction obligations should be determined for each country with consideration to its level of economic development” when considering the discrepancies in economic development in creating a new framework, making this the most frequently cited response. Further, “developed countries only should bear emissions reduction obligations. Developing countries will fulfill some responsibility by accepting rules regulating emissions growth,” came next, at 31%.

**Consideration for Discrepancies between Developed and Developing Countries—
Differences Among Developed Regions**



- There were significant regional differences in perspectives among respondents from developed regions. While “developed countries only should bear emissions reduction obligations. Developing countries will fulfill some responsibility by accepting rules regulating emissions growth” was frequently cited among respondents from Japan and the Asian Four, at 43% and 65% respectively, only 6% of respondents from the United States & Canada, and 17% from Western Europe selected this item.

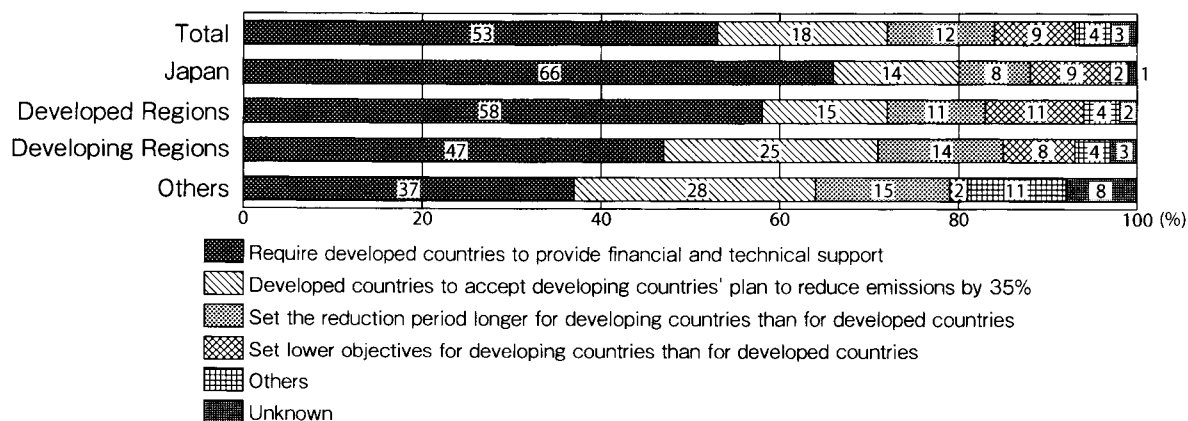
Regions with High Responses for Uniform Reduction Obligations Across the World



- A comparatively high number of respondents from Latin America, Eastern Europe & former Soviet Union, the United States & Canada, Western Europe, and Oceania selected the item “uniform reduction obligations should be determined across the world without regard to the difference in levels of economic development,” at more than 15%.

Question 3-1-3: In the new framework, it will be an issue whether or not developing countries that emit enormous quantities of greenhouse gases, like China and India, may be required to fulfill emissions reduction obligations. What do you think will be necessary for developing countries to accept some level of regulation? Please circle one item from the following list that you think is most important.

Conditions for Developing Countries to Accept Regulation



Conditions for Developing Countries to Accept Regulation

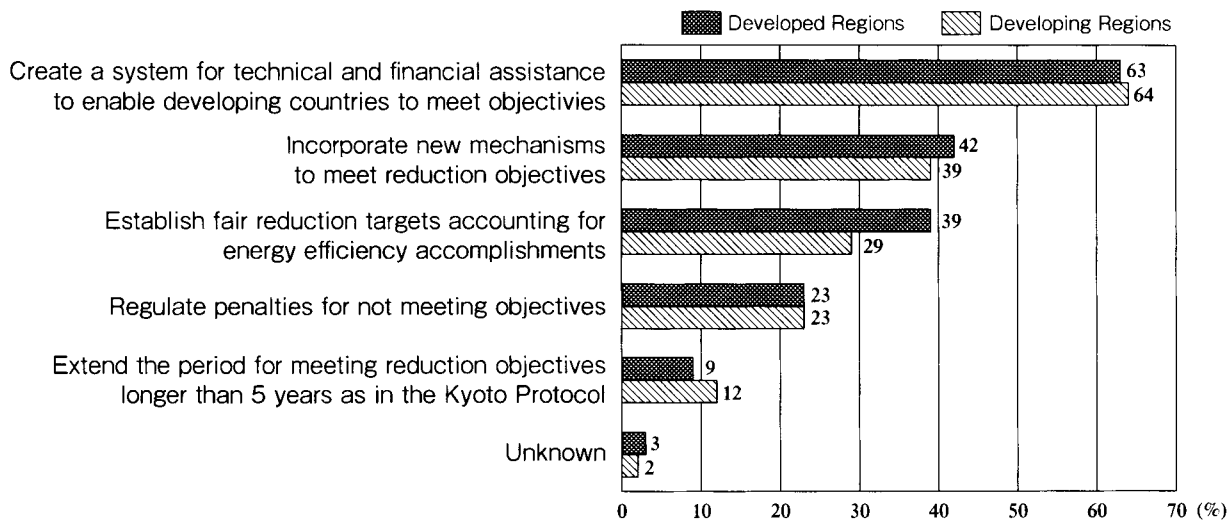
	Japan	United States & Canada	Western Europe	Asian Four	Rest of Asia	Latin America	Africa	Oceania	Eastern Europe & former Soviet Union	Middle East	Overseas Total	Developed Regions	Developing Regions	Others	Total
Set lower objectives for developing countries than for developed countries	9	11	14	(21)	8	6	9	0	3	0	9	11	8	2	9
Set the reduction period longer for developing countries than for developed countries	8	(15)	20	(21)	12	17	14	17	17	12	16	11	14	15	12
Require developed countries to provide financial and technical support	(66)	(47)	(34)	(41)	(55)	(31)	(40)	(39)	(40)	(29)	(42)	(58)	(47)	(37)	(53)
Developed countries to accept developing countries' plan to reduce emissions by 35%	(14)	9	(24)	9	(19)	(33)	(34)	(28)	(27)	(29)	(22)	(15)	(25)	(28)	(18)
Others	2	(15)	3	0	3	8	3	11	10	12	6	4	4	11	4
Unknown	1	4	4	9	3	6	0	6	3	18	5	2	3	8	3

Figures enclosed by a double circle represent the answer with the highest number of replies. A single circle is used for the answer with the second highest number of replies.

- The condition “require developed countries to provide financial and technical support to enable developing countries to meet the regulations” was frequently cited as the most important strategy to enable developing countries to accept some level of regulation, at 53%. In particular, 66% of Japanese respondents made this selection, representing the highest percentage among all of the regions.
- Twenty-five percent of respondents from developing regions selected “developed countries should accept the plan proposed by developing countries to ‘uniformly reduce emissions by 35% from 1990 levels by 2020,’ to lead by example.” In particular, 33% of respondents from Latin America made this selection, surpassing the 31% who selected “require developed countries to provide financial and technical support to enable developing countries to meet the regulations.”

Question 3-1-4: What are the most important issues to consider in making the post-2012 framework most effective after the end of the first commitment period of the Kyoto Protocol? Please circle two items from the following list that you think are most important.

**Considerations for a Framework
Beyond the First Commitment Period of the Kyoto Protocol**



**Considerations for a Framework
Beyond the First Commitment Period of the Kyoto Protocol**

Consideration	Developed Regions				Developing Regions				Others				Total (%)		
	Japan	United States & Canada	Western Europe	Asian Four	Rest of Asia	Latin America	Africa	Oceania	Eastern Europe & former Soviet Union	Middle East	Overseas Total	Developed Regions		Developing Regions	Others
Extend the period for meeting reduction objectives longer than 5 years as in the Kyoto Protocol	10	15	4	0	11	8	17	0	10	6	9	9	12	6	10
Regulate penalties for not meeting reduction objectives	20	30	29	24	21	33	20	56	23	24	26	23	23	32	24
Create a system for technical and financial assistance to enable developing countries to meet reduction objectives	66	51	57	62	67	67	54	50	70	47	60	63	64	58	63
Incorporate new mechanisms to meet reduction objectives	41	38	47	41	32	47	51	17	53	35	40	42	39	38	41
Establish fair reduction targets accounting for energy efficiency accomplishments	41	23	46	29	31	25	26	33	17	35	31	39	29	26	35
Unknown	1	9	3	9	2	0	3	6	3	12	4	3	2	6	3

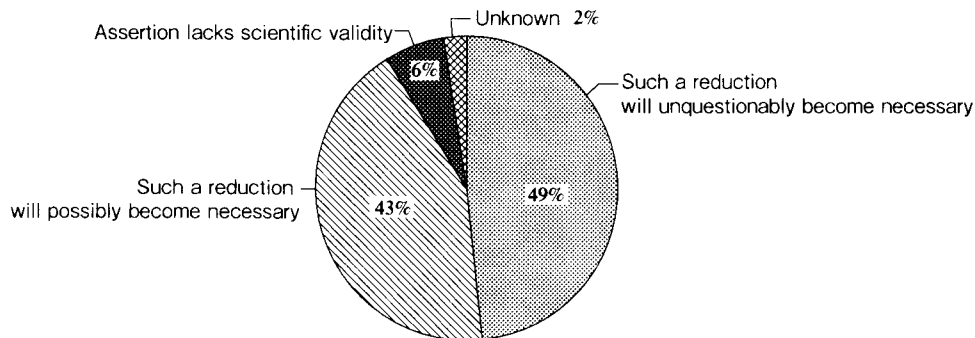
Figures enclosed by a double circle represent the answer with the highest number of replies. A single circle is used for the answer with the second highest number of replies.

- Overall, respondents most frequently cited “create a system for technical and financial assistance to help enable developing countries to meet their regulatory objectives” as the most important consideration in making the post-2012 framework most effective, at 63%. This was followed by “incorporate new mechanisms in addition to the current Kyoto mechanisms to meet reduction objectives,” at 41%. Responses from developed and developing regions were both consistent with this pattern.
- Overall, only 10% of respondents selected “extend the period for meeting reduction objectives longer than the five years under the first commitment period of the Kyoto Protocol.” By region, it was, by 9% of respondents from developed regions, 12% from developing regions, and 6% from other regions.

3-2. Long-term Measures

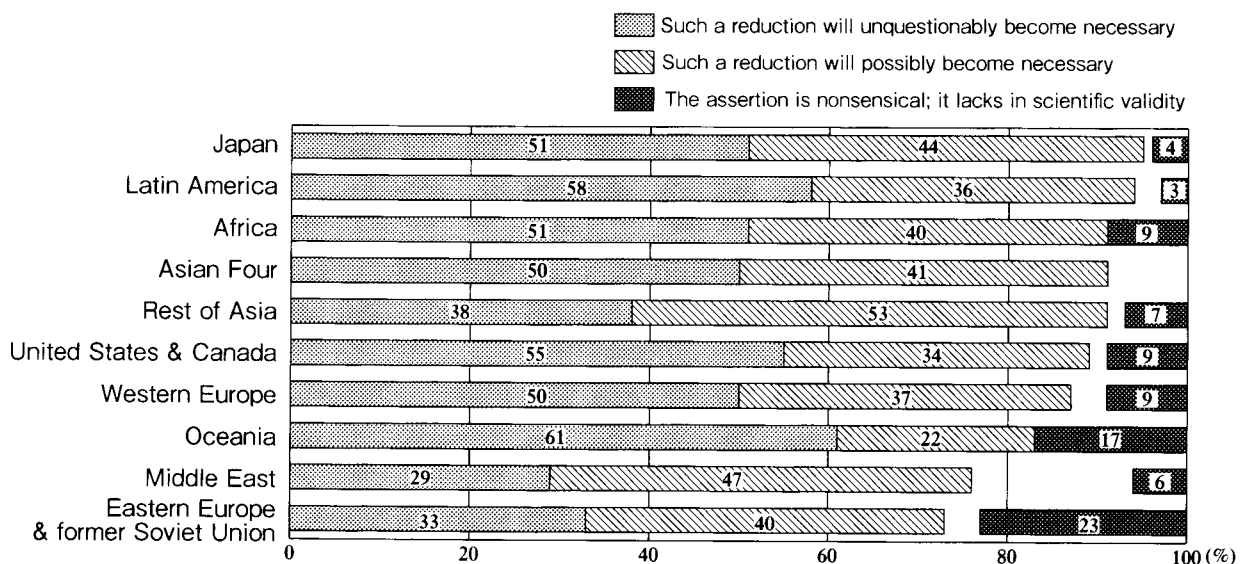
Question 3-2-1: To stabilize the climate in the future, global greenhouse gas emissions may need to decrease by more than 50% from current levels. Please circle one item from the following list that best reflects your opinion.

There May be a Need to Reduce Greenhouse Gas Emissions by More than 50%-Overall



- A combined total of 92% of respondents selected either “such a reduction will unquestionably become necessary in the near future” or “it is possible that such a reduction will become necessary in the future,” revealing that an extremely high proportion of respondents feel the need to reduce greenhouse gas emissions by more than 50% from current levels.

There May be a Need to Reduce Greenhouse Gas Emissions by More than 50%-By Region



- The highest proportion of respondents who stated that “this assertion is nonsensical because it lacks in scientific validity” came from Eastern Europe & former Soviet Union, at 23%.

Respondents who selected either “such a reduction will unquestionably become necessary in the near future” or “it is possible that such a reduction will become necessary in the future” were asked to answer the following question.

Question 3-2-2: How do you think such a substantial reduction can be achieved? Please circle one item from the following list.

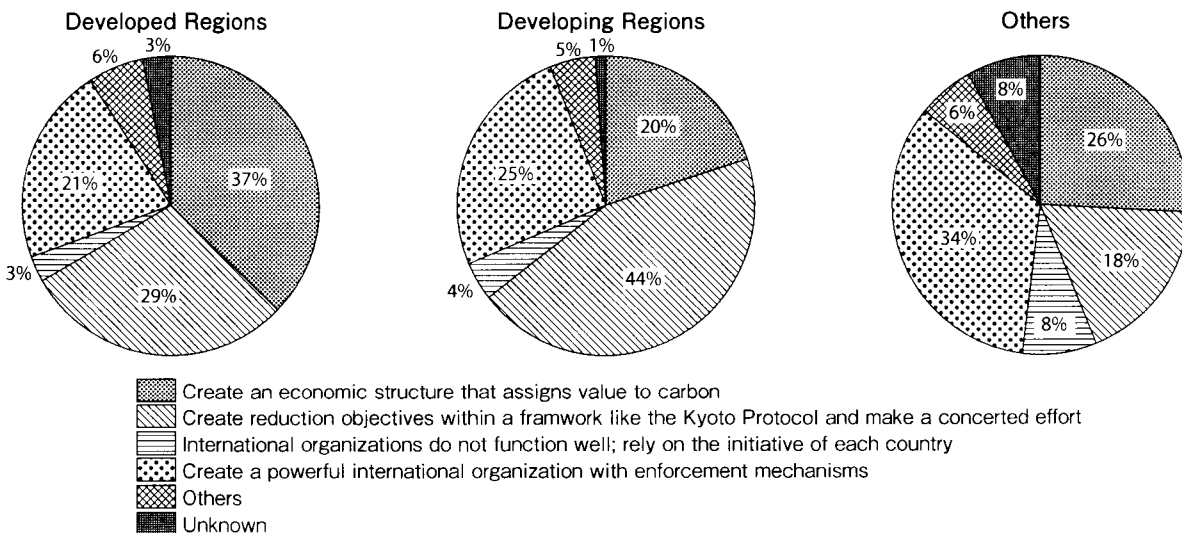
Achieving a Substantial Reduction

	Developed Regions					Developing Regions					Others					
	Japan [N=306]	United States & Canada [42]	Western Europe [61]	Asian Four [31]	Rest of Asia [96]	Latin America [34]	Africa [32]	Oceania [15]	Eastern Europe [13]	Middle East & former Soviet Union [22]	Overseas Total [346]	Developed Regions [440]	Developing Regions [50]	Others [50]	Total [652]	(%)
Create an economic structure that assigns value to carbon	(37)	(60)	(33)	19	20	(29)	13	(40)	(23)	(15)	(28)	(37)	20	(26)	(32)	
Create reduction objectives within a framework like the Kyoto Protocol and make a concerted effort	(31)	(17)	(28)	(35)	(43)	(38)	(53)	(20)	18	(15)	(33)	(29)	(44)	18	(32)	
International organizations do not function well; rely on the initiative of each country	2	0	7	13	4	6	3	7	5	(15)	5	3	4	8	4	
Create a powerful international organization with enforcement mechanisms	22	10	23	(29)	(27)	18	(28)	(20)	(45)	(31)	25	21	(25)	(34)	23	
Others	5	7	8	3	5	6	3	7	5	8	6	6	5	6	6	
Unknown	4	7	2	0	1	3	0	7	5	15	3	3	1	8	3	

Figures enclosed by a double circle represent the answer with the highest number of replies. A single circle is used for the answer with the second highest number of replies.

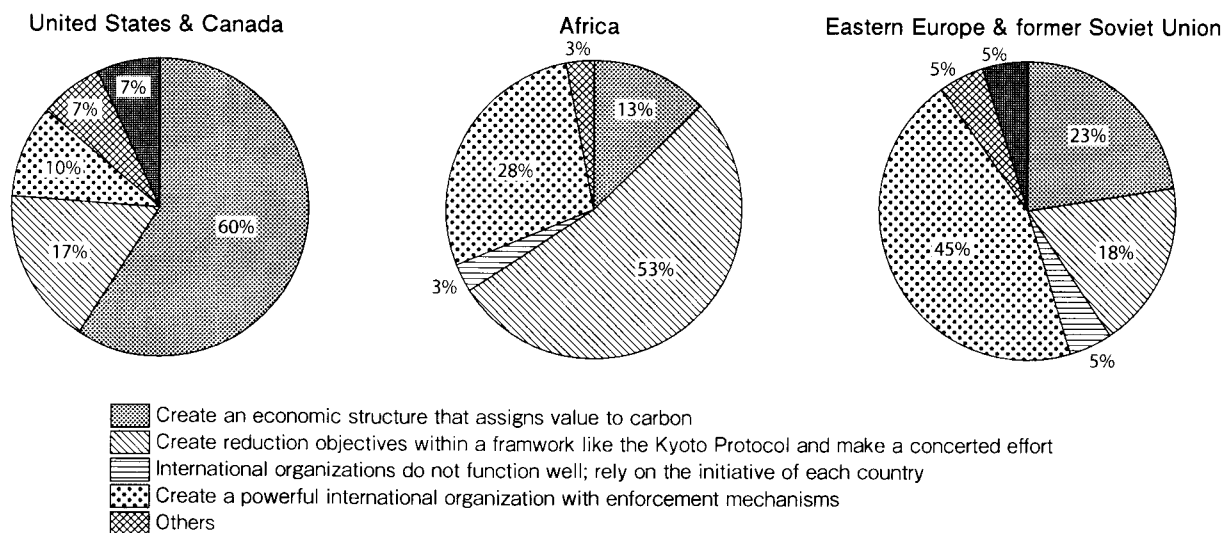
- In order to achieve a substantial reduction, respondents overall selected “create a new economic structure that assigns a value to carbon,” and “create new reduction objectives within a framework like the Kyoto Protocol and make a concerted effort towards its attainment,” at 32% each, followed by “create a powerful international organization and demonstrate enforcement mechanisms towards countries” at 23%.

Achieving a Substantial Reduction—Developed, Developing, and Other Regions



- Comparing the responses from developed and developing regions demonstrates that respondents from these regions favor two of the options but in reverse order from each other. Thirty seven percent of respondents from developed regions selected “create a new economic structure that assigns a value to carbon,” surpassing the 29% who selected “create new reduction objectives within a framework like the Kyoto Protocol and make a concerted effort towards its attainment.” In contrast, 44% of respondents from developing regions selected “create new reduction objectives within a framework like the Kyoto Protocol and make a concerted effort towards its attainment,” far exceeding the 20% who chose “create a new economic structure that assigns a value to carbon.”

Achieving a Substantial Reduction
—United States & Canada, Africa, Eastern Europe & former Soviet Union



- Sixty percent of respondents from the United States & Canada selected “create a new economic structure that assigns a value to carbon,” far exceeding the 17% who chose “create new reduction objectives within a framework like the Kyoto Protocol and make a concerted effort towards its attainment.”
- The region with the highest ratio of respondents selecting “create new reduction objectives within a framework like the Kyoto Protocol and make a concerted effort towards its attainment” was Africa, at 53%.
- The region with the highest ratio of respondents selecting “create a powerful international organization and demonstrate enforcement mechanisms towards countries” was Eastern Europe & former Soviet Union, at 45%.

Question 3-2-3: What do you think is the most effective means to accomplish such a substantial reduction? Please circle two items from the following list that best reflect your opinion.

The Most Effective Means to Accomplish a Substantial Reduction

	Developed Regions				Developing Regions				Others						
	Japan [N=306]	United States & Canada [42]	Western Europe [61]	Asian Four [31]	Rest of Asia [96]	Latin America [34]	Africa [32]	Oceania [15]	Eastern Europe & former Soviet Union [22]	Middle East [13]	Overseas Total [346]	Developed Regions [440]	Developing Regions [162]	Others [50]	Total [652]
Reduce demand for products and services with high CO2 emissions	40	40	48	29	34	35	28	40	14	31	35	40	33	26	37
Strengthen technological development and increase energy efficiency	49	45	46	32	48	44	31	13	41	23	41	47	44	28	45
Prevent deforestation, promote prevention of non-energy related CO2 emissions, promote carbon absorption	22	10	23	35	35	29	50	33	41	15	30	22	37	32	26
Promote transition to low carbon technologies	62	71	62	81	58	65	41	73	77	85	64	64	56	78	63
Develop and popularize carbon capture and storage technology	15	19	13	6	7	12	16	7	5	8	11	15	10	6	13
Unknown	3	2	0	0	0	3	0	7	0	8	1	3	1	4	2

Notes: Figures enclosed by a double circle represent the answer with the highest number of replies. A single circle is used for the answer with the second highest number of replies. Please note that the totals for the various regions should add up to 200% since respondents were asked to select two items. However, some respondents marked less than two items, causing the aggregate total to be less than 200%.

- Overall, “promote the transition to low carbon technologies such as renewable sources of energy for electricity, heating, and transportation” was the most frequently selected means to accomplish a substantial reduction, at 63%. This was followed by “strengthen technological development, and exponentially increase energy efficiency” at 45%, and “reduce demand for products and services with high levels of carbon dioxide emissions” at 37%.
- Responses from developed regions were consistent with the overall pattern. In contrast, “by preventing deforestation, promote the prevention of non-energy related carbon dioxide emissions, and by encouraging planting, promote carbon absorption” was the third most frequently cited means among respondents from developing regions, at 37%.
- The most frequently cited means among respondents from Africa was “by preventing deforestation, promote the prevention of non-energy related carbon dioxide emissions, and by encouraging planting, promote carbon absorption” at 50%. This was followed by “promote the transition to low carbon technologies such as renewable sources of energy for electricity, heating, and transportation” at 41%, and “strengthen technological development, and exponentially increase energy efficiency” at 31%, revealing slightly a different perspective from those of other regions.

4. ENERGY PROBLEM (QUESTIONNAIRE 4)

Question 4: If there is a limit to the use of fossil fuels and nuclear energy, what is the most realistic source of energy in your country to compensate for the deficiency? Please circle one item from the following list.

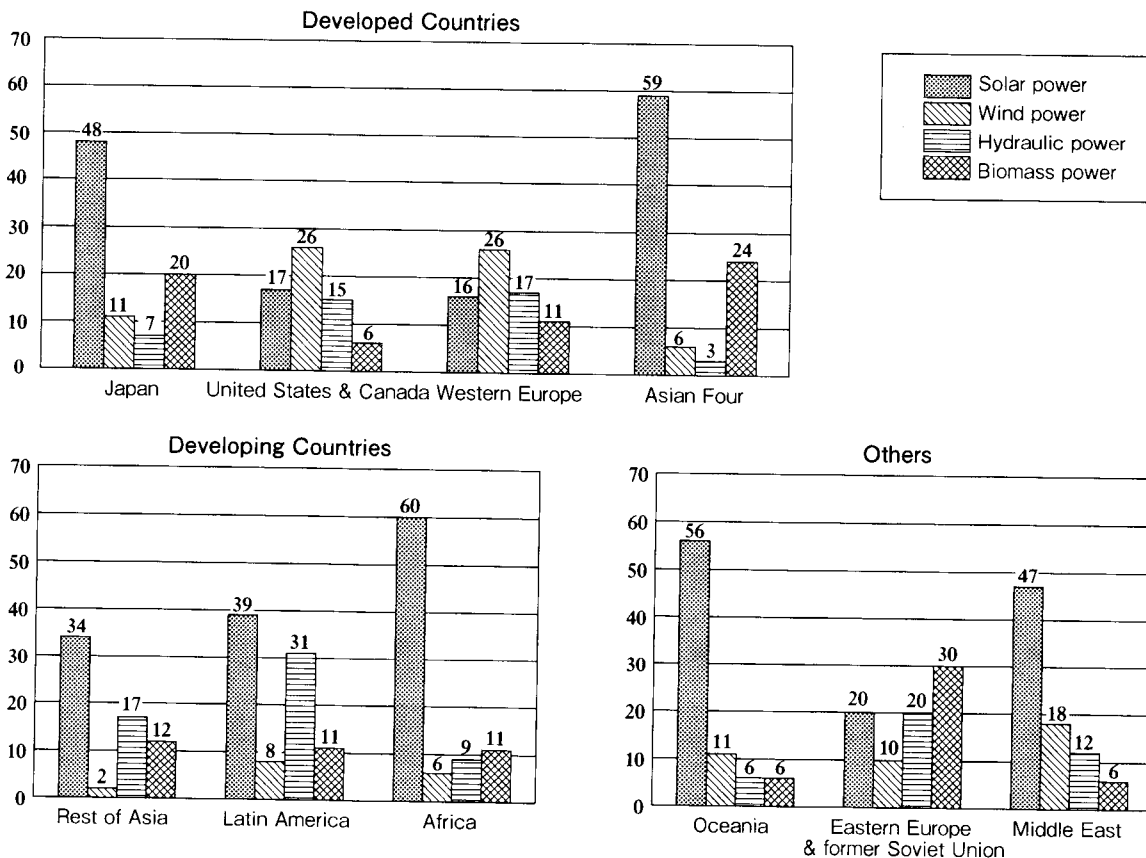
Realistic Source of Energy to Compensate for Deficiencies

	Developed Regions				Developing Regions				Others				Total		
	Japan	United States & Canada	Western Europe	Asian Four	Rest of Asia	Latin America	Africa	Oceania	Eastern Europe & former Soviet Union	Middle East	Overseas Total	Developed Regions	Developing Regions	Others	
1.Solar power	48	17	16	59	34	39	60	56	20	47	34	41	40	37	40
2.Wind power	11	26	26	6	2	8	6	11	10	18	12	14	4	12	11
3.Hydraulic power	7	15	17	3	17	31	9	6	20	12	16	9	18	14	12
4.Biomass power	20	6	11	24	12	11	11	6	30	6	13	18	12	17	16
5.Other	11	30	24	3	5	6	14	6	10	0	24	15	7	6	12
Unknown	3	6	6	6	30	6	0	17	10	18	1	4	19	14	9

Figures enclosed by a double circle represent the answer with the highest number of replies. A single circle is used for the answer with the second highest number of replies.

- Respondents from the United States & Canada and Western Europe who selected "Others" most frequently cited "The combined use of 1 through 4," followed by geo-thermal energy and wave/tidal power.

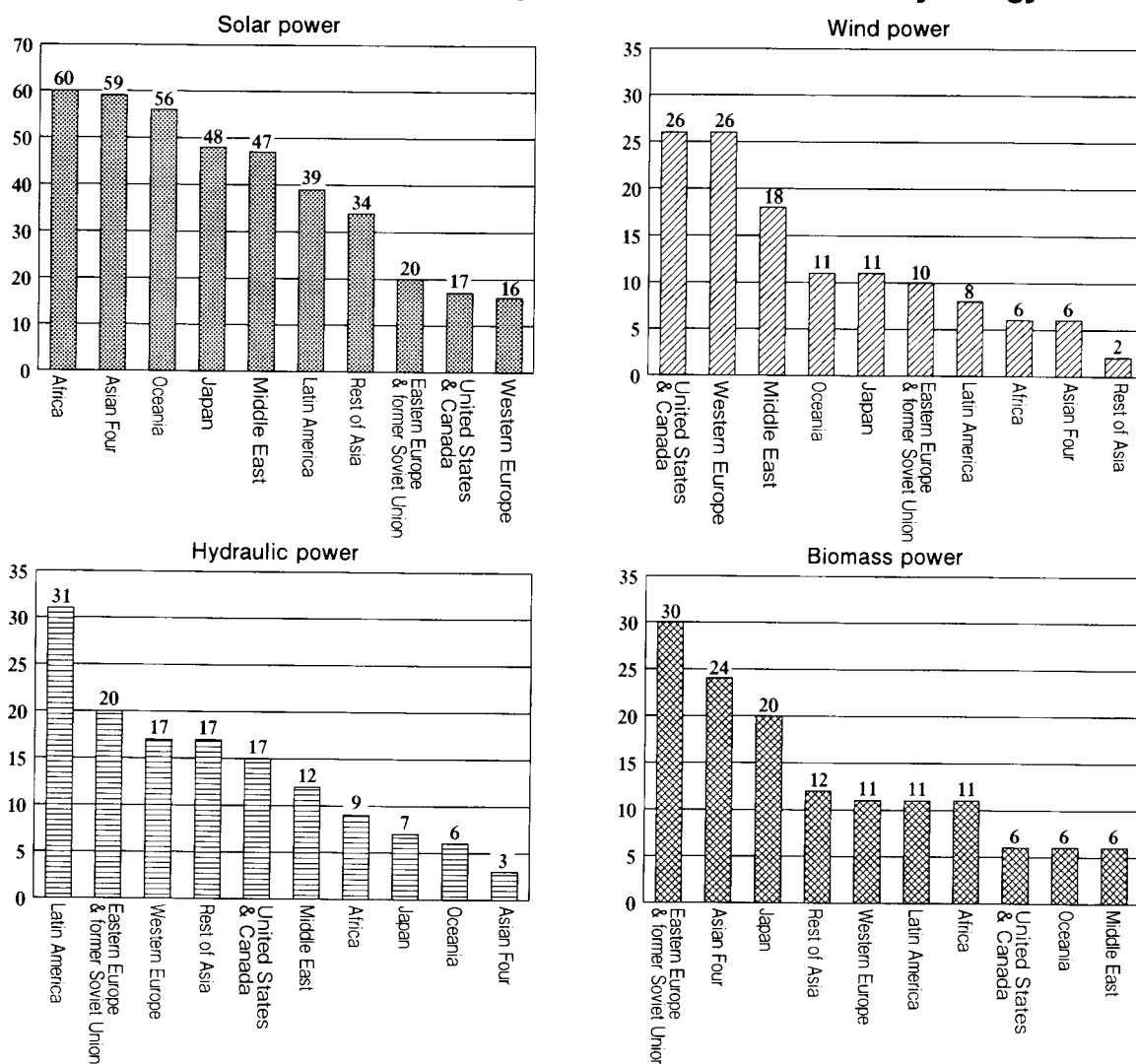
Realistic Source of Energy to Compensate for Deficiencies—By Region



Realistic Source of Energy to Compensate for Deficiencies—By Energy and Region

	Africa	Asian Four	Oceania	Japan	Middle East	Latin America	Rest of Asia	Eastern Europe & former Soviet Union	United States & Canada	Western Europe	(%)
Solar power	60	59	56	48	47	39	34	20	17	16	
	United States & Canada	Western Europe	Middle East	Oceania	Japan	Eastern Europe & former Soviet Union	Latin America	Africa	Asian Four	Rest of Asia	(%)
Wind power	26	26	18	11	11	10	8	6	6	2	
	Latin America	Eastern Europe & former Soviet Union	Western Europe	Rest of Asia	United States & Canada	Middle East	Africa	Japan	Oceania	Asian Four	(%)
Hydraulic power	31	20	17	17	15	12	9	7	6	3	
	Eastern Europe & former Soviet Union	Asian Four	Japan	Rest of Asia	Western Europe	Latin America	Africa	United States & Canada	Oceania	Middle East	(%)
Biomass power	30	24	20	12	11	11	11	6	6	6	

Realistic Source of Energy to Compensate for Deficiencies—By Energy and Region

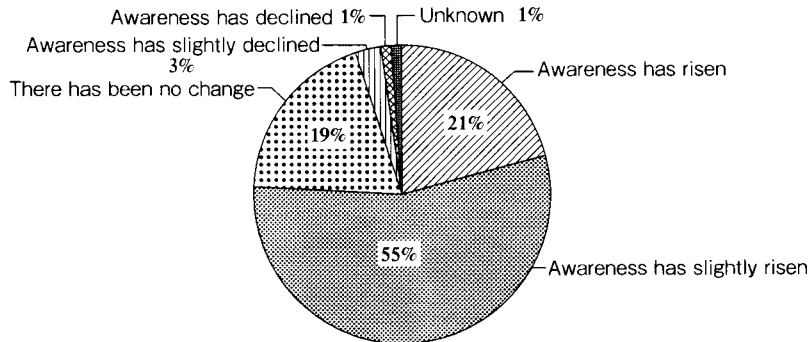


- Overall, the most frequently cited source of energy to compensate for deficiencies was “solar power,” at 40%. In particular, more than 50% of respondents from Africa, Asian Four, and Oceania chose this energy source.
- In the United States & Canada and Western Europe, “solar power” accounted for less than 20% of the responses. The most frequently cited energy source from these regions was “wind power,” at 26% each.
- “Solar power” also only accounted for 20% of the responses from Eastern Europe & former Soviet Union. The most frequently cited energy source from this region was “biomass,” at 30%.
- Respondents from Latin America most frequently cited “solar power,” at 39%. “Hydraulic power” was also frequently selected, at 31%, representing a higher percentage compared to other regions.
- Only 4% of respondents from developing regions selected “wind power,” representing a lower rate than other regions.

5. LIFESTYLE ALTERATION (QUESTIONNAIRE 5)

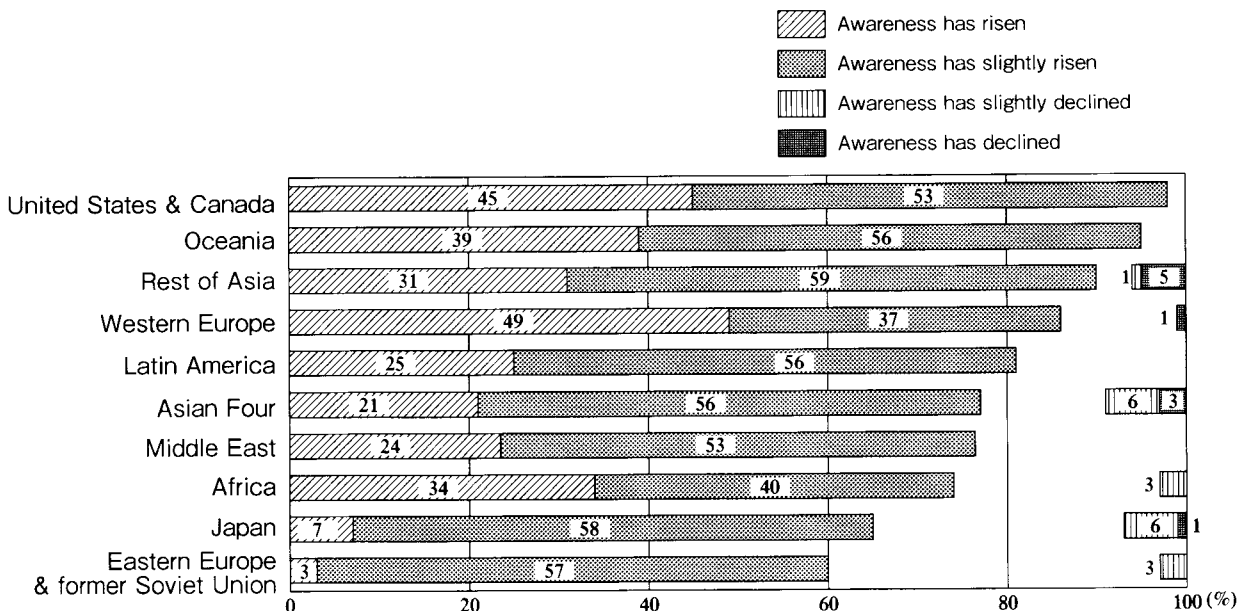
Question 5-1: Simplifying individual lifestyles is important in building a sustainable society. Do you think that public awareness towards environmental problems has risen in your country compared to three years ago? Please circle one item from the following list.

Public Awareness Towards Environmental Problems —A Three-Year Comparison



- When comparing current public awareness towards environmental problems with that of three years ago, the majority of respondents indicated improvement, with a combined 75% selecting either “awareness has risen” or “awareness has slightly risen.” On the contrary, 19% of respondents stated “there has been no change in awareness,” and a combined 4% stated “awareness has slightly declined,” or “awareness has declined.”

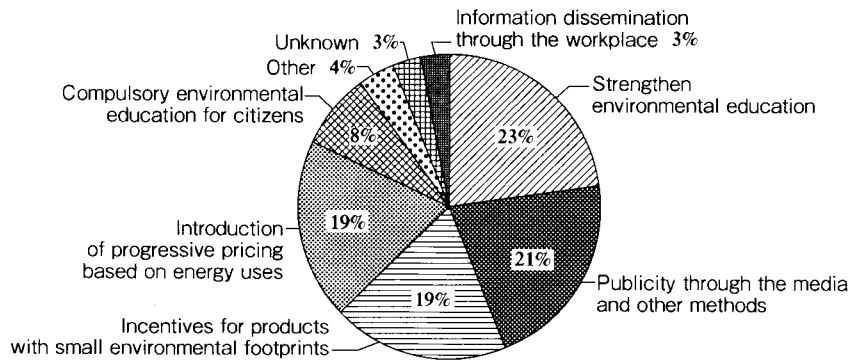
Public Awareness Towards Environmental Problems —A Three-Year Comparison (By Region)



- Regions where more than 85% of respondents stated either “awareness has risen” or “awareness has slightly risen” included the United States & Canada, Oceania, Rest of Asia, and Western Europe. On the other hand, less than 65% of respondents indicated as such in Japan and Eastern Europe & former Soviet Union.
- Regions where more than 5% of respondents stated either “awareness has slightly declined” or “awareness has declined” included Rest of Asia, Asian Four, and Japan.

Question 5-2: A transformation in individual awareness is essential to altering lifestyles. What do you think is the most effective way to promote this transformation of awareness among individuals? Please circle one item from the following list.

**Most Effective Way to Promote Transformations
in Individual Awareness—Overall**



Most Effective Way to Promote Transformations in Individual Awareness

	Developed Regions				Developing Regions				Others				Total		
	Japan	United States & Canada	Western Europe	Asian Four	Rest of Asia	Latin America	Africa	Oceania	Eastern Europe & former Soviet Union	Middle East	Overseas Total	Developed Regions	Developing Regions	Others	Total
Publicity through the media and other methods	18	(23)	(24)	(26)	17	(22)	(31)	(28)	(37)	(18)	(24)	20	(21)	(29)	(21)
Information dissemination through the workplace	2	0	1	9	7	3	3	6	3	6	4	2	5	5	3
Strengthen environmental education	(22)	6	21	(24)	(22)	(36)	(37)	(33)	(27)	(18)	(23)	21	(28)	(26)	(23)
Compulsory environmental education for citizens	9	0	1	12	8	14	11	6	3	0	6	7	10	3	8
Incentives for products with small environmental footprints	(28)	9	13	9	(19)	11	9	0	3	12	12	(23)	15	5	19
Introduction of progressive pricing based on energy uses	17	(47)	(29)	18	16	6	6	11	20	12	20	(22)	12	15	19
Others	2	11	4	0	4	8	0	0	3	24	5	3	4	8	4
Unknown	1	4	6	3	8	0	3	17	3	12	6	2	5	9	3

Figures enclosed by a double circle represent the answer with the highest number of replies. A single circle is used for the answer with the second highest number of replies.

- Overall, respondents selected “publicity of the global environmental situation through the media and other methods,” “strengthening the environmental curriculum at schools,” “implementation of incentives for products with small environmental footprints,” and “introduction of a strong progressive pricing structure based on energy use” as the most effective ways to promote transformations in individual awareness, at approximately 20% each.

- Response ratios from the United States & Canada and Western Europe were high for “introduction of a strong progressive pricing structure based on energy use” as the most effective method to promote transformations in awareness, whereas from Japan it was for “implementation of incentives for products with small environmental footprints.”
- A relatively large number of respondents from Latin America, Africa, Oceania, and Eastern Europe & former Soviet Union selected “strengthening the environmental curriculum at schools.” In addition, a comparatively high number of respondents from Africa, Oceania, and Eastern Europe & former Soviet Union selected “publicity of the global environmental situation through the media and other methods.”

IV. Comments from Respondents

This year's questionnaire elicited a total of 265 free comments, including 136 from 49 countries outside Japan and 129 from Japan. The respondents kindly commented on the state of environmental problems in various regions worldwide and thought of policies and ideas for alleviating environmental problems. Some comments also contained suggestions and requests for future survey questions, which we will gratefully take into consideration in designing the next questionnaire. Owing to space considerations, we are only able to list a portion of the comments, including 53 representing 31 countries and 37 from Japan. The name, title, organization, country and processing number of the respondent are included with the comment. Comments from respondents requesting anonymity are marked with an M or F to denote male or female.

Comments from overseas

Climate change is not a perceived problem anymore. It is there for everyone to see. The seasons are changing, hot areas becoming hotter, and cold becoming erratic. The arid and semi-arid areas are prone to desertification, and loss of productivity. Huge investments must be made in technologies and knowledge generation that can either offset the impact of global warming and seasonal shifts in weather or can produce genes that can withstand hot and dry climates. Food products need to be produced that can match the tastes and nutrient requirements of humans living in these areas. Population pressures in South Asia will force a catastrophe onto itself.

M. Ashraf Poswal, Regional Director, CAB International, PAKISTAN 004

GLOBALIZATION necessitates the universal recognition that there ARE but ONE SKY, ONE EARTH, ONE OCEAN, ONE HUMANKIND, ONE PRIME QUALITY OF LIFE underpinned by BIODIVERSITY in dire need of protection. The truth lies in the paradigm that the whole is more than the sum of its parts. Hence, any parts of the global environment – geographical, political, economic, cultural...are NOT negotiable. The CONSERVATION of the UNIVERSAL ENVIRONMENT will ensure and secure a SALUTARY GLOBE.

Prof. Karl E. Weber, Volunteer, THAILAND 007

The main problem is that there is little or no leadership for the move to steady state societies. In the current circumstances of continued pursuit of growth the various measures being applied to reduce environmental impact are making things worse by propping up unsustainable systems. They will only work in the context of a change away from growth/expansion.

Dr. Goff Mosley, AUSTRALIA 026

Crucial are two things: 1) to reach low material and energy intensity of products and services, which requires alteration of lifestyles in developed countries and a passing by of wasteful lifestyles by developing nations in the years to come; 2) population growth in developing countries, how to slow it down and finally stop it, without violating individual and human rights?.

M. Wood Supply, Stora Enso, FINLAND 028

A big disparity currently exists in the United States between awareness and personal responsibility/acceptance. For example, people may acknowledge global warming but still proclaim great glee when the weather in January is 60 degrees Fahrenheit and sunny; also too many people who claim to care about the environment see no direct relation to their personal lives. They drive big cars, shop endlessly, use lots of electric appliances, etc. Those of us who work, take public transit and do such things as hanging clothing outside to dry, which were once normal activities, are now seen as old-fashioned, if not weird.

F, Dartmouth College, U.S.A. 033

In Uganda we have a problem because there is a threat to cut down the Mabira Forest, which was acting as a natural ecosystem and a sink for CO₂ and other gases. If the forest is cut we shall experience rapid climatic changes.

F, Chemistry Department, Makerere University, UGANDA 035

The cost of environmental damage must be a factor when calculating the full value of moving manufacturing to developing countries, and this price must become part of the final cost of the product.

Dr. John Underwood, Nova Scotia Power, CANADA 037

I do not believe the world's leaders will find the necessary willpower to deal effectively with climate change. But they will be forced to deal with problems related to the depletion of conventional petroleum resources. And in developing alternative energy strategies, they have a chance to help the climate – or to destroy it.

M, Laboratory for Interactive Learning, U.S.A. 047

It is only with credible information (like Gore documentary) and unfortunately self-experienced health effects, like expanding allergies and lost carriage, that people's awareness of the effects of climate change is improved. Governments, instead of penalties, taxes, and additional burdens, should design a new industrial and infrastructure policy and then deploy it in coordination within the EU and also worldwide. Money does not seem the limit – but political will and people's preparedness to "renounce" mobility and consumption needs to improve a lot to produce real benefits.

Hansruedi Schenk, Financial Director, Falck Group, ITALY 056

The Second Report of the IPCC has drastically changed the timeline. We are on borrowed time now. There will be no future if we can't stop global warming.

Albert G. Cohen, Executive Director, Southern California Ecumenical Council, U.S.A. 057

Renewable energy resources need to be urgently integrated on a major scale into the conventional energy network.

M, University of Melbourne, AUSTRALIA 060

Maintain the pressure to work towards practical solutions of our environmental issues, which are increasingly urgent. Automobile manufacturers, marketers and users need that pressure more than others.

M, ENGLAND, 064

In my opinion, the main environmental problems facing the world today are and will be caused by a changing climate and by poverty mainly in the developing countries. Nevertheless, developing countries will have to take part in the global efforts to curb GHGs emissions, especially China, India, Brazil, Mexico and South Africa, all of which are now becoming major industrialized countries. A new global agreement will have to be negotiated, either in addition to the Kyoto Protocol or replacing it, to take care of this matter.

Dr. Michael Graber, Retired, ISRAEL 077

In the United States especially, energy-wasting products and practices should be strictly curtailed. Regional self-sufficiency should replace globalization.

Dr. David Ehrenfeld, Professor II, Rutgers University, U.S.A. 087

I propose an international regime of tradable per capita equal emission rights. On the national/European scale I propose to increase energy (carbon) prices in proportion to national energy productivity increases in the previous year.

Ernst von Weizsacker, Dean, University of California, Santa Barbara, U.S.A. 093

- Difficult but necessary changes will require extreme measures, incentives, penalties and efforts.
- Developed and developing nations need to share responsibility and technology.

M, Canadian Museum of Nature, CANADA 102

My observation is that society responds to price signals more rapidly than to incentives to employ alternative technologies. A strong price signal automatically provides the incentive to employ alternative technologies and penalizes polluters directly. Society subsidizes waste far too much.

Dr. Brad Sherman, Senior Research Scientist, CSIRO Land and Water, AUSTRALIA 112

Despite awareness of global environmental issues, the Government of Trinidad and Tobago pursues courses of action that inevitably lead to environmental degradation against the wishes of the citizenry. For example, the boom in the construction sector has encouraged the proliferation of quarries (legal and illegal), resulting in significant deforestation. Despite national protest, the construction of two to three aluminum smelters has begun, which will result in the rapid depletion of natural gas and groundwater resources and significantly increase air pollution. Environmental legislation and enforcement remains weak. Despite statistical decreases in unemployment and poverty, there has been no real benefit to the average citizenry from this exploitation of our natural resources.

Perry Polar, Insect Pathologist, CAB International, TRINIDAD 117

Global warming is more of a myth than a scientific fact. Really there is global change caused by both technical and natural factors. We live in the end of one glacial period and it's simply funny to believe that the climate will be stable and unchanging. In the history of the Earth, there was NO ONE period with a safe and stable climate.

Eugene Silow, Professor, Irkutsk State University, RUSSIA 144

The most important part of public education is to link the economy with efficient/effective use of resources. The first, the economy, is tied up with the mythology of what has brought us our 'bounty,' including 'jobs' and lots of comfort and diversions; while the second, the efficient/effective use of resources, is about the basic element of environmental/ecological principles. These are really very much alike and people need to see that.

Chris Bradshaw, Principal, Bradshaw Communi-Ties, CANADA 145

The problem and the solution: To know and to live this way—there is enough for everybody in need but not for everybody in greed.

F. Official, Federal Ministry of the Environment, AUSTRIA 153

We will need more cooperation between countries and good experts; more information about assessment and management. We also need strong environmental education at schools, universities, and in the governmental structure.

Ott Roots, Director and Chief Scientist, Estonian Environmental Research Institute, ESTONIA 156

Climate change and rises in the sea level will be the key issue in Viet Nam this century. The movement of over 10 million people will cause changes never seen before in the world.

Bernard O. Callaghan, Program Coordinator, IUCN- Viet Nam, VIET NAM 157

I am afraid it is now too late for efficient measures. Global warming will destroy the basis of our present-day geopolitics.

Nicole Petit-Maire, Director of Research, CNRS, FRANCE 158

We face an enormous challenge to cope with the future problems of mankind. We need an outlook based on future generations, taking them into account in our present day decisions. Education is a most needed issue, but also public policy coupled with technical and scientific innovations, to induce or promote change. We should learn to see things in a wider perspective, realizing that issues are interconnected and they interact among each other.

Francisco J. Lozano-G, Sustainable Campus Coordinator, ITESM, Monterrey Campus, MEXICO 161

I hope I'm wrong but the current place and time in which we find ourselves makes me think of the Permian-Triassic extinction, with all the elements present except for the volcanic eruptions. I am concerned about our cultures and civilizations in a world where leaders do not take these seriously and pursue international/national policy through the blunt instruments of war and fear. We are at an incredible time of flowering in science, medicine, art, music, thinking and we may lose many of these due to our shortsightedness as well as selfishness, because in the end, I see increases in the symmetries of the way power and privilege is distributed.

Edward Hessler, Teacher, Hamline University, U.S.A. 162

Industrial countries should support and finance certain environmental plans in developing countries, but not through governmental organizations. It is better to work principally and substantially with nongovernmental organizations in developing countries. I'm most concerned about the potential use of biomass energy. We need to be strongly proactive on this issue.

Prof. Ibrahim Moh-Kilany, Zagazig University-Egypt, EGYPT 164

A pandemic of endocrine-related health disorders is increasing significantly in the northern hemisphere – I expect that in two more generations it will be serious enough to cause widespread devastation. But after the recent discovery that snow pack, which becomes the source of water for millions, has dropped precipitously – I have come to fear that drinking water and crop loss could impact the globe sooner.

F, TEDX, The Endocrine Disruption Exchange, U.S.A. 165

Increased poverty and problems of food has recently relegated environmental problems and awareness to the background.

Prof. N. M. Gadzama, Director, University of Maiduguri, NIGERIA 177

The aggressive nature of modern industry and the huge growth of population have badly affected the quality of life, especially in large cities. We have to take advantage of the most modern environmentally friendly technologies and human knowledge, to turn back toward our human nature. Otherwise the human species, as we know it will not sustain.

Hamid Taravati, Managing Director, Taravat Bahar Environmental Institute, IRAN 185

Ten years after the Kyoto Protocol, it is difficult to imagine how we have achieved so little. Obviously, the issue needs to move off of the political agenda, and be placed on the economic one. Climate change is a reality. Global and local adaptation strategies are needed for both the short and longer terms.

Gene M. Owens, Independent environment consultant, U.S.A. 189

Awareness about the environment may increase but it doesn't necessarily translate into changes in lifestyles. That requires individual commitment to act/change, which requires enabling the environment for them to do so – such as policies, public facilities, etc.

M, Royal Society for Protection of Nature, BHUTAN 195

An increase in global temperatures is causing changes in the amount and pattern of precipitation, which is becoming a great cause of concern. In India, we are witnessing changes in the frequency and intensity of precipitation as well as changes in agricultural yields, though it is difficult to connect these events to 'Global Warming.' Another phenomenon that is taking place is the mushrooming of the 'concrete jungles,' i.e., buildings in almost all cities, which is replacing the lush green trees

and shrubs and of course the agricultural land and biodiversity. In the process of beautifying cities, the surroundings of the trees are being concretized. And as a result, the water catchments area is being reduced and trees are being starved of the natural water during rainy season. During the summer, we are now depending more and more on supply of water through 'Water Tankers,' which has not only increased air pollution, but has also resulted in noise pollution, as the water has to be pumped through 'Diesel Operated Pumps.' Are we not acting like 'Kalidas' (India's greatest Sanskrit poet and dramatist,) who was cutting the same branch of the tree on which he was sitting? It is high time to think on 'Actions' not 'Reactions.'

Dr. V.S. Mehrotra, Reader, PSS Central Institute of Vocational Education, INDIA 197

The most pressing problem when talking about the environment is that there is no dollar value on the environment. As such, the value of the environment will differ from person to person. It is also very difficult to talk about the environment when there is extreme poverty. In such cases the environment is always relegated behind human survival.

Gregory H. Nyaciuse, Senior Ecologist,

Parks & Wildlife Management Authority, ZIMBABWE 202

I think that we are on the brink of no return for this planet if we do not make real efforts to change our lifestyles now, immediately. This year, after the scientists' report, governments and politicians are finally taking environmental problems seriously. Will it last? Time will tell.

F, Volunteer, Society Promoting Environmental Conservation, CANADA 208

The Kyoto Protocol was doomed to fail from the start as it was largely Euro-centric and failed to deal with the vital issue of developing nations' future energy needs. Curiously, one of the few countries worldwide that will meet its Kyoto obligation is Australia, who has not ratified the treaty.

M, Environment Protection Authority, AUSTRALIA 215

The main problems related to environmental issues at the present time and in the near future are the increased differences in the socio-economic development and living standards between the developed and developing countries. It is absolutely necessary to create new international mechanisms for regulation of these differences and to create equilibrium between developed and developing countries in the economic growth and use of the natural resources.

Boris H. Krasnopolski, Professor, Russian Academy of Science, Far Eastern Branch, Economic Research Institute, RUSSIA 217

Poverty and environmental destruction are a vicious cycle in poor countries like Mauritania; only international cooperation and public education can reverse this situation.

Cheikhna Aidara, Coordinator, APEM, MAURITANIA 219

Sadly, shallow consumerism, driven by marketing and 'fashion,' is making more rapid progress than environmental consciousness – i.e. appealing to people's lower instincts works much better than trying to reach their heart or their reason.

Lothar Luken, Editor, Friends of the Earth, IRELAND 220

Medium to long-term environmental impacts cannot loom harsher than the immediate punishing impacts of severe poverty, rampant in several developing countries. It is therefore very unlikely that those caught in the poverty trap will be willing or able to voluntarily take measures to stabilize or reduce ghg emissions/capture. Nevertheless it is vital, for our long-term survival, that developing countries also take such measures – as well as the more stringent measures that must be implemented by developed countries and large ghg emitting countries. Mechanisms must be devised and agreed in the future that will coerce developing countries to help improve, or at least stabilize the current situation by making positive efforts themselves.

Mike Laing, Retired climatologist, SOUTH AFRICA 228

We waste too much energy!! We must reward environmentally sound techniques and products, for example, through positive tax discrimination.

M, Ministry for Foreign Affairs, AUSTRIA 229

To be able to participate in resolving our environmental problems, it is first necessary to be aware of how one contributes to them. Can I reduce my personal consumption of energy? Is my principal means of transportation by foot, by bicycle, by bus, boat or train, by car or by airplane? Am I involved in any activities that pollute or have an otherwise adverse impact on the physical and natural environment? Could I change my diet to a predominantly vegetarian one? Do I choose organic produce or am I happy with the conventional or GM Variety? In short, am I actually doing anything constructive to halt the deterioration in the quality of our environment?

David Black, Trustee, Oxleas Wood Challenge Fund Trust, U.K 234

Changes to the climate are part of a natural cycle, which has gone on for eons. In some respects, GHG emissions from human activities may be hasten changes ahead of the planet's ability to catch up but the media, and many others, who should know better should show a bit of balance please!

Dr. Diane Wiesner, Principal Scientist, Australian Water Association, AUSTRALIA 249

Really, I think the degradation process of the environment is a “non-stop” issue. No agreements, regulations or laws will be able to stop, reduce, or minimize this process. Sadly, these are the behavior of the Homo sapiens species: To break his house himself.

Mamerto Valerio, Representative, Environment and Development (ENDA), DOMINICAN REPUBLIC 277

Developing countries, especially in Africa, suffer and will continue to suffer due to global warming. Yet, the developed countries are largely responsible for CO2 emissions. These countries should therefore bear the responsibility and positively respond to the call, POLLUTER PAYS, to avail adequate financial and technical assistance. This will help developing countries to adopt appropriate technologies in combating global warming under or including South-to-South trading and other arrangements.

Michael E. Sizonuel-Kagolo, Private Forest Consultant, UGANDA 286

God’s creation started with rivers, lakes, mountains, plants, and animals, and ended with man, according to the Bible. Then man started to use these things to satisfy his needs. The use is almost exhausted. Deforestation has become one of the major environmental problems. In the rural areas of Kenya where wood is the basic source of fuel, the cutting of trees has affected agricultural land. Erosion by means of running water has left the land barren. Consequently, the seasonal streams become silted up, causing acute shortage of water for animals and domestic users. The more the trees are cut down, the less the rainfall, resulting in long periods of drought. Since Africa has not developed new technologies for energy creation for industrial and domestic use, wood fuel will still serve the majority of the population. So the governments of developing countries, with large areas of land not well utilized, have to come up with strong policies on tree planting. I would rather suggest that every adult, including a baby born yesterday should own at least 200 trees. Besides that, serious consideration should be given to encourage the bio-gas industry as an alternative to wood fuel. This is an area of great potential because about 90% of rural households have cattle, which can provide source materials required for the technology.

Yucabeth Ongondo, Chairperson, Kogola Women Group, KENYA 288

I am preparing a waste-recycling center where I hope to help my citizens change their lifestyle in terms of consumption and water resources management at urban and rural levels. I deeply believe in this issue (I will present my results next year).

M. VGE West African Environment Watch, GUINEA REUBLIC 299

I think there needs to be more interest in environmental education in the Middle East and most Asian countries. We need more activities on this topic.

Ahmed H. Abdulrahman, Information Advisor, Supreme Council for the Environment and Natural Reserves, QATAR 300

The problems of the global environment first and foremost are problems of people’s quality. I believe this is particularly true of developing countries like China. The main contradiction is that people are causing environmental destruction due to the lack of awareness for the global environment. In order to make people aware of these problems, education will become paramount. By spreading higher education, and in it incorporating an explanation of global environmental problems and popularizing a series of preventive measures, there can be an improvement in the environment as well as in raising people’s capabilities. This should also have a benefit on the development of new energies by nurturing more qualified human capital.

CHINA, C003

There is a problem of fairness with regards to the environmental issues. In particular, developed countries should make full use of their material and technological superiority. I hope developed countries would support developing countries in improving their technological development, as well as bringing benefits to many.

CHINA, C024

I would like to suggest that, in determining policies and measures to resolve global environmental problems, the severity of the crisis and international fairness be given due consideration. Participation by developed countries to the “Kyoto Protocol” needs to be promoted through series of effective measures, and major developing countries should also bear appropriate levels of responsibilities. Developed and developing countries should prepare production and lifestyle systems that benefit the global environment, and serve as an example to the international society. I agree with encouraging the reduction of energy consumption through technological and production methods in the short term, as well as promoting a style of consumption that encourages the choice of products with a low environmental burden. I believe these methods would be effective in resolving environmental deterioration by 2013, and realizing development that makes the continuation of humankind possible.

CHINA, C040

While human domination of the natural world is strengthening with economic development and the advancement of scientific technology, natural resources that people can actually utilize in current production systems are only making a downward spiral. This is particularly the case in forestry in China. On the one hand, China has in recent years experienced an increase in water-related disasters, droughts, and sand storms of yellow sand, and air pollution is worsening. These are all indications that the destruction of forest resources has surpassed the allowable threshold of the natural environment. There is a limit to natural resources. There is also a limit to nature’s ability to cleanse itself. By exceeding those limits,

those cleansing capabilities will become lost. And when this point is reached, effects to society and scales of production are inevitable.

CHINA, C049

1. Strictly regulate the use of public and private automobiles, and promote the use of bicycles among individuals as well as strengthening PR activities. (1. The health effects of using a bicycle, 2. Effects of energy conservation, and 3. Decreasing environmental pollution.) The value of utilizing buses. Help citizens understand the situation of the global environment and the dangers to humankind. Encourage the use of buses and bicycles to the extent possible.
2. The government should develop new indices for the mining and manufacturing industries to meet based on meticulously developed figures that quantify the amount of carbon. Establish and strengthen regulations that incorporate economic penalties, and create related enforcement mechanisms, for example, international economic sanctions.
3. Strengthen technological development and reduce carbon dioxide emissions of products with high emissions levels by improving production technology and replacing with new models.
4. Strengthen public relations efforts through the media. Encourage the use of electric fans and disuse of air conditioners among citizens and corporations.
5. Encourage the use of methane gas production devices in farming villages to utilize recycled energy with the help of living organisms. Encourage the use of methane gas for cooking and lighting by providing incentives like financial support for methane gas production devices.

CHINA, 052

Comments from Japan

As various issues like global warming countermeasures and the conservation of biodiversity face a new turning point, a new comprehensive action plan needs to be developed to replace Agenda 21. Discussions should begin now, so that the action plan is developed over the next five years by the 20th anniversary of the Earth Summit in 2012.

M, Researcher, Institute for Global Environmental Strategies, JAPAN 001

I greatly wish for the world to place value on a simple way of life. My motto is (to make a difference through) each person taking one step at a time and persevering over time. I hope to start with the small things and from there, expand my endeavors.

F, Department of Waste Material Strategies, Nara Prefectural Government, JAPAN 011

I believe in the importance of communicating the seriousness of global environmental problems over and over again, through environmental education starting in childhood, and continuing onto environmental education and information dissemination for adults.

Yuko Nishitani, Tokyo Marine and Nichido Fire Insurance Co. Ltd., JAPAN 012

There should be a development of a program to counter global warming based on unit requirements of productivity in balance with economic growth, which would enable major emitters like the United States, China, and India to participate, and thus increase effectiveness. At the same time, technological assistance should be extended to developing countries. On the other hand, Japan should continue its efforts to play a leading role in energy conservation and environmental education.

Setsuo Iuchi, Department of Energy Conservation and New Energy,

Agency for Natural Resources and Energy, Ministry of Economy, Trade, and Industry, JAPAN 021

There needs to be a transformation in people's ways of life and the industry, as well as implementation of mechanisms with some level of forcefulness.

M, Department of Social Systems, Chiba University, JAPAN 022

It may be impossible to suppress population growth, maintain food production, and solve environmental problems under the current capitalist economic system. I believe the creation of a new system of values that takes the environment in greater consideration is urgently needed.

Toru Kashima, Technical Director, Environmental Division, Mitsubishi Materials Corporation, JAPAN 023

There needs to be more political endeavors to solve environmental problems. Companies generally do not keep environmental problems seriously in mind, and only respond to what is legally required. Hence a transformation of awareness is necessary.

Akihito Yoneda, PM Services Division, NTT Urban Development Building Services, JAPAN 028

Now is the time for international organizations like the United Nations to play a role in saving the planet, but they don't seem to function well. I hope both politicians and individuals take a greater recognition for global environmental problems. In this day and age of putting forth whatever political strategies suit the needs of the moment and only pursuing personal gains, we need to use our wisdom to determine how to bring these tendencies to a halt. In the immediate future, I believe it is important to make people recognize how these problems will affect them personally. Ideas need to be developed and then create an environment where they could be implemented on how people, who have become accustomed to an affluent and

convenient lifestyle, in other words, have eaten the “forbidden fruit,” could reduce their use of household electronics and cars and lower their standards of living.

Shinichiro Namiki, Director, Department of Environmental Solutions, Nichiwa Service Ltd., JAPAN 037

I propose a strengthening of opportunities for citizens to participate in developing political strategies, and creating participatory ways to establish methods that connect science and civic society.

Masaharu Yagishita, Professor, Graduate School of Global Environmental Studies, Sophia University, JAPAN 039

I personally feel the importance of expanding and deepening the separation and recycling of waste materials. In particular, one of the essential issues in the immediate future is how to create an energy source out of the fermentation of raw waste and sewerage produced by households and businesses, as well as their promotion and reuse. It is inevitable for us to revitalize and renew food and agriculture, which are deeply rooted in the land and ocean of Japan.

Hiroshi Hirata, Professor Emeritus, Faculty of Agriculture, Tokyo University of Agriculture and Technology, JAPAN 051

Global warming requires a fundamental transformation of society, including that of production and consumption systems. Political decision makers need to place environmental problems in their plans of highest priority, and develop economic and welfare strategies, instead of relying on one-off technological solutions.

Eiichi Nishikawa, niversity lecturer, JAPAN 064

1. While climate change is the most important issue at the moment, more attention needs to be paid to other problems that are creeping about.
2. Practical measures to counter climate change need to be strengthened. In order to do so, links between clean development mechanisms (CDMs) and those measures need to be reinforced. In addition, there needs to be a consideration for a system that treats contributions to those measures the same way it treats contributions to reductions of emissions rights.
3. Additionally, we must remember that CDMs have deficiencies. There needs to be a system of incentives to regulate emissions reductions for developing countries that replaces, if not improves upon the existing CDMs.
4. I believe that proposing a thorough and comprehensive atmospheric environmental management system that integrates climate change, transnational air pollution, and local pollution would be effective in promoting climate change counter-measures to developing countries.
5. We need to put a greater emphasis on problems related to biodiversity, including our own country.

Katsunori Suzuki, Senior Researcher, Sustainable Development Program, United Nations University Institute of Advanced Studies, JAPAN 068

Environmental education is extremely important. How about incorporating it into the elementary school curriculum?

Yohei Nakajima, Director, Department of the Environment, Saga Prefectural Government, JAPAN 092

I believe that the media can have a significant power in making an appeal about the environmental crisis, but the psychological impact it has on the public can greatly differ depending on how the information is selected and on the editorial policy. In order to ensure a wide and accurate gathering of information and an unbiased editorial process, a system needs to be created with the capability to provide fair and accurate information, under the supervision of a public research institution.

Manabu Kamiya, Mayor, City of Anjo, Aichi Prefecture, JAPAN 097

In addition to regular education of the public, I believe there needs to be some level of enforcement in order to change lifestyles.

Akio Hosoi, Department of Environmental Safety, Teijin Ltd., JAPAN 107

As was mentioned in question 3-2-2, I believe that the Kyoto Protocol is not functioning at all. Therefore, as one of the options in the questionnaire suggested, I believe there is no other choice than to create a powerful international organization that can demonstrate enforcement capabilities.

M, Department of Amagasaki City Hall, Hyogo Prefecture, JAPAN 123

As can be seen in the annual data on the climate and carbon dioxide levels in the North and South Poles, global warming is caused less by human activity on a global scale rather than the extremely large effects of the activities in the northern hemisphere. It is time to leave behind ambiguous terms like “global” and begin making an appeal with the data in hand so that people can truly understand that much of the cause lies in the northern hemisphere.

Michiko Imai, President, Le Verseau Inc., JAPAN 133

Global warming is not a problem that can be solved in several years, but rather something that will take 50, or 100 years to solve. The efforts of developed countries alone will not be effective, but developing countries cannot be forced to curb their energy consumption. Therefore, reducing carbon dioxide emissions at a global level is an extremely difficult task. Thus, endeavors to increase energy efficiency are necessary, while it is also necessary to develop methods to evaluate it interna-

tionally. I believe global warming will not be solved without the expansion of nuclear and clean energy as well as technological breakthroughs like the development of carbon sequestration technology.

Akira Mitarai, Consultant, Sharp Corporation, JAPAN 134

We need to communicate in detail, not only the effects of environmental degradation today, but the disasters that will befall our children and grandchildren in 100 years. This is meant not only to have a scientific discussion, but rather, to be raised as a question of choice that each individual can make based on their values, and should also include a discussion on preventive principles.

Satoshi Nitta, JAPAN 137

I was responsible for global warming countermeasures for the prefecture last year. Although the government and related organizations spend an enormous sum of money on publicity and campaigns on global warming, in reality those programs have not led to action and implementation among ordinary citizens. I painfully felt the need to carry out more grounded programs to stimulate awareness at the prefectural and city level, as well as to craft large scale, effective strategies that provide incentives to individual endeavors.

M, Chiba Prefectural Environmental Research Center, JAPAN 143

In selecting my answers for this questionnaire, I was constantly bothered by a sense of doubt that the means to fundamentally solve global environmental problems from its roots are next to none under the current system of neo-liberalism and market economy. I have some hope that if new frameworks for international cooperation between developing countries, like the nascent ones seen in Latin America, could be applied to environmental problems as well, then the situation might make a significant turn.

Yukio Sakamaki, Vice President, Japan Association on the Environmental Studies, JAPAN 153

All citizens should start at their own two feet and plant trees according to ecology's scenario.

Akira Miyawaki, Director, Japanese Center for International Studies in Ecology, Institute for Global Environmental Strategies, JAPAN 159

While a transformation of awareness is important, I believe it is necessary to create a system to half-forcibly change lifestyles including the economy.

Michio Hirose, Secretary General, Organization for Industrial, Spiritual, and Cultural Advancement, JAPAN 161

Instead of letting the discussion begin and end with extremely biased media reports as we currently do, I hope for a social structure where individuals gain an interest in environmental problems based on a calm understanding of materials and information.

M, The Engineering Academy of Japan, JAPAN 166

In thinking about global environmental problems, I think first and foremost it is important to understand the deteriorating situation by looking and listening carefully. One effective way might be to inform people through the media about the current situation of the global environment. In Japan, it has become possible to sound alarms about the global environment using the observations from the Earth observation satellite "Daichi." I look forward to its future development.

Kimihiko Satoh, JAPAN 174

Because many of the causal relationships of global environmental problems are regionally and temporally spread out, and require scientific examinations from multiple angles, it is important for there to be numerous discussions and debates among scientists, who are the experts. On the other hand, ordinary citizens also need to think about what they need to do in cases where the environment is in such danger of deterioration that the damage is irreparable. Thus, education becomes important. But in reality, the quality of Japanese education has declined in many respects, and I feel that students are not being taught how to think for themselves. Although it is important to construct a regulatory framework, it is essential in undertaking environmental problems to improve the quality of education so that people recognize problems and learn to understand the issues. In other words, thinking about environmental problems also requires us to think in conjunction about the problems of modern Japanese society. In addition, I think that Japan needs to learn earnestly from the experiments and experiences of other countries and adopt their strengths, as it once did. For example, I question why we have been unable to move forward from regulating the overall quantity of air pollution to emissions trading. I think a humble approach is also necessary.

Keiichi Yokobori, Professor, Faculty of Law, Teikyo University, JAPAN 182

Strategies to increase the contribution of nuclear power generation have been gaining attention as a global warming countermeasure. However, in thinking about the processing and storage of radioactive waste materials, which require management over enormous numbers of years, I believe there is a need to have calm discussions and debates about which choice fundamentally places a greater burden on the global environment.

M, Department of Environmental Promotion, NTT Corporation, JAPAN 192

To solve global environmental problems, we must aim for a reduction of carbon dioxide emissions at a global level. Superior energy conservation technologies from countries like Japan should be transferred to the United States and to developing countries with remarkable rates of growth like China, and India, and a system should be created to balance economic growth and the environment by establishing energy conservation goals by sector, as opposed to overall quantity reduction. If all major emitters do not participate in the next framework, thus failing to establish clear energy conservation objectives and create a system for long-term carbon dioxide emissions reductions, the conflict between developed and developing countries will continue unresolved, and effective global carbon dioxide emissions reduction will not be accomplished.

*M, Industrial Science and Technology Policy and Environment Bureau,
Ministry of Economy, Trade and Industry, JAPAN 201*

While countries around the world are crafting one new measure after another, I feel a sense of crisis with the Japanese government, which has not even had policy debates and has failed to iron out substantive measures. I fear that in conjunction (with this inaction), the international competitiveness of Japanese corporations will deteriorate.

Konoe Fujimura, Co-Director, Japan Association of Environment and Society for the 21st Century, JAPAN 229

With the year 2008 around the corner, I don't understand why it is completely unclear how the government intends to meet our carbon dioxide emissions reduction responsibilities. During the second oil shock tangible measures were put in place, like the prohibition of neon lights after 10 p.m., the closure of gasoline stands on weekends, and the stopping of elevators. Will the government implement concrete actions towards emissions reductions, for example, ending the late night operations of convenience stores? Urgency has not been promoted.

M, Niigata Prefectural Institute of Public Health and Environmental Sciences, JAPAN 231

Currently there are numerous types of information about environmental problems provided to the public, but it is difficult to know what is true, what to believe in, and what people can do about them. Even with global warming, there are many theories, whether it is truly a man-made result, or if it is simply a natural phenomenon. I feel that the media currently focuses only on the surface of what can easily be construed as news. Environmental problems are economic and political problems in nature, and changes in lifestyle (for example, the ubiquity of electronics) are made to happen through economic needs. While palm tree oil and bio-ethanol are advertised as being gentle to the environment, behind them are environmental and human destruction that takes place in order to secure the raw materials to make these products. With regard to environmental education as well, I believe we need to not only teach the things that are beautiful on the surface, but also the contradictions and the detrimental dimensions of economic activity that lurks in the background.

*Shinichi Suzuki, Senior Researcher, Japanese Center for International Studies in Ecology,
Institute for Global Environmental Strategies, JAPAN 277*

"Think globally, act locally" is advocated in environmental endeavors. But we must take a step further and return to the origins, starting with global environmental ethics. The enemy who is trying to decimate the Earth, the rare planet of life, is within ourselves.

Satoru Kitajima, Board member and Consultant, The Association of National Trusts in Japan, JAPAN 284

While there has been a rapid growth in bio fuels like ethanol as an alternative to fossil fuels, the rise has led to price increases of crops like corn, leading to concerns over global food shortages. What is needed instead is a technological innovation for bio fuels that uses raw and other waste materials as their ingredients.

Tomoaki Fujjii, Deputy Director, Tokyu Foundation for Better Environment, JAPAN 286

Global environmental problems are energy problems. As energy strategies of the countries around the world become fiercer than ever, the administration, as the country's central government, should work urgently to develop and bring to fruition next generation sources of energy like hydrogen and renewable energies that don't burden the environment. Local governments, while working to generate public interest in energy conservation on the one hand, should also aggressively work to attract new energy related industries and promote their development.

Yasushi Furukawa, Governor, Saga Prefectural Government, JAPAN 291

The balance between greenhouse gas emissions and their absorption is terribly distorted. We must square with the reality that the quantity of emissions is twice as much as what is absorbed, and it is essential to step forward with a bold and powerful response. To achieve this, carbon must be assigned a price in order to achieve a common understanding and a common standard around the world that carbon emissions is not free.

*Hiroshi Kamagata, Environment and Economy Division,
The General Environment Policy Bureau, Ministry of the Environment, JAPAN 295*

Because each and every person is both a victim and a perpetrator when it comes to the urgent problem of global warming, it is necessary to review our daily patterns of life. I believe it is important to put into place effective global warming counter-measures at the local level. As such, we have identified the responsibilities of the prefecture, as well as those of citizens and corporations. We are striving for the establishment of rules requiring energy management and environmental considerations from businesses, promoting energy conservation strategies among households, and in the dissemination of information

about global warming and the promotion of environmental education.

Narifumi Matsuzawa, Governor, Kanagawa Prefectural Government, JAPAN 296

The deterioration of the global environment has brought about phenomena like climate change and the decline of immunity among organisms, and continues to assault life forms outside of the “human beings who unleashed enormous amounts of contaminants” (including future generations of people). Although many theories exist about global warming, I don’t believe one can deny the effects of human economic activities and lifestyles regardless of whichever theory you examine. People and organisms belonging to the future generation cannot appear on our Earth today to make a plea telling us that enough is enough. The only way forward is for those of us alive on this planet today to gather our wisdom and act upon it. The term “suppression,” or the phrase “another path” come to mind that R. Carson wrote about 45 years ago in her book, *The Silent Spring*.

Kikuo Inaba, Professor, Faculty of Human Sciences, Osaka University of Economics, JAPAN 312

Question 3. Global Warming

3-1. Approaches Beyond the First Commitment Period of the Kyoto Protocol (Post-2012 Approaches)

3-1-1. Post-2012 Regulatory Framework

	Japan [322]	U.S.A & Canada [47]	Western Europe [70]	Asian Four [34]	Rest of Asia [106]	Latin America [36]	Africa [35]	Oceania [18]	E Europe & former Soviet Union [30]	Middle East [17]	Overseas Total [393]	Total [715]	Developed Regions [473]	Developing Regions [177]	Others [65]
1. All countries will participate in the new framework	5	11	3	24	33	14	26	11	13	18	19	12	7	28	14
2. Developed countries including the U.S. and Australia, and major developing countries like Brazil, China, and India will participate in the new structure	57	49	53	47	38	50	46	44	37	35	45	50	55	42	38
3. Only developed countries of the Kyoto Protocol with the U.S. and Australia will participate in the new framework	20	15	17	6	12	8	11	17	10	18	13	16	18	11	14
4. The U.S. and Australia would not join the new framework; only the current Kyoto Protocol countries will participate	16	11	20	15	10	25	14	17	30	18	16	16	16	14	23
5. Others	2	11	7	0	5	0	3	6	3	6	5	4	4	3	5
Unknown	0	4	0	9	2	3	0	6	7	6	3	2	1	2	6

3-1-2. Consideration for Discrepancies between Developed and Developing Countries

	1	2	4	9	11	19	14	6	17	12	10	6	2	14	12
1. Only developed countries will bear emissions reduction obligations	1	2	4	9	11	19	14	6	17	12	10	6	2	14	12
2. Only developed countries will bear emissions reduction obligations; developing countries will accept emissions growth regulations	43	6	17	65	22	17	26	11	17	18	22	31	37	21	15
3. Reduction obligations should be determined based on the level of economic development	48	66	57	21	55	42	49	61	40	53	51	50	49	51	49
4. Uniform reduction obligations will be established across the world	6	19	17	3	10	22	11	17	20	12	14	10	9	13	17
Unknown	2	6	4	3	2	0	0	6	7	6	3	3	3	1	6

3-1-3. Conditions for Developing Countries to Accept Emissions Reduction Regulation

	Japan	U.S.A & Canada	Western Europe	Asian Four	Rest of Asia	Latin America	Africa	Oceania	E Europe & former Soviet Union	Middle East	Overseas Total	Total	Developed Regions	Developing Regions	Others
	[322]	[47]	[70]	[34]	[106]	[36]	[35]	[18]	[30]	[17]	[393]	[715]	[473]	[177]	[65]
1. Lower reduction objectives for developing countries than for developed countries	9	11	14	21	8	6	9	0	3	0	9	9	11	8	2
2. Set the period for meeting reduction objectives longer for developing countries	8	15	20	21	12	17	14	17	17	12	16	12	11	14	15
3. Require developed countries to provide financial and technical support	66	47	34	41	55	31	40	39	40	29	42	53	58	47	37
4. Developed countries to accept the plan proposed by developing countries to "uniformly reduce emissions by 35% from 1990 levels by 2020" to lead by example	14	9	24	9	19	33	34	28	27	29	22	18	15	25	28
5. Others	2	15	3	0	3	8	3	11	10	12	6	4	4	4	11
Unknown	1	4	4	9	3	6	0	6	3	18	5	3	2	3	8

3-1-4. Considerations to Make the Post-2012 Framework Most Effective

	U.S.A & Canada	Western Europe	Asian Four	Rest of Asia	Latin America	Africa	Oceania	E Europe & former Soviet Union	Middle East	Overseas Total	Total	Developed Regions	Developing Regions	Others
	15	4	0	11	8	17	0	10	6	9	10	9	12	6
1. Extend the period for meeting reduction objectives longer than the five years as in the Kyoto Protocol	10	15	4	0	11	8	17	0	10	6	9	10	9	12
2. Regulate penalties for countries that do not meet reduction objectives	20	30	29	24	21	33	20	56	23	24	26	24	23	32
3. Create a system for technical and financial assistance to help enable developing countries to meet objectives	66	51	57	62	67	67	54	50	70	47	60	63	63	58
4. Incorporate new mechanisms in addition to Kyoto mechanisms	41	38	47	41	32	47	51	17	53	35	40	41	42	38
5. Establish reduction targets that account for accomplishments in increasing energy efficiency	41	23	46	29	31	25	26	33	17	35	31	35	39	26
Unknown	1	9	3	9	2	0	3	6	3	12	4	3	3	2

3-2. Long-term Measures

3-2-1. Whether or Not Greenhouse Gas Emissions Must be Reduced by More Than 50%

	Japan	U.S.A & Canada	Western Europe	Asian Four	Rest of Asia	Latin America	Africa	Oceania	E. Europe & former Soviet Union	Middle East	Overseas Total	Total	Developed Regions	Developing Regions	Others
	[322]	[47]	[70]	[34]	[106]	[36]	[35]	[18]	[30]	[17]	[393]	[715]	[473]	[177]	[65]
1. This assertion is nonsensical; it lacks in scientific validity	4	9	9	0	7	3	9	17	23	6	8	6	5	6	17
2. Such a reduction may become necessary	44	34	37	41	53	36	40	22	40	47	41	43	42	47	37
3. Such a reduction will unquestionably become necessary	51	55	50	50	38	58	51	61	33	29	47	49	51	45	40
Unknown	1	2	4	9	3	3	0	0	3	18	4	2	2	2	6

3-2-2 How to Achieve a Substantial Reduction (asked to respondents who chose option 2 or 3 in Question 3-2-1)

	Japan	U.S.A & Canada	Western Europe	Asian Four	Rest of Asia	Latin America	Africa	Oceania	E. Europe & former Soviet Union	Middle East	Overseas Total	Total	Developed Regions	Developing Regions	Others
	[306]	[42]	[61]	[31]	[96]	[34]	[32]	[15]	[22]	[13]	[346]	[652]	[440]	[162]	[50]
1. Create a new economic structure that assigns a value to carbon	37	60	33	19	20	29	13	40	23	15	28	32	37	20	26
2. Create new reduction objectives within a framework like the Kyoto Protocol and make a concerted effort	31	17	28	35	43	38	53	20	18	15	33	32	29	44	18
3. International organizations do not function well; rely on the initiative of each country	2	0	7	13	4	6	3	7	5	15	5	4	3	4	8
4. Create a powerful international organization and demonstrate enforcement mechanisms	22	10	23	29	27	18	28	20	45	31	25	23	21	25	34
5. Others	5	7	8	3	5	6	3	7	5	8	6	6	6	5	6
Unknown	4	7	2	0	1	3	0	7	5	15	3	3	3	1	8

3-2-3 Most Effective Means to Accomplish a Substantial Reduction (asked to respondents who chose option 2 or 3 in Question 3-2-1)

	Japan	U.S.A & Canada	Western Europe	Asian Four	Rest of Asia	Latin America	Africa	Oceania	E. Europe & former Soviet Union	Middle East	Overseas Total	Total	Developed Regions	Developing Regions	Others
	[306]	[42]	[61]	[31]	[96]	[34]	[32]	[15]	[22]	[13]	[346]	[652]	[440]	[162]	[50]
1. Reduce demand for high CO2 emissions products and services	40	40	48	29	34	35	28	40	14	31	35	37	40	33	26
2. Strengthen technological development and increase energy efficiency	49	45	46	32	48	44	31	13	41	23	41	45	47	44	28
3. Prevent deforestation, promote the prevention of non-energy related CO2 emissions, and promote carbon absorption through planting	22	10	23	35	35	29	50	33	41	15	30	26	22	37	32
4. Promote the transition to low carbon technologies	62	71	62	81	58	65	41	73	77	85	64	63	64	56	78
5. Develop and popularize carbon capture and storage technology	15	19	13	6	7	12	16	7	5	8	11	13	15	10	6
Unknown	3	2	0	0	0	3	0	7	0	8	1	2	3	1	4

Question 4. Energy Problems/Realistic Source of Energy to Compensate for Deficiencies

	Japan	U.S.A & Canada	Western Europe	Asian Four	Rest of Asia	Latin America	Africa	Oceania	E. Europe & former Soviet Union	Middle East	Overseas Total	Total	Developed Regions	Developing Regions	Others
	[322]	[47]	[70]	[34]	[106]	[36]	[35]	[18]	[30]	[17]	[393]	[715]	[473]	[177]	[65]
1. Solar power	48	17	16	59	34	39	60	56	20	47	34	40	41	40	37
2. Wind power	11	26	26	6	2	8	6	11	10	18	12	11	14	4	12
3. Hydraulic power	7	15	17	3	17	31	9	6	20	12	16	12	9	18	14
4. Biomass power	20	6	11	24	12	11	11	6	30	6	13	16	18	12	17
5. Others	11	30	24	3	5	6	14	6	10	0	12	12	15	7	6
Unknown	3	6	6	6	30	6	0	17	10	18	13	9	4	19	14

Question 5. Lifestyle Alteration

5-1. Public Awareness Towards Environmental Problems—A Three-Year Comparison

	Japan [322]	U.S.A & Canada [47]	Western Europe [70]	Asian Four [34]	Rest of Asia [106]	Latin America [36]	Africa [35]	Oceania [18]	E. Europe & former Soviet Union [30]	Middle East [17]	Overseas Total [393]	Total [715]	Developed Regions [473]	Developing Regions [177]	Others [65]
1. Awareness has risen	7	45	49	21	31	25	34	39	3	24	33	21	18	31	18
2. Awareness has slightly risen	58	53	37	56	58	56	40	56	57	53	51	55	55	54	55
3. There has been no change in awareness	28	2	10	12	5	19	23	6	37	18	12	19	22	11	23
4. Awareness has slightly declined	6	0	0	6	1	0	3	0	3	0	1	3	4	1	2
5. Awareness has declined	1	0	1	3	5	0	0	0	0	0	2	1	1	3	0
Unknown	1	0	3	3	0	0	0	0	0	6	1	1	1	0	2
Total responses indicating rise in awareness	65	98	86	76	90	81	74	94	60	76	84	75	72	85	74
Total responses indicating decline in awareness	6	0	1	9	6	0	3	0	3	0	3	4	5	4	2

41

5-2. Most Effective Way to Promote Transformation in Awareness

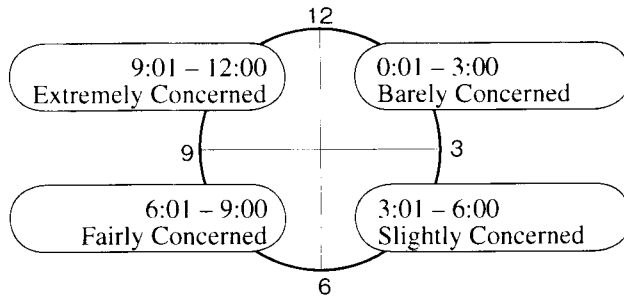
	Japan [322]	U.S.A & Canada [47]	Western Europe [70]	Asian Four [34]	Rest of Asia [106]	Latin America [36]	Africa [35]	Oceania [18]	E. Europe & former Soviet Union [30]	Middle East [17]	Overseas Total [393]	Total [715]	Developed Regions [473]	Developing Regions [177]	Others [65]
1. Publicity through the media and other methods	18	23	24	26	17	22	31	28	37	18	24	21	20	21	29
2. Information dissemination through the workplace	2	0	1	9	7	3	3	6	3	6	4	3	2	5	5
3. Strengthen environmental curriculum	22	6	21	24	22	36	37	33	27	18	23	23	21	28	26
4. Compulsory environmental education for adults	9	0	1	12	8	14	11	6	3	0	6	8	7	10	3
5. Incentivize products with small environmental footprints	28	9	13	9	19	11	9	0	3	12	12	19	23	15	5
6. Introduce strong progressive pricing structure based on energy use	17	47	29	18	16	6	6	11	20	12	20	19	22	12	15
7. Others	2	11	4	0	4	8	0	0	3	24	5	4	3	4	8
Unknown	1	4	6	3	8	0	3	17	3	12	6	3	2	5	9

VI. Questionnaire as Distributed to Respondents

I. REPEAT TOPICS

1. Environment Doomsday Clock

1-1. To what extent do you feel that the current deterioration of the global environment has created a crisis that will affect the continuance of the human race? Write a time within the range 0:01 to 12:00 corresponding to the extent of your concern in the boxes below.



Please write your time here.

:

(Example :)

Please write your time here. : (Example 10:35)

1-2. When you selected the time above, what were the main environmental conditions about which you were concerned? Please circle up to three (3) of the following items of concern.

- | | |
|--|---|
| <input type="checkbox"/> ⁽¹⁾ General environmental problems | <input type="checkbox"/> ⁽²⁾ Global warming |
| <input type="checkbox"/> ⁽³⁾ Air pollution, water contamination, river/ocean pollution | <input type="checkbox"/> ⁽⁴⁾ Water shortage, food problems |
| <input type="checkbox"/> ⁽⁵⁾ Deforestation, desertification, loss of biodiversity | |
| <input type="checkbox"/> ⁽⁶⁾ Peoples' lifestyles, waste-related problems | |
| <input type="checkbox"/> ⁽⁷⁾ Environmental problems and economic/trade related activities | |
| <input type="checkbox"/> ⁽⁸⁾ Population, poverty, status of women | |
| <input type="checkbox"/> ⁽⁹⁾ Others: _____ | |

2. Progress Toward Agenda 21

Fifteen years have passed since Agenda 21 was adopted as an "action plan for the environment and development" at the Earth Summit in 1992. Please indicate the progress made in your country for the following 10 categories taken from the Agenda 21 action plan by circling one (1) letter on the scale of (a) to (e) for each category.

Significant progress
Some progress
Cannot determine
Almost no progress
No progress

- | | | | | | |
|---|-----|-----|-----|-----|-----|
| (1) Promotion of environmental education | (a) | (b) | (c) | (d) | (e) |
| (2) Activities by local governments and citizens' groups..... | (a) | (b) | (c) | (d) | (e) |
| (3) Scientific/technological contributions | (a) | (b) | (c) | (d) | (e) |
| (4) Formation of recycling systems | (a) | (b) | (c) | (d) | (e) |
| (5) Conservation of forest resources | (a) | (b) | (c) | (d) | (e) |
| (6) Conservation of biodiversity | (a) | (b) | (c) | (d) | (e) |
| (7) Greenhouse gas prevention measures..... | (a) | (b) | (c) | (d) | (e) |
| (8) Population/poverty problems | (a) | (b) | (c) | (d) | (e) |
| (9) Lifestyle alteration..... | (a) | (b) | (c) | (d) | (e) |
| (10) Environmental measures by industry | (a) | (b) | (c) | (d) | (e) |

II. MAIN FOCUS OF THE CURRENT YEAR'S QUESTIONNAIRE

3. Global Warming

3-1. Approaches Beyond the First Commitment Period of the Kyoto Protocol (Post-2012 Approaches)

3-1-1. What kind of regulatory framework do you expect to be in place in the period after 2012 when the first commitment period of the Kyoto Protocol comes to an end? Please circle one item from the following list that reflects your opinion.

1. There will be a new regulatory framework in which all of the countries of the world will participate.
2. A new structure will be in place where in addition to developed countries including the United States and Australia, major developing countries like Brazil, China, and India will participate and be subject to regulations.
3. Developing countries will not be included in the post-2012 regulatory framework, which will move forward only with the developed countries participating in the Kyoto Protocol and in addition to them the United States and Australia.
4. The United States and Australia would not join the new framework, which will continue only with those countries currently participating in the regulations of the Kyoto Protocol.
5. Others

3-1-2. There are significant discrepancies in (the path of) economic development thus far between developed and developing countries. How do you think these differences should be reflected in the process of creating a new framework? Please circle one item from the following list that reflects your opinion.

1. Developing countries should not bear reduction obligations but instead regulate themselves on a voluntary basis; developed countries should take the lead in the new framework by themselves being the only ones bearing emissions reduction obligations.
2. Developed countries only should bear emissions reduction obligations. Developing countries will fulfill some responsibility by accepting rules regulating emissions growth.
3. Reduction obligations (as a percentage of carbon dioxide emissions reduction or as an absolute quantity reduction) should be determined for each country with consideration to its level of economic development.
4. Developing countries should bear the same obligations as developed countries, with uniform reduction obligations determined across the world without regard to the difference in levels of economic development.

3-1-3. In the new framework, it will be an issue whether or not developing countries that emit enormous quantities of greenhouse gases, like China and India, may be required to fulfill emissions reduction obligations. What do you think will be necessary for developing countries to accept some level of regulation? Please circle one item from the following list that you think is most important.

1. Establish reduction objectives for developing countries lower than those for developed countries.
2. Set the period for meeting reduction objectives longer for developing countries than for developed countries.
3. Require developed countries to provide financial and technical support to enable developing countries to meet the regulations.
4. Developed countries should accept the plan proposed by developing countries to “uniformly reduce emissions by 35% from 1990 levels by 2020,” to lead by example and encourage developing countries to accept some form of regulation.
5. Others (Please specify:).

3-1-4. What are the most important issues to consider in making the post-2012 framework most effective after the end of the first commitment period of the Kyoto Protocol? Please circle two items from the following list that you think are most important.

1. Extend the period for meeting reduction objectives longer than the five years under the first commitment period of the Kyoto Protocol.
2. Regulate penalties for countries that do not meet reduction objectives.
3. Create a system for technical and financial assistance to help enable developing countries to meet their regulatory objectives.
4. Incorporate new mechanisms in addition to the current Kyoto mechanisms to meet reduction objectives. (For example: counting the underground and ocean storage of carbon dioxide in the amount of greenhouse gas reduction, make deforestation prevention activities eligible towards obtaining emissions rights, etc.)
5. Establish fair reduction targets that account for each country’s accomplishment thus far in increasing energy efficiency.

3-2. Long-term Measures

3-2-1. To stabilize the climate in the future, global greenhouse gas emissions may need to decrease by more than 50% from current levels. Please circle one item from the following list that best reflects your opinion

1. This assertion is nonsensical because it lacks in scientific validity.
2. It is possible that such a reduction will become necessary in the future.
3. Such a reduction will unquestionably become necessary in the near future.

If you chose items 2 or 3, please answer the following question.

3-2-2. How do you think such a substantial reduction can be achieved? Please circle one item from the following list.

1. Create a new economic structure that assigns a value to carbon.
2. Create new reduction objectives within a framework like the Kyoto Protocol and make a concerted effort towards its attainment.
3. Because international organizations do not function well, the only way to achieve such a goal would be to rely on the initiative of each country.
4. The only solution would be to create a powerful international organization and demonstrate enforcement mechanisms towards countries.
5. Others (Please specify:)

3-2-3. What do you think is the most effective means to accomplish such a substantial reduction? Please circle two items from the following list that best reflect your opinion.

1. Reduce demand for products and services with high levels of carbon dioxide emissions.
2. Strengthen technological development, and exponentially increase energy efficiency.
3. By preventing deforestation, promote the prevention of non-energy related carbon dioxide emissions, and by encouraging planting, promote carbon absorption.
4. Promote the transition to low carbon technologies such as renewable sources of energy for electricity, heating, and transportation.
5. Develop and popularize carbon capture and storage technology to collect carbon dioxide and store it underground for those facilities that continue to use fossil fuels

4. Energy Problems

If there is a limit to the use of fossil fuels and nuclear energy, what is the most realistic source of energy in your country to compensate for the deficiency? Please circle one item from the following list.

1. Solar power
2. Wind power
3. Hydraulic power
4. Biomass (power)
5. Others (Please specify:)

5. Lifestyle Alteration

5-1. Simplifying individual lifestyles is important in building a sustainable society. Do you think that public awareness towards environmental problems has risen in your country compared to three years ago? Please circle one item from the following list.

1. Awareness has risen.
2. Awareness has slightly risen.
3. There has been no change in awareness.
4. Awareness has slightly declined.
5. Awareness has declined.

5-2. A transformation in individual awareness is essential to altering lifestyles. What do you think is the most effective way to promote this transformation of awareness among individuals? Please circle one item from the following list.

1. Publicity of the global environmental situation through the media and other methods.
2. Dissemination of information about environmental measures and policies through the workplace.
3. Strengthening the environmental curriculum at schools.
4. Compulsory environmental education for individual citizens.
5. Implementation of incentives for products with small environmental footprints (burden).
6. Introduction of a strong progressive pricing structure based on energy use.
7. Others (_____)

6. Feel free to write comments on any topic related to environmental problems. Use additional paper if required.

**Results of the 16th Annual
"Questionnaire on Environmental Problems and the Survival of Humankind"**

REPORT

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2nd Floor, Science Plaza, 5-3, Yonbancho
Chiyoda-ku, Tokyo 102-0081, Japan
Phone +813 5275 0620
Fax +813 5275 0871

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**If you have inquiries regarding this questionnaire,
please contact Mr. Samejima at the Asahi Glass Foundation.**

af **THE ASAHI GLASS FOUNDATION**
2nd Floor, Science Plaza, 5-3, Yonbancho
Chiyoda-ku, Tokyo 102-0081, Japan
Tel.: +81 3 5275 0620 Fax: +81 3 5275 0871
E-Mail: post@af-info.or.jp
URL: <http://www.af-info.or.jp>

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