

**Results of the 18th Annual
“Questionnaire on Environmental Problems and the Survival of Humankind”**

REPORT

THE ASAHI GLASS FOUNDATION

September 2009

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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.

Seventeen years have already passed since the Earth Summit in Rio de Janeiro, and seven years since the Johannesburg Summit. Meanwhile, the importance of tackling global environmental problems, particularly global warming, has grown ever more urgent. To that end, following COP13 of the United Nations Framework Convention on Climate Change (UNFCCC) in Bali, Indonesia in 2007 and the Major Economies Meeting on Energy Security and Climate Change (MEM) at the Toyako Summit in Hokkaido, Japan last year, the COP15 of the UNFCCC is scheduled to take place in Copenhagen in December this year. There, specific paths to curb emissions of greenhouse gas will be discussed to determine an international framework beyond the Kyoto Protocol; the outcome of the conference should draw considerable attention.

In this year's survey, the 18th, 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. In addition to the issues addressed annually in the survey, including queries about the Environmental Doomsday Clock and Agenda 21, the questionnaire this year casts light on issues currently drawing attention including the outlook for COP15 and the post-2012 era, strategies to suppress carbon dioxide emissions, and the awareness and actions concerning the prevention of global warming.

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 2009

I. Facts about the 18th Annual “Questionnaire on Environmental Problems and the Survival of Humankind”

Response period: Questionnaires were sent out in April 2009 with a return deadline of June 2009.

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

Questionnaires mailed: 4,255

Questionnaires returned: 757

Response rate: 17.8%

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

Region	Number of responses	Percent of total
Developed Regions (Including Asian Four)	496	65.5
Japan	324	42.8
United States & Canada	42	5.5
Western Europe	60	7.9
Asian Four (South Korea, Hong Kong, Taiwan, and Singapore)	70	9.2
Developing Regions	196	25.9
Rest of Asia (Excluding Japan, Asia Four)	122	16.1
Latin America	46	6.1
Africa	28	3.7
Others	65	8.6
Oceania	23	3.0
Eastern Europe & former Soviet Union	35	4.6
Middle East	7	0.9
(Overseas Total)	(433)	(57.2)
Total	757	100.0

Gender	Number of responses	Percent of total
Male	618	81.6
Female	124	16.4
No response	15	2.0
Total	757	100.0

Occupational Affiliation	Number of responses	Percent of total
National government	74	9.8
Local government	77	10.2
University or research institution	153	20.2
Nongovernmental organization	193	25.5
Corporation	132	17.4
Media	14	1.8
Others	100	13.2
No response	14	1.8
Total	757	100.0

Notes: * Unless otherwise noted, this report used the 757 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,” 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 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 (Question 1)

The Environmental Doomsday Clock

- The average time on the environmental doomsday clock for all respondents was 9:22. Although this represents an 11-minute reversal of the needle from last year, when the environmental doomsday clock had advanced the furthest since the inception of the survey, the time this year nonetheless represents the third highest sense of crisis among respondents.
- The average time for Japanese respondents retreated by 34 minutes from last year, to 9:08.
- The average time for overseas respondents advanced by 6 minutes from last year, to 9:32.
- In determining the time on the environmental doomsday clock, “global warming” was most frequently cited as the main environmental condition of concern by respondents from both Japan and overseas, at 63% of total. This was followed by “water shortage, food problems,” and then, “deforestation, desertification, loss of biodiversity.”

2. Progress Toward Agenda 21 (Question 2)

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

- In total, the category with the largest proportion of responses indicating progress was “promotion of environmental education.” “Lifestyle alteration,” which had the fewest responses indicating progress last year, rose slightly, to be approximately on par with “population and poverty problems.”
- The categories in which more than 50% of respondents reported progress, by both respondents from Japan and overseas, remained the same as last year and consisted of “promotion of environmental education,” “activities by local governments and citizens’ groups,” “scientific and technological contributions,” “formation of recycling systems,” and “environmental measures by industry.”
- With respect to “greenhouse gas prevention measures,” 33% of respondents last year indicated progress while 43% stated progress had not been made. The responses reversed this year, with 37% indicating progress in this area, surpassing the 34% who stated progress had not been made.

B. Main Focus of the Current Year’s Questionnaire

3. COP15 and the Post-2012 Framework (Question 3)

We queried respondents about COP15 and the post-2012 framework.

The Outlook for COP15

- On the post-2012 framework, a majority of respondents overall selected “progress towards a substantial reduction cannot be expected, but there will be an agreement among developed countries,” at 59%. On the other hand, 24% of respondents overall, primarily from developing regions, selected “it will be difficult for developed countries to come to an agreement towards emissions reduction.”

The Breadth of Emissions Reduction by Developed Countries

- While the responses to the breadth of emissions reduction showed a broad distribution curve, they tended to cluster around “20%” and “30%” reductions.

The Response of Developing Countries

- A majority of respondents, at 56%, selected “there should be a differentiation in the obligations between high emitting major developing countries like China and India, and all other developing countries. Major developing countries should bear the responsibility of maintaining emissions at around current levels, whereas all other developing countries voluntarily establish their own goals.” This was followed by “all developing countries should bear some amount of emissions reduction obligation” at 23%.
- While respondents from developed regions who selected “developed countries bear the responsibility for the onset of global warming; thus, developing countries should not bear reduction obligations” was limited to 1% (0.6% from Japan, 1.7% from Western Europe, and 4.3% from the United States & Canada), in contrast, 11% of respondents from developing regions and 8% from other regions made this selection.

Sectoral Approach against Global Warming

- Sixty-eight percent of respondents from Japan selected “I am aware of this approach and understand its contents.” In contrast, more than 80% of overseas respondents selected either “I have heard of this approach, but am not aware of its contents,” or “I have not heard of the approach.”

Response to the Sectoral Approach

- Fifty-six percent of respondents from Japan and 60% from overseas stated that the sectoral approach was “worth considering.”
- Both respondents from Japan and overseas tended to select “it is an effective approach and it should be applied” at similar rates, at 28% and 25% respectively.
- Fifteen percent of respondents from Japan and 6% from overseas selected “it is not an effective approach.”

Expectations for the New U.S. Administration

- Respondents indicated high expectations for the new U.S. administration, with 52% overall selecting “the United States will participate in the post-2012 framework to some degree,” followed by 25% who selected “the United States will aggressively participate in the post-2012 framework and assume a leadership position.” In contrast, only 4% of respondents overall selected “there will be no changes from the past.”

The Effects of the Actions of the New U.S. Administration

- While both respondents from Japan and the Asian Four most frequently selected “there will be a significant effect on the participation of major developing countries like China and India in the post-2012 framework,” at 55% and 44% respectively, those who made this selection were limited to 27% in Western Europe and 21% in the United States & Canada.

4. Strategies to Suppress CO2 Emissions (Question 4)

- Forty-three percent of respondents indicated that the most effective strategy to suppress CO2 emissions would be to “dedicate efforts to shifting the energy supply to renewable sources, such as wind energy, solar power, geothermal energy, and bio energy.” This was followed by “rather than focusing on the energy supply, dedicate efforts to improving energy efficiency and thus suppressing energy demand,” at 34%.
- On the other hand, only 13% of respondents overall selected “dedicate efforts towards measures for absorbing and capturing carbon dioxide and thereby suppress its emission including planting, prevention of deforestation and forest deterioration, carbon capture and storage.”

5. Awareness and Actions Concerning the Prevention of Global Warming (Question 5)

Awareness and Actions Towards the Prevention of Global Warming

- Those who selected “I maintain some degree of awareness on a day-to-day basis, and some of my actions support global warming prevention,” reached 59% of the responses. This was followed by “my day-to-day actions are consistently based on an awareness of global warming prevention,” at 32%.

Actual Endeavors Towards the Prevention of Global Warming as an Individual

1) Switched Incandescent Lights to Fluorescent Lights in the Home

- Overall, 71% of respondents indicated they had already implemented the replacement of incandescent lights with fluorescent lights. When taking into account the respondents who stated they planned to implement this endeavor in the future, the response rate surpassed 87%.
- While 88% of respondents from the United States & Canada stated they had implemented this measure, the percentage from Japan remained at 70%.

2) Installed Solar Panels at the House or Other Equipment to Utilize Solar Power

- Eleven percent of respondents selected they had already implemented this measure, while 41% selected “planned.”

- 3) Replaced the Conventional Automobile(s) with Fuel Efficient Hybrid or Electric Vehicle(s)
 - Forty-four percent of respondents stated they planned to replace their vehicles in the future, whereas 10% indicated they had already implemented this endeavor.
 - Respondents in the United States & Canada who stated they had implemented this endeavor reached 26%, whereas implementation in Japan lagged below half the rate, at 11%.

- 4) Reduced the Usage of Cars and Remain Careful to Take Public Transportation
 - A significant majority of respondents marked “implemented,” with the rate reaching 74%. An additional 12% indicated they planned to implement this endeavor in the future.
 - The rate of implementation in Japan, China, and the Asian Four, where public transportation is often highly developed, reached approximately 80%.

- 5) Implemented Measures to Increase Insulation of the Home
 - Forty percent of respondents indicated they had already implemented the increased insulation of the home, while 25% selected “planned.”
 - The percentage of respondents in Japan who selected “implemented” was lower than in the Middle East, Eastern Europe & the former Soviet Union, Western Europe, and the United States & Canada by approximately 10% to 30%.

- 6) Replaced Older Refrigerators and Heating/Cooling Systems with Latest and High Efficiency Versions
 - Forty-two percent of respondents indicated they had already implemented the replacement of older refrigerators and heating/cooling systems, while 32% selected “planned.”
 - Of all regions, Japan had the lowest percentage of respondents selecting “implemented,” at 33%. On the other hand, it also had the highest percentage of respondents indicating they planned to implement this endeavor in the future, at 39%.

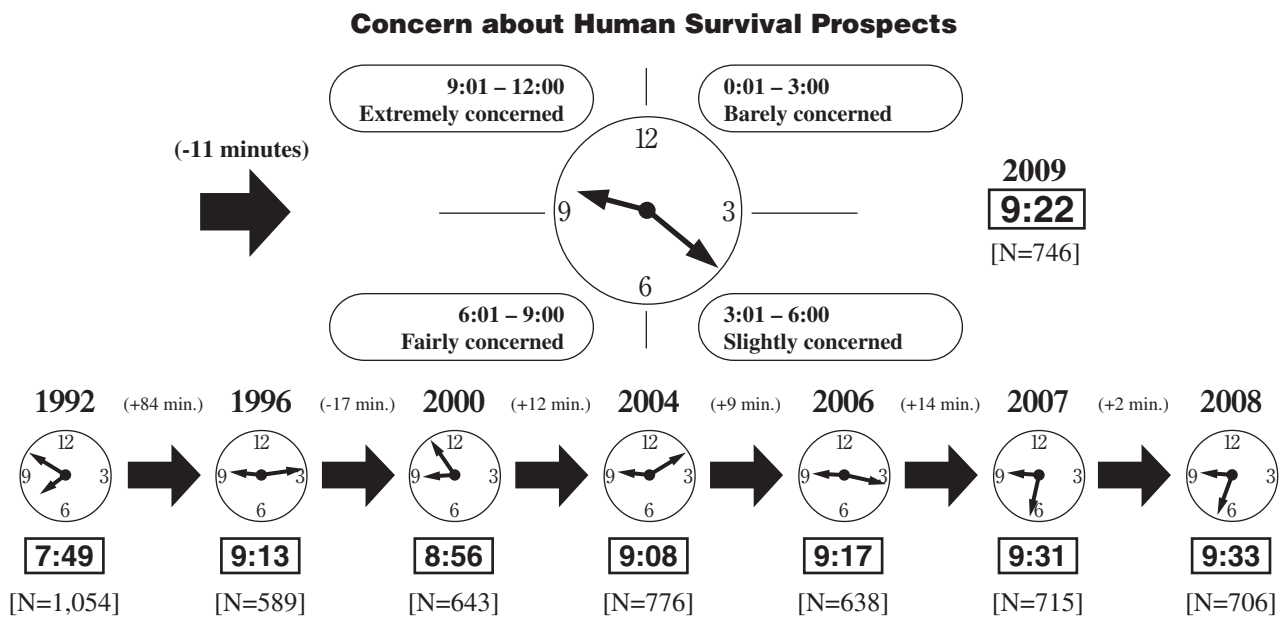
III. Questionnaire Results

A. REPEAT TOPICS

1. AWARENESS OF THE CRISIS FACING HUMAN SURVIVAL (QUESTION 1)

1.1 The Environmental Doomsday Clock

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.



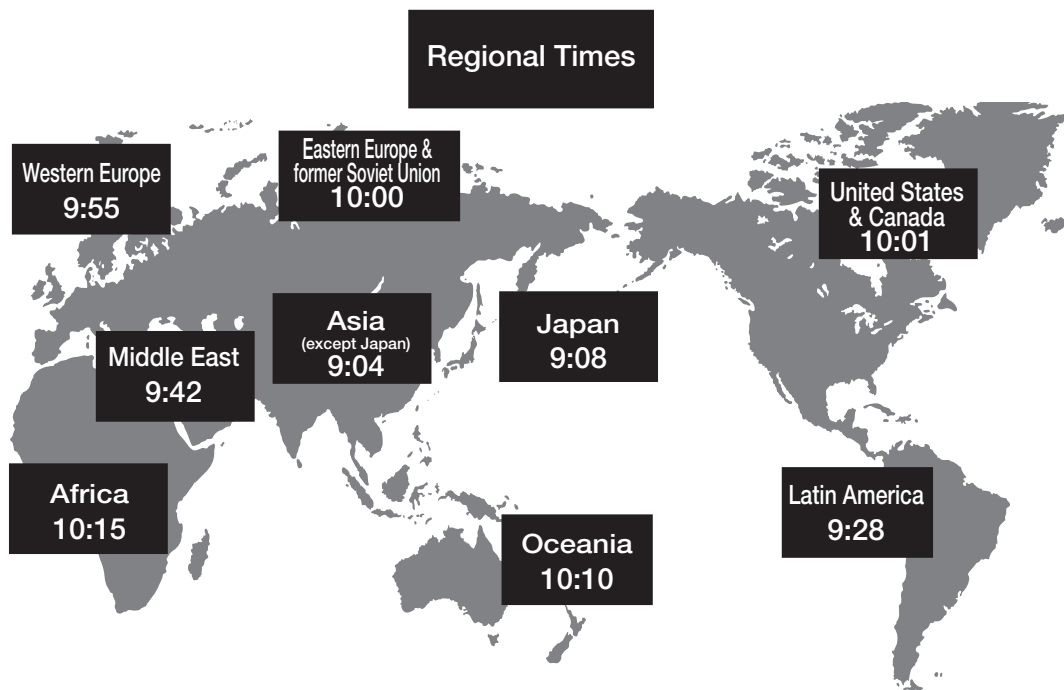
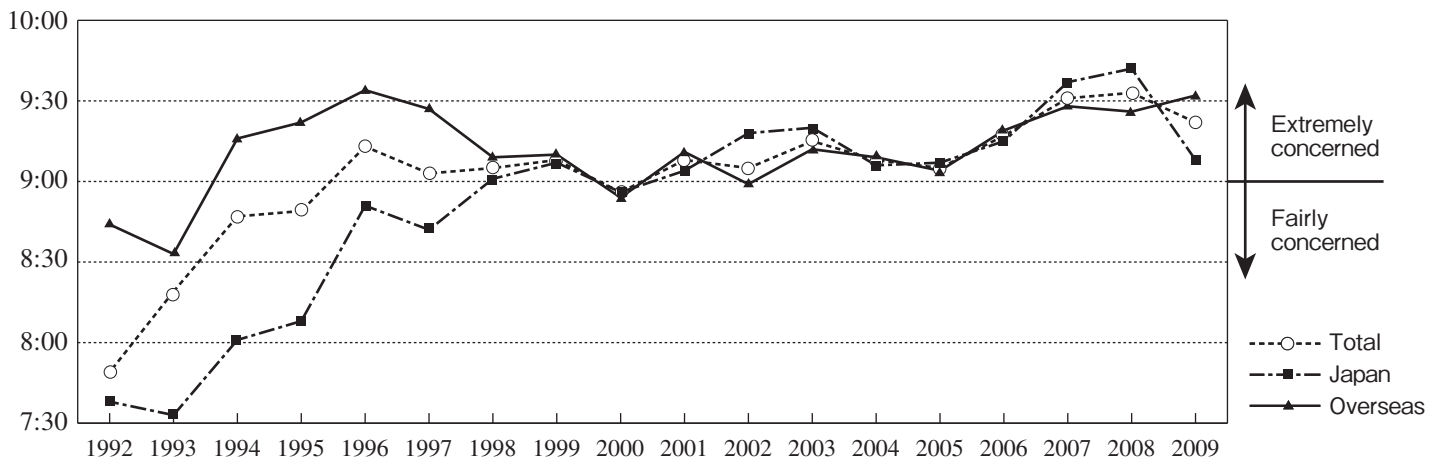
	Number of respondents (2009)	Changes in time from year to year			Changes in average time by region	
		1999 → 2008	2008 → 2009	2009	1999 → 2009	2008 → 2009
Total	746	9:08 → 9:33	→ 9:22		+14	-11
Japan	320	9:07 → 9:42	→ 9:08		+1	-34
United States & Canada	42	9:03 → 10:13	→ 10:01		+58	-12
Western Europe	58	8:46 → 9:44	→ 9:55		+69	+11
Asia	189	9:47 → 8:52	→ 9:04		-43	+12
Asian Four	70	* → 8:55	→ 9:27		*	+32
Rest of Asia	119	* → 8:50	→ 8:51		*	+1
Latin America	46	9:14 → 9:49	→ 9:28		+14	-21
Africa	27	9:13 → 10:31	→ 10:15		+62	-16
Oceania	23	8:52 → 10:34	→ 10:10		+78	-24
Eastern Europe & former Soviet Union	34	9:21 → 9:37	→ 10:00		+39	+23
Middle East	7	9:32 → 9:24	→ 9:42		+19	+18
Overseas Total	426	9:10 → 9:26	→ 9:32		+22	+6
Male	612	9:01 → 9:32	→ 9:21		+29	-11
Female	122	9:35 → 9:44	→ 9:26		-9	-18
Developed Regions	490	* → 9:38	→ 9:21		*	-17
Developing Regions	192	* → 9:16	→ 9:12		*	-4
Others	64	* → 9:48	→ 10:02		*	+14

- The average time on the environmental doomsday clock for all respondents was 9:22. This represents an 11-minute reversal of the needle from last year, when respondents had reported the greatest advancement of the environmental doomsday clock since the inception of the survey.

- The average time for Japanese respondents retreated by 34 minutes from last year, to 9:08.
- The average time for overseas respondents advanced by 6 minutes from last year, to 9:32.
- Regionally, the average time advanced by 10 to 20 minutes from last year in Western Europe, Eastern Europe & the former Soviet Union, and Asia, where respondents marked 9:55, 10:00, and 9:04 respectively. On the other hand, the remaining regions reported a reversal of more than 10 minutes across the board. In particular, the needle retreated by 20 to 30 minutes in Japan, Latin America, and Oceania, where respondents marked 9:08, 9:28, and 10:10 respectively. The needle also retreated in the United States & Canada by 12 minutes from last year, to 10:01.
- In comparison to last year, the needle retreated in both developed and developing regions, by 17 and 4 minutes respectively; on the other hand, the needle advanced by 14 minutes in other regions, representing a marked difference.

Changes in the Environmental Doomsday Clock

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
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	9:33	9:22
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	9:42	9:08
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	9:26	9:32
Overseas - Japan (min.)	66	60	75	74	43	45	8	3	0	7	-27	-8	3	-3	4	-6	-16	24



1.2 ENVIRONMENTAL CONDITIONS OF CONCERN

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 2009

	Developed Regions				Developing Regions				Others						
	Japan [N=324]	United States & Canada [42]	Western Europe [60]	Asian Four [70]	Rest of Asia (122)	Latin America [46]	Africa [28]	Oceania [23]	Eastern Europe [23]	Middle East & former Soviet Union [35]	Overseas Total [433]	Developed Regions [496]	Developing Regions [196]	Others [65]	Total [757]
General environmental problems	30	21	22	20	20	17	25	22	37	14	22	27	20	29	25
Global warming	64	50	65	79	60	57	64	74	43	86	62	65	60	58	63
Air pollution, water contamination, river/ocean pollution	19	38	28	36	61	39	25	48	37	29	42	24	51	40	32
Water shortage, food problems	53	50	33	54	47	37	46	35	34	57	44	51	44	37	48
Deforestation, desertification, loss of biodiversity	45	40	42	61	47	59	50	30	37	14	47	47	50	32	46
People's lifestyles, waste-related problems	15	24	30	17	30	30	7	17	37	29	26	18	27	29	21
Environmental problems and economics/trade-related activities	20	7	15	10	7	11	14	9	23	14	11	17	9	17	15
Population, poverty, status of women	24	36	32	16	13	33	43	48	20	43	25	25	22	32	25
Others	3	12	15	1	5	2	7	4	6	0	6	5	5	5	5
No response	2	0	3	0	2	4	4	4	9	0	3	2	3	6	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 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%.

- In determining the time on the environmental doomsday clock, “global warming” was most frequently cited as the main environmental condition of concern by respondents from both Japan and overseas. This was followed by “water shortage, food problems,” and “deforestation, desertification, loss of biodiversity” at approximately the same level.
- While respondents from developed regions, developing regions, and other regions most frequently selected “global warming” as the main environmental condition of concern, the second condition varied by region. Respondents from developed regions selected “water shortage, food problems,” while developing regions selected “deforestation, desertification, loss of biodiversity,” and other regions selected “air pollution, water contamination, river/ocean pollution,” representing the same results as last year.

2. PROGRESS TOWARD AGENDA 21 (QUESTION 2)

Seventeen 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 2004 and 2009

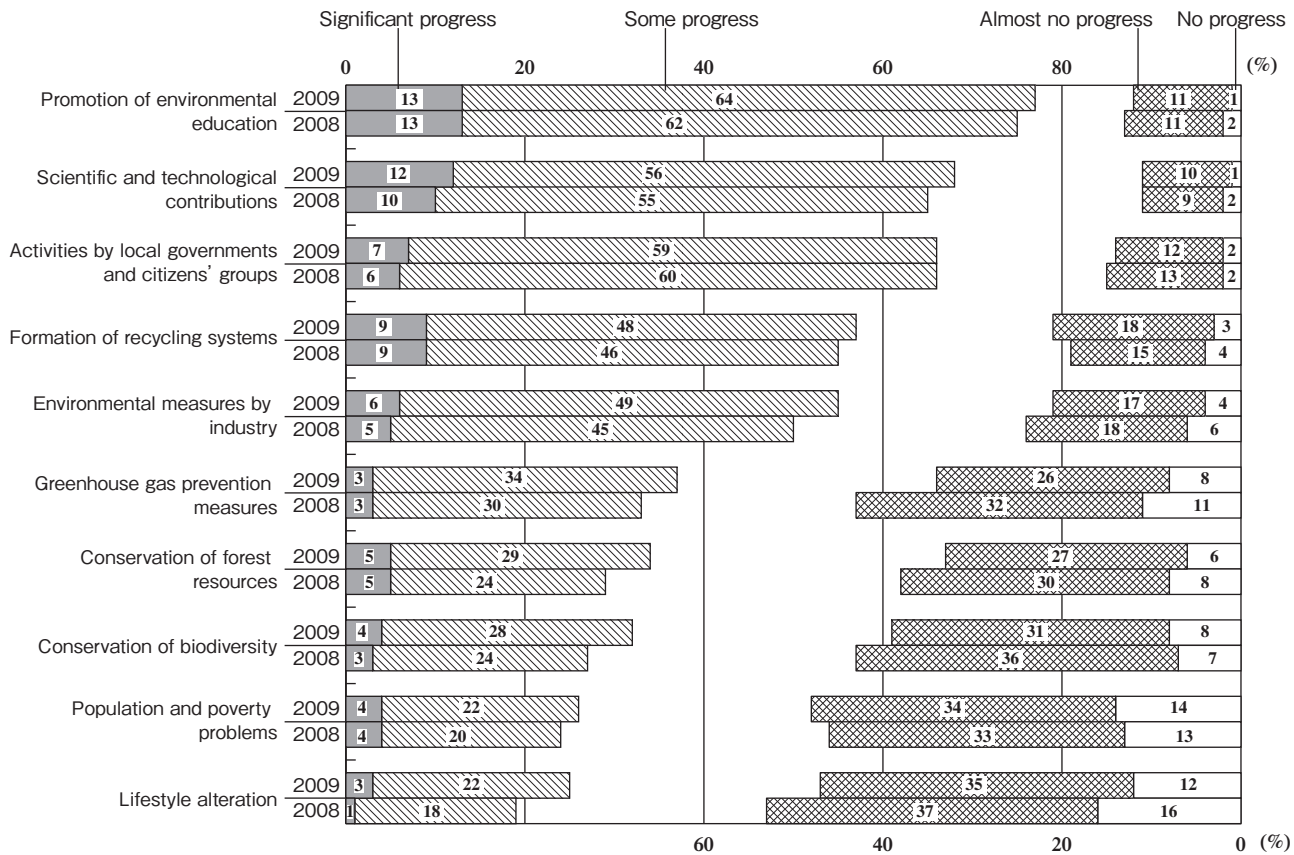
	Japan	United States & Canada		Western Europe		Asia		Asian Four		Rest of Asia		Latin America		Africa		Oceania		Eastern Europe & former Soviet Union		Middle East		Overseas Total		Total		
2009 → 2004 →	[324] ↓	[42] ↓	[60] ↓	[192] ↓	[70] ↓	[122] ↓	[46] ↓	[28] ↓	[23] ↓	[35] ↓	[7] ↓	[433] ↓	[757] ↓	[324] ↓	[68] ↓	[90] ↓	[139] ↓	[65] ↓	[74] ↓	[40] ↓	[44] ↓	[32] ↓	[57] ↓	[9] ↓	[479] ↓	[803] ↓
Promotion of environmental education	75	70	83	71	85	82	73	68	59	49	81	84	80	73	82	68	91	78	77	89	86	67	79	75	77	73
Scientific and technological contributions	77	63	81	82	68	67	56	41	47	37	61	45	52	30	46	52	74	59	69	61	43	11	61	55	68	58
Activities by local governments and citizens' groups	67	66	76	84	83	78	55	68	43	63	62	73	74	63	50	61	83	94	51	68	71	56	64	73	65	70
Formation of recycling systems	62	68	83	76	73	71	45	35	43	46	47	26	52	40	21	18	65	72	34	33	71	33	53	49	57	56
Environmental measures by industry	59	59	57	60	68	64	48	45	51	43	46	46	65	48	21	34	52	53	51	54	57	33	52	51	55	54
Greenhouse gas prevention measures	35	23	14	22	48	41	46	23	56	11	40	34	39	25	21	18	35	19	26	46	29	33	38	29	37	26
Conservation of forest resources	17	15	40	38	50	57	44	42	43	28	45	55	52	40	54	52	57	56	31	44	29	11	45	46	33	33
Conservation of biodiversity	15	10	24	31	37	41	48	29	51	18	46	39	43	38	57	50	43	47	49	58	43	22	44	39	31	27
Population and poverty problems	8	8	12	21	18	23	63	27	50	12	70	41	28	25	29	36	17	19	17	21	29	22	39	25	26	18
Lifestyle alteration	18	10	10	4	23	10	45	19	49	15	43	23	11	18	18	14	26	6	23	21	29	0	30	14	25	12

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 that 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” (combining “significant progress” and “some progress”).

- In total, the category with the largest proportion of responses indicating progress was “promotion of environmental education.” In contrast, the category with the least amount of responses indicating progress was “lifestyle alteration” and “population and poverty problems.”
- A smaller proportion of overseas respondents reported progress in “scientific and technological contributions,” “formation of recycling systems,” and “environmental measures by industry” than respondents in Japan. In other areas, a larger proportion of overseas respondents reported progress than respondents in Japan; in “conservation of forest resources,” “conservation of biodiversity,” “population and poverty problems,” the discrepancy reached approximately 30 points, whereas in “lifestyle alteration,” the discrepancy in reported progress was 12 points.

Progress toward Agenda 21—2008 and 2009



Progress is calculated as the combined total of the “significant progress” and “some progress.”
No progress is calculated as the combined total of the “Almost no progress” and “No progress.”

- Similar to the previous year, the categories in which more than 50% of respondents reported progress consisted of “promotion of environmental education,” “scientific and technological contributions,” “activities by local governments and citizens’ groups,” “formation of recycling systems,” and “environmental measures by industry.”
- In the three categories of “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. While the responses indicating no progress fell slightly from last year for “lifestyle alteration,” the percentage remained high, reaching nearly 50%.
- With respect to “greenhouse gas prevention measures,” 33% of respondents last year indicated progress while 43% stated progress had not been made. The responses reversed this year, with 37% indicating progress in this area, surpassing the 34% who stated progress had not been made.

Comparison of Differences between 2004 and 2009

	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	13	3	5	9	-3	8	14	13	-12	19	4	4	
Scientific and technological contributions	14	-1	2	15	10	17	22	-6	15	7	32	6	10	
Activities by local governments and citizens' groups	0	-8	6	-13	-20	-11	11	-11	-11	-17	16	-8	-5	
Formation of recycling systems	-6	7	2	10	-3	21	12	3	-7	1	38	4	0	
Environmental measures by industry	1	-3	4	3	8	0	18	-13	-1	-3	24	1	1	
Greenhouse gas prevention measures	12	-8	7	23	45	6	14	3	16	-20	-5	10	10	
Conservation of forest resources	2	2	-7	2	15	-10	12	1	0	-12	17	0	0	
Conservation of biodiversity	4	-7	-4	18	33	7	6	7	-3	-9	21	5	4	
Population and poverty problems	0	-9	-5	36	38	30	3	-8	-1	-4	6	14	8	
Lifestyle alteration	8	5	13	25	33	20	-7	4	20	2	29	16	13	

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 2004,

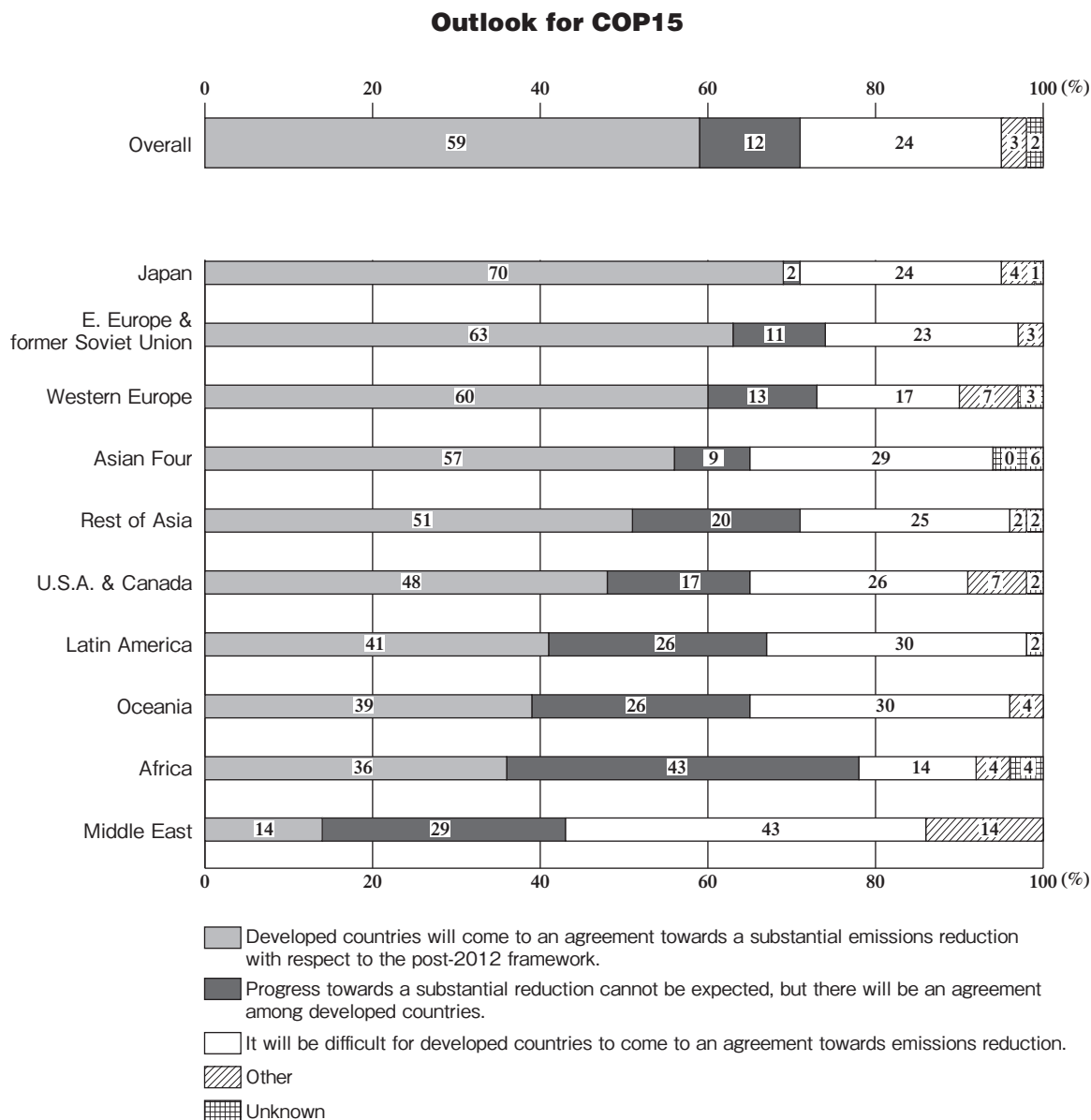
- Overall, the proportion of respondents indicating progress in the three categories of “scientific and technological contributions,” “greenhouse gas prevention measures,” and “lifestyle alteration” increased by 10 to 13 points.
- With the sole exception of “activities by local governments and citizens’ groups,” which saw an overall decline, all categories either remained at the same level of perceived progress or saw an increase in comparison to 2004. This was a favorable contrast to last year’s questionnaire results, when respondents reported a decline in the five categories of “conservation of forest resources,” “conservation of biodiversity,” “environmental measures by industry,” “formation of recycling systems,” and “activities by local governments and citizens’ groups.”
- By region, there was a significant increase in the proportion of respondents indicating progress in “population and poverty problems” in Asia, at 36 points; however, the category saw a decline in many other regions. “Lifestyle alteration” also saw a large increase in Asia, at 25 points.
- The proportion respondents indicating progress in the “formation of recycling systems” increased in all regions except Japan, Oceania, and the Asian Four.

B. MAIN FOCUS OF THE CURRENT YEAR'S QUESTIONNAIRE
3. COP15 AND THE POST-2012 FRAMEWORK (QUESTION 3)

3.1 The Outlook for COP15

During the summit of major industrialized countries last year, delegates agreed to “achieve at least 50% reduction of global emission by 2050.” Further, the Bali Action Plan was reconfirmed at the COP14 meeting.

What type of agreement do you expect to result from the COP15 meeting this year? Please select one item from the following list that best reflects your opinion.



- On the post-2012 framework, a majority of respondents overall selected “progress towards a substantial reduction cannot be expected, but there will be an agreement among developed countries,” at 59%. On the other hand, 24% of respondents overall, primarily from developing regions, selected “it will be difficult for developed countries to come to an agreement towards emissions reduction.”
- A large number of respondents from Japan selected “progress towards a substantial reduction cannot be expected, but there will be an agreement among developed countries,” at 70%, followed by Eastern Europe & the former Soviet Union, and Western Europe, at 63% and 60% respectively. In contrast, 48% of respondents in the United States & Canada made this selection.

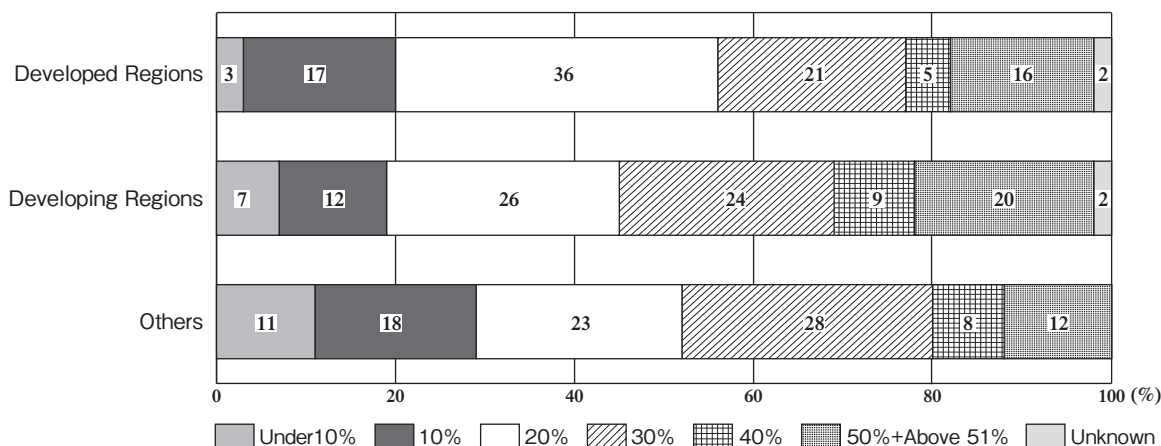
3.2 The Breadth of Emissions Reduction by Developed Countries
 COP15 will focus on achieving an agreement based on the Bali Action Plan.

What is the percentage at which you think emissions reduction by 2020 should be established for developed countries as a whole? Please select one item from the following list that best reflects your opinion.

Breadth of Emissions Reduction by Developed Countries

	Under 10%	10%	20%	30%	40%	50%	Above 51%	unknown	(%)
Total	5	16	32	22	6	9	7	2	
Japan	4	21	40	18	4	8	4	2	
United States & Canada	0	14	24	26	5	10	19	2	
Western Europe	0	8	32	32	12	10	5	2	
Asian Four	6	9	29	23	4	16	11	3	
Rest of Asia	6	16	29	20	6	11	10	2	
Latin America	4	2	24	37	13	7	11	2	
Africa	14	14	18	18	14	11	11	0	
Oceania	4	9	22	43	9	4	9	0	
Eastern Europe & former Soviet Union	14	23	26	17	9	6	6	0	
Middle East	14	29	14	29	0	0	14	0	
Overseas Total	6	12	27	26	8	10	10	2	
Developed Regions	3	17	36	21	5	9	6	2	
Developing Regions	7	12	26	24	9	20	2		
Others	11	18	23	28	8	12	0		

○ : Highest number of replies ○ : Second highest number of replies

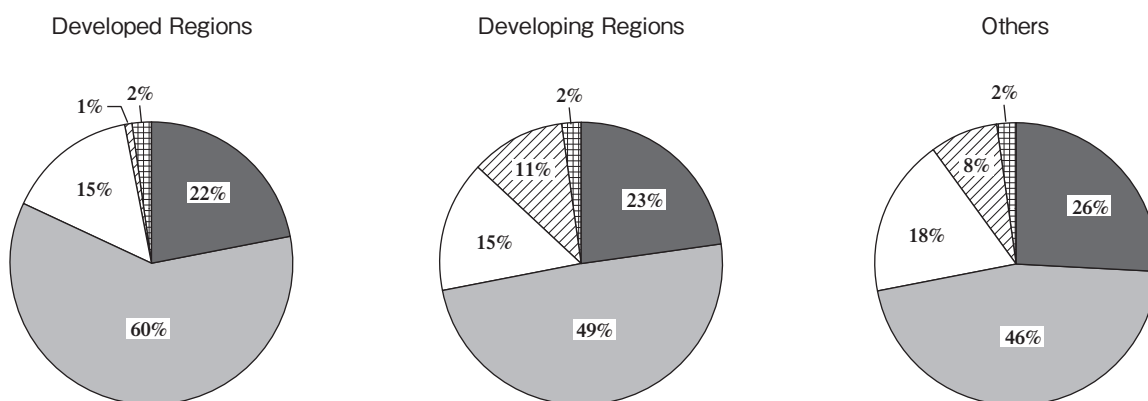
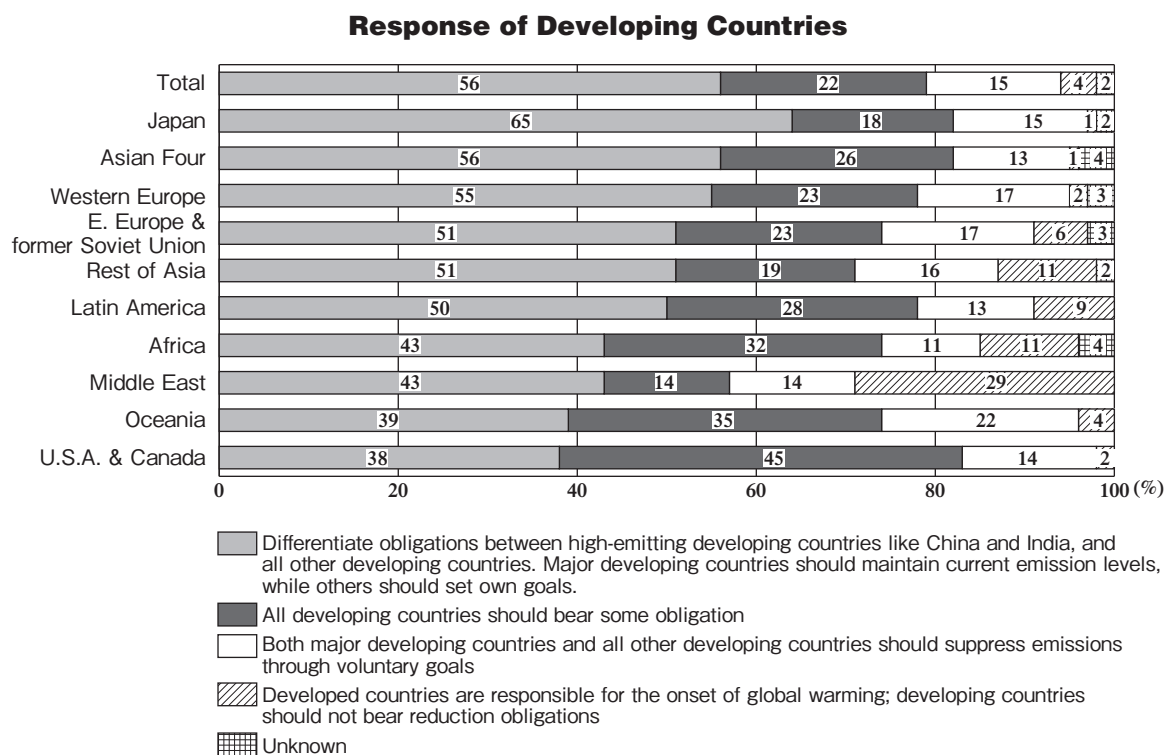


- While the responses to the breadth of emissions reduction showed a broad distribution curve, they tended to cluster around “20%” and “30%” reductions.
- Thirty-six percent of respondents from developed regions selected a “20%” reduction, followed by 26% of respondents from developing regions and 23% from other regions.
- Twenty-one percent of respondents from Japan selected a “10%” reduction, whereas 40% selected “20%.”.
- Thirty-two percent of respondents from Western Europe selected “20%,” with the same percentage selecting “30%.”
- In the United States & Canada, 24% and 26% of respondents selected a “20%” and “30%” reduction respectively. In addition, another 19% selected “above 51%.”

3.3 The Response of Developing Countries

In order to achieve the long-term stabilization scenario of containing atmospheric CO₂ under 450 parts per million, it is understood that appropriate reduction efforts will be needed from developing nations in addition to emissions reduction by developed countries.

In your opinion, what is the desired agreement at COP15 with respect to the role of developing countries? Please select one item from the following list that best reflects your opinion.

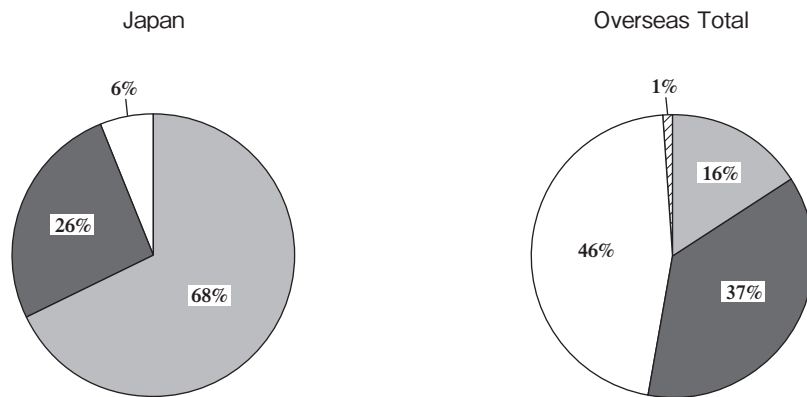
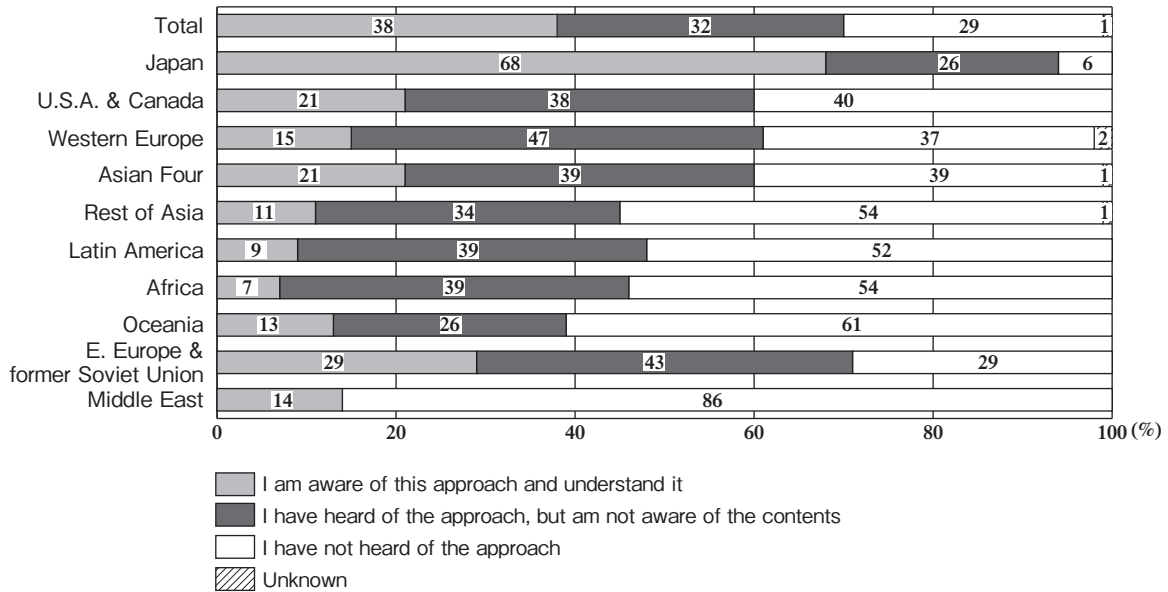


- Overall, 56% of respondents selected “there should be a differentiation in the obligations between high emitting major developing countries like China and India, and all other developing countries. Major developing countries should bear the responsibility of maintaining emissions at around current levels, whereas all other developing countries voluntarily establish their own goals.” This was followed by “all developing countries should bear some amount of emissions reduction obligation” at 23%.
- Fifty-one percent of respondents from Rest of Asia, which includes China and India, selected “there should be a differentiation in the obligations between high emitting major developing countries like China and India, and all other developing countries. Major developing countries should maintain emissions at current levels, whereas all other developing countries voluntarily establish their own goals.”
- Whereas 18% of respondents in Japan selected “all developing countries should bear some amount of emissions reduction obligation,” a higher percentage of respondents in the United States & Canada made this selection, at 45%. They were followed by respondents in Oceania, Africa, and Latin America, at 35% 32%, and 28% respectively.
- On the other hand, respondents from developed regions who selected “developed countries bear the responsibility for the onset of global warming; thus, developing countries should not bear reduction obligations” was limited to 1%. In contrast, 11% of respondents from developing regions and 8% from other regions made this selection.

3.4 Sectoral Approach against Global Warming

Among the various methods to determine a country's emissions volume, there is an approach proposed by Japan, called the Sectoral Approach. Are you aware of this approach? Please select one item from the following list that best reflects your opinion.

Sectoral Approach against Global Warming

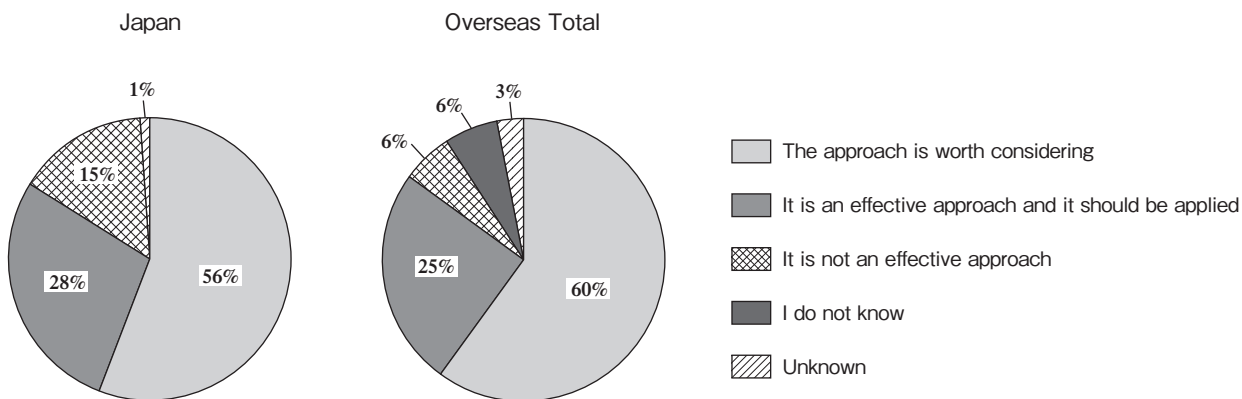


- While 68% of respondents from Japan selected “I am aware of this approach and understand its contents,” 16% of overseas respondents made the same selection.
- While 26% of respondents from Japan selected “I have heard of this approach, but am not aware of the contents,” 37% of overseas respondents made the same selection.
- There was a marked contrast in the number of respondents who selected “I have not heard of the approach” from Japan and those from overseas, at 6% and 46% respectively.

3.5 Response to the Sectoral Approach

Please answer this question if you selected 1. “I am aware of this approach and understand its contents” in the previous question. What do you think of the sectoral approach? Please select one item from the following list that best reflects your opinion.

Response to the Sectoral Approach



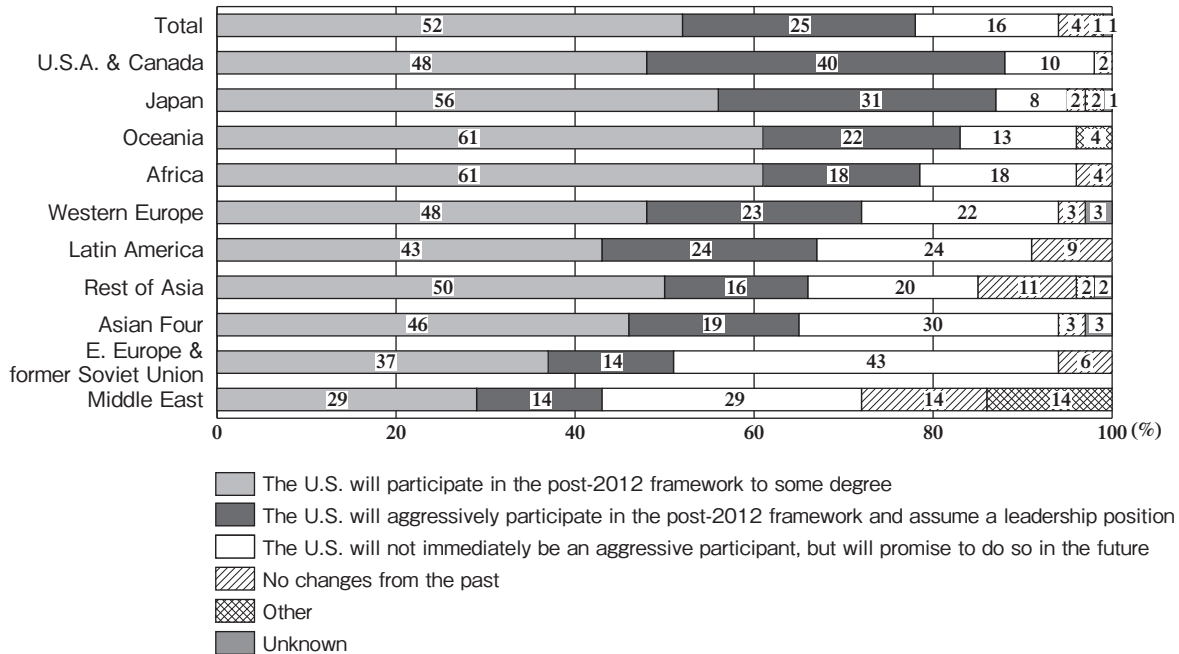
- Fifty-six percent of respondents from Japan and 60% from overseas stated that the sectoral approach was “worth considering.”
- Both respondents from Japan and overseas tended to select “it is an effective approach and it should be applied” at similar rates, at 28% and 25% respectively.
- Fifteen percent of respondents from Japan and 6% from overseas selected “it is not an effective approach.”

3.6 Expectations for the New U.S. Administration

With the inauguration of the new administration, it is hoped that the United States will adopt a more aggressive stance in undertaking the problems of global warming.

What is your perspective on the actions of the United States in the days ahead? Please select one item from the following list that best reflects your opinion.

Expectations for the New U.S. Administration

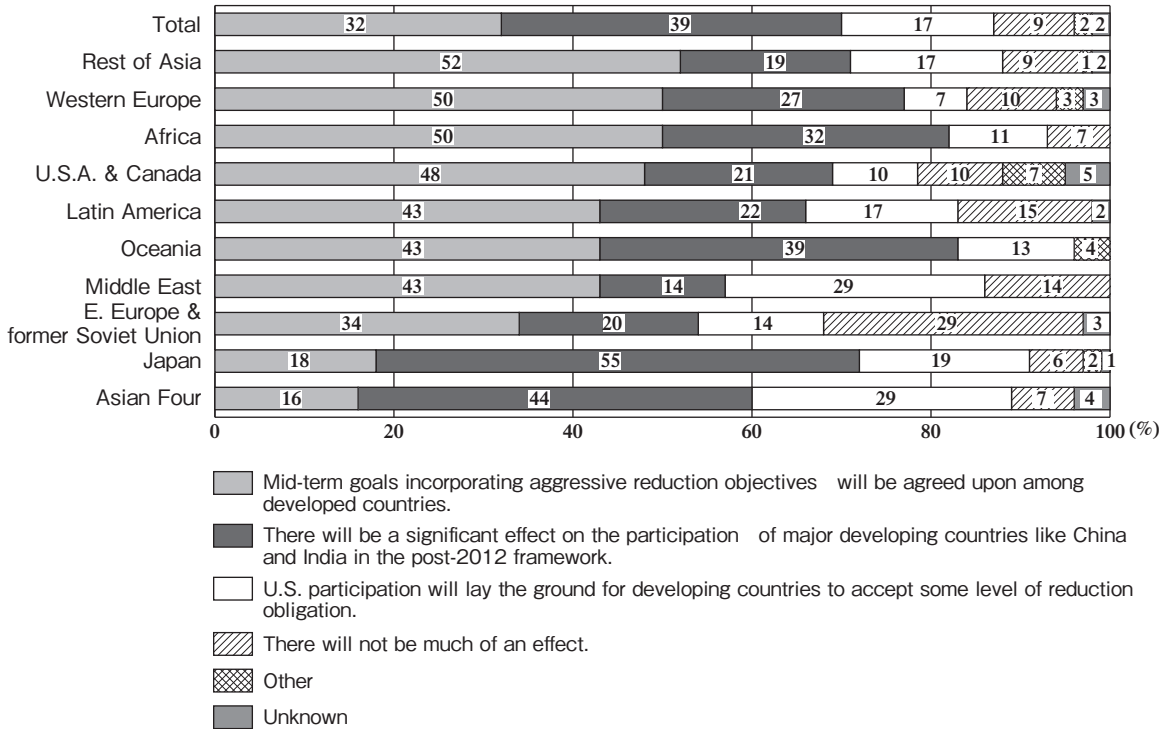


- Respondents indicated high expectations for the new U.S. administration, with 52% overall selecting “the United States will participate in the post-2012 framework to some degree,” followed by 25% who selected “the United States will aggressively participate in the post-2012 framework and assume a leadership position.” The combined percentage of respondents from the United States & Canada and Japan who selected these items reached 88%. The response was similar in Oceania and Africa, where approximately 80% of respondents making one of these selections.
- In contrast, only 4% of respondents overall selected “there will be no changes from the past.”

3.7 The Effects of the Actions of the New U.S. Administration

What do you think will be the effects of the new U.S. administration if it were to participate in the post-2012 framework? Please select one item from the following list that best reflects your opinion.

Effects of the Actions of the New U.S. Administration



- Both respondents from Japan and the Asian Four most frequently selected “there will be a significant effect on the participation of major developing countries like China and India in the post-2012 framework,” at 55% and 44% respectively
- On the other hand, respondents from Western Europe and the United States & Canada most frequently selected “U.S. participation will lay the ground for developing countries to accept some level of reduction obligation,” at 50% and 48% respectively. Those who selected “there will be a significant effect on the participation of major developing countries like China and India in the post-2012 framework” were limited to 27% in Western Europe and 21% in the United States & Canada.
- In the Rest of Asia, “there will be a significant effect on the participation of major developing countries like China and India in the post-2012 framework” was limited to 19% of the responses.

4. STRATEGIES TO SUPPRESS CO₂ EMISSIONS (QUESTION 4)

In order to contain the temperature rise within 2 degrees Celsius of current levels, it is necessary to lower the emissions of CO₂ before 2020. It may be difficult to depend on nuclear power which takes 10 to 30 years from planning to operation to suppress CO₂ emission considering the timeframe.

When considering these circumstances, what do you think would comprise an effective strategy to suppress CO₂ emissions? Please select one item from the following list that best reflects your opinion.

Strategies to Suppress CO₂ emission

	Dedicate concerted efforts to shift energy supply to renewables, such as wind, solar, geothermal, and bio energy	Rather than focusing on the energy supply, improve energy efficiency and thus suppress energy demand	Dedicate efforts to absorb and capture CO ₂ , thereby suppress its emission, including planting, prevention of deforestation and forest deterioration, carbon capture and storage	Other	Unknown
Total	④③	③④	13	6	4
Oceania	⑤⑦	③⑤	0	9	0
Rest of Asia	④⑧	②⑤	22	2	2
Latin America	④⑥	②①	17	7	11
Japan	④⑤	③⑤	10	8	2
Africa	④③	14	②⑤	14	4
Middle East	②⑥	⑤⑤	19	0	0
Asian Four	③④	④⑨	6	1	10
United States & Canada	③⑦	④②	14	2	5
Western Europe	③⑧	④①	11	5	7
Eastern Europe & former Soviet Union	②⑨	③⑦	23	9	3

④ : Highest number of replies ○ : Second highest number of replies

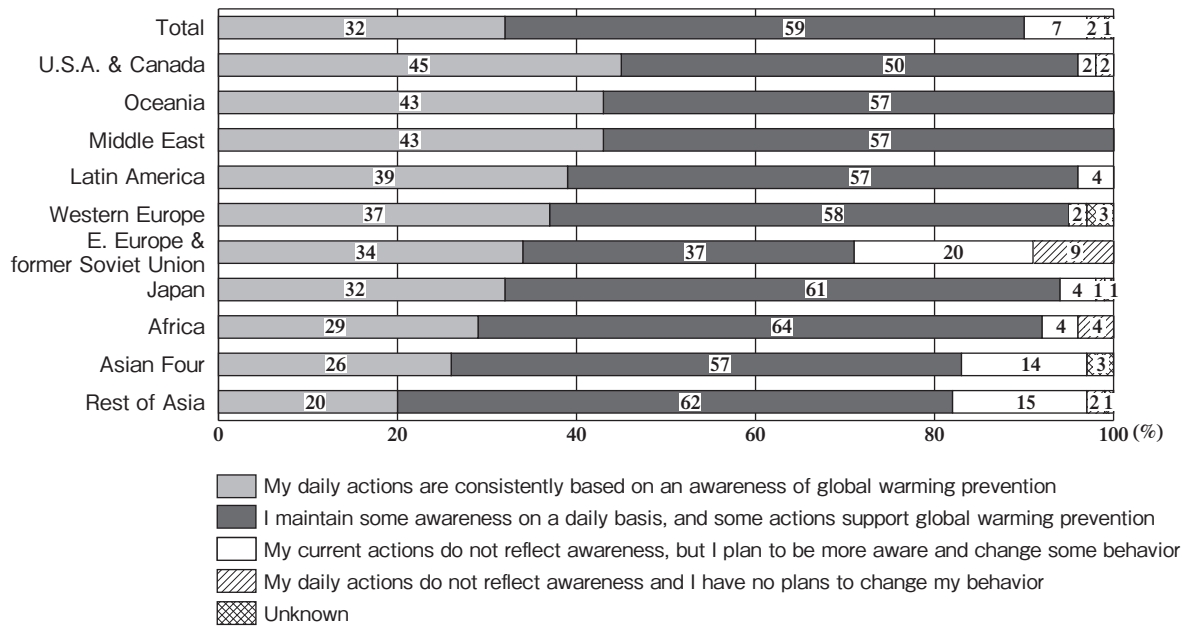
- Overall, 43% of respondents selected “dedicate efforts to shifting the energy supply to renewable sources, such as wind energy, solar power, geothermal energy, and bio energy,” followed by 34% who selected “rather than focusing on the energy supply, dedicate efforts to improving energy efficiency and thus suppressing energy demand.” On the other hand, only 13% of respondents overall selected “dedicate efforts towards measures for absorbing and capturing carbon dioxide and thereby suppress its emission including planting, prevention of deforestation and forest deterioration, carbon capture and storage.”
- Respondents from Oceania, Latin America, Japan, Africa, and China most frequently selected “dedicate efforts to shifting the energy supply to renewable sources, such as wind energy, solar power, geothermal energy, and bio energy.” In Oceania in particular, respondents who made this selection reached 57%.
- Respondents in the Asian Four, the Middle East, Eastern Europe & former Soviet Union, Western Europe, and the United States & Canada most frequently selected “rather than focusing on the energy supply, dedicate efforts to improving energy efficiency and thus suppressing energy demand.”

5. AWARENESS AND ACTIONS CONCERNING THE PREVENTION OF GLOBAL WARMING (QUESTION 5)

5.1 Awareness and Actions Towards the Prevention of Global Warming

Are your day-to-day actions and behavior based on an awareness of global warming prevention? Please select one item that applies to your situation.

Awareness and Actions Towards the Prevention of Global Warming

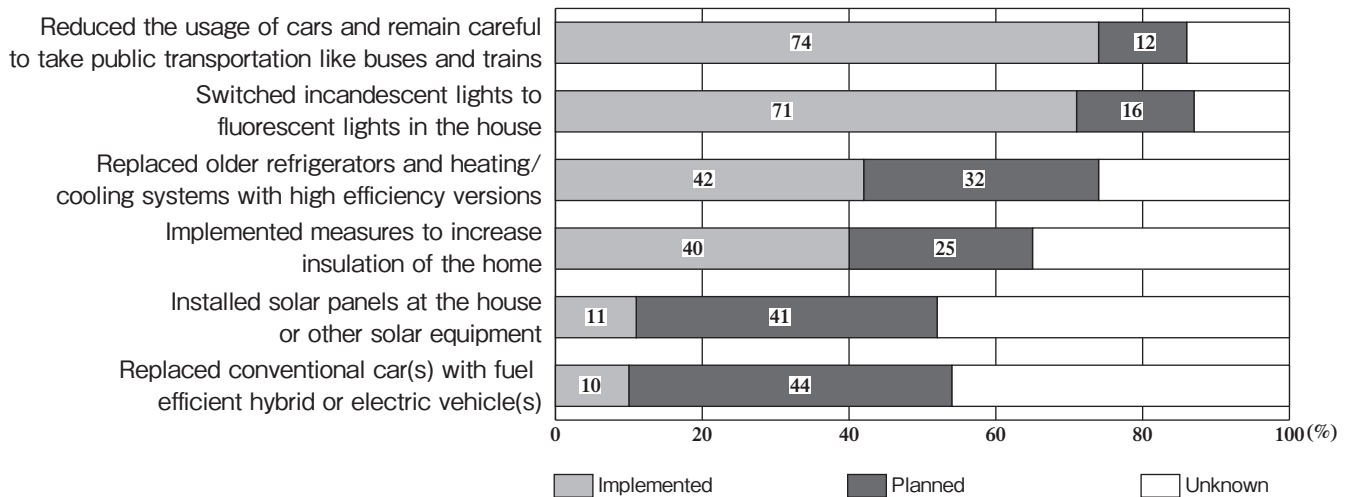


- Those who selected “my day-to-day actions are consistently based on an awareness of global warming prevention” comprised 32% of the responses overall. Regions with a high percentage of respondents making this selection were the United States & Canada at 45%, Oceania at 44%, the Middle East at 43%, and Latin America at 39%. In contrast, regions with lower percentages included the Rest of Asia at 21%, the Asian Four at 26%, Africa at 29%, and Japan at 32%.
- The most frequently cited response in all regions was “I maintain some degree of awareness on a day-to-day basis, and some of my actions support global warming prevention,” with the selection comprising 59% of the overall responses. Respondents who made this selection surpassed 50% in most regions around the world.

5.2 Actual Endeavors Towards the Prevention of Global Warming as an Individual

Which of the following actions have you implemented or do you plan to implement in the future from the standpoint of an individual concerned with the prevention of global warming?

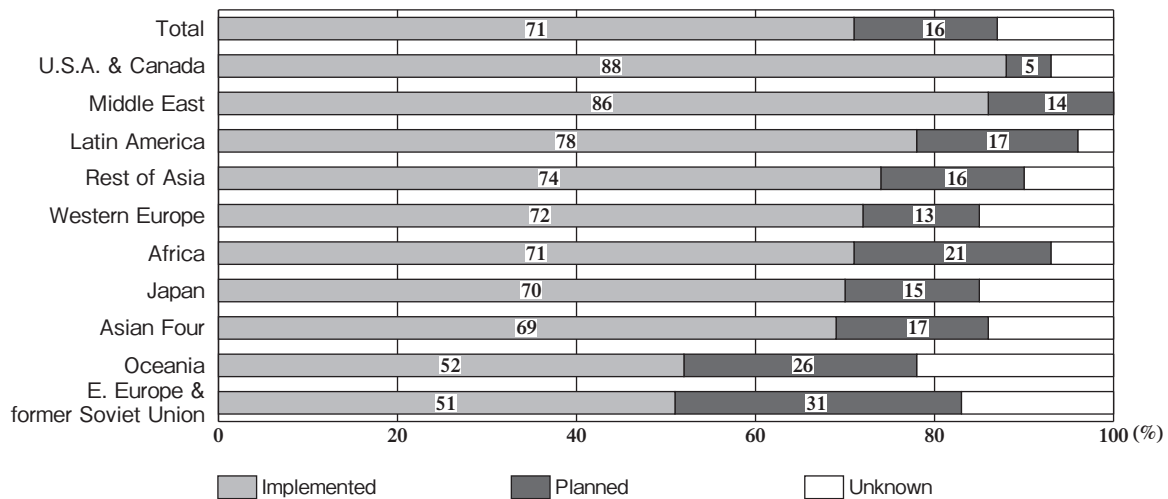
Actual Endeavors Towards the Prevention of Global Warming as an Individual



In aggregating the results,

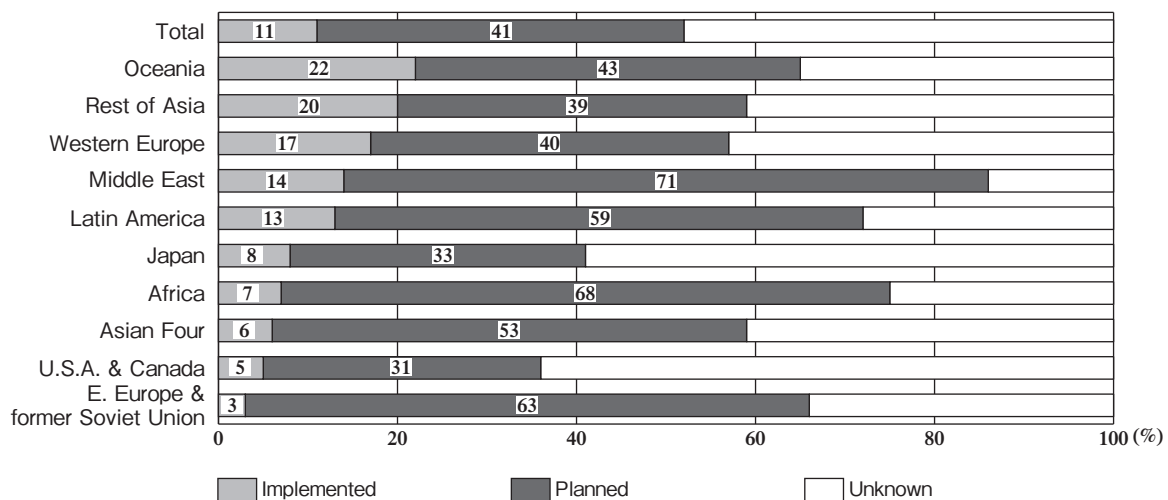
- More than 70% of respondents stated they had already implemented “reducing the usage of cars as much as possible and taking public transportation like buses and trains” and “switching incandescent lights to fluorescent lights in the house.” When taking into account the respondents who planned to implement these endeavors in the future, the response rate reached 85%.
- More than 40% of respondents stated they had already implemented the “replacement of older refrigerators and heating/cooling systems with latest and high efficiency versions” and the “increased insulation of the home.” When taking into account the respondents who planned these endeavors in the future, the response rate reached 65 to 75%.
- On the other hand, respondents who had already implemented the “installation of solar panels or other equipment to utilize solar power” and “replaced the conventional automobile(s) with fuel efficient hybrid or electric vehicle(s)” were limited to 10%. However, taking into account those who planned these endeavors in the future brought the response rate to more than 50%.

5.2.1 Switched Incandescent Lights to Fluorescent Lights in the Home



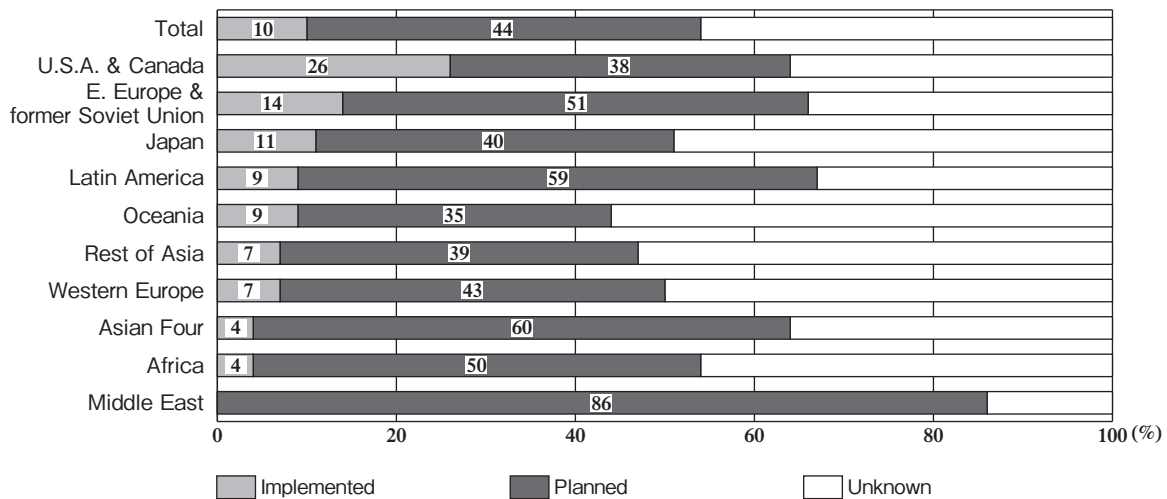
- Overall, 71% of respondents indicated they had already implemented the replacement of incandescent lights with fluorescent lights. In the United States & Canada, and the Middle East, the figures reached 88% and 86% respectively.
- While 88% of respondents from the United States & Canada stated they had implemented this measure, the percentage from Japan remained around the overall level, at 70%.
- Overall, 16% of respondents indicated they planned to implement this endeavor in the future.

5.2.2 Installed Solar Panels at the House or Other Equipment to Utilize Solar Power



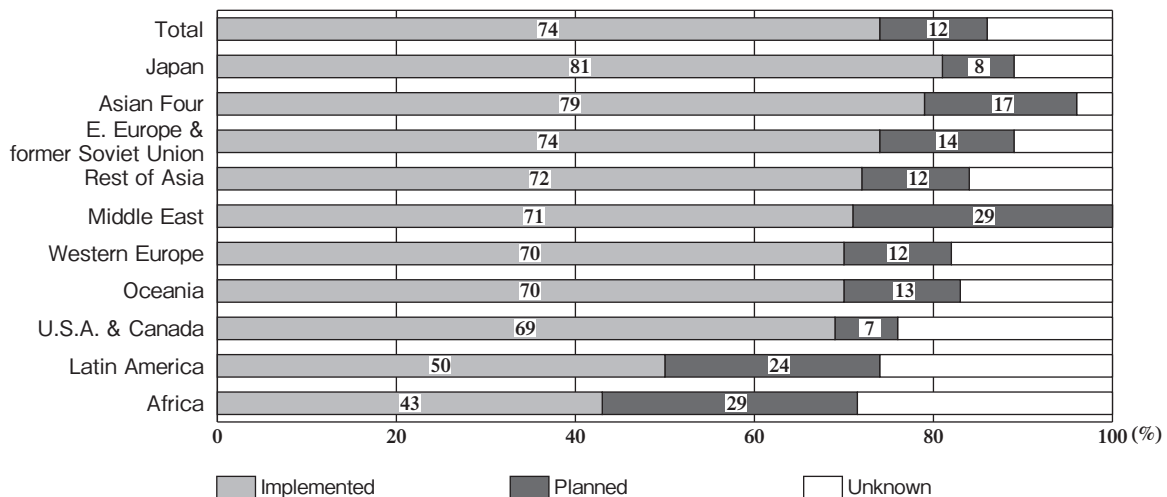
- Overall, 41% of respondents indicated they planned for solar equipment in the future, whereas 11% stated they had already implemented this endeavor.
- In comparison to other regions, a relatively high percentage of respondents from Oceania and the Rest of Asia indicated they had already implemented this measure, at approximately 20%. This was followed by Western Europe at 17%, the Middle East at 14%, and Latin America at 13%. In contrast, only 8% of respondents from Japan stated they had already implemented solar equipment. Even when taking into account those respondents who selected “planned,” the response rate lagged at 41% in Japan, representing a lower level of motivation for solar equipment there, along with the United States & Canada.
- In Latin America, Africa, Eastern Europe & the former Soviet Union, and the Middle East, 60 to 70% of respondents stated they planned for solar equipment in the future.

5.2.3 Replaced the Conventional Automobile(s) with Fuel Efficient Hybrid or Electric Vehicle(s)



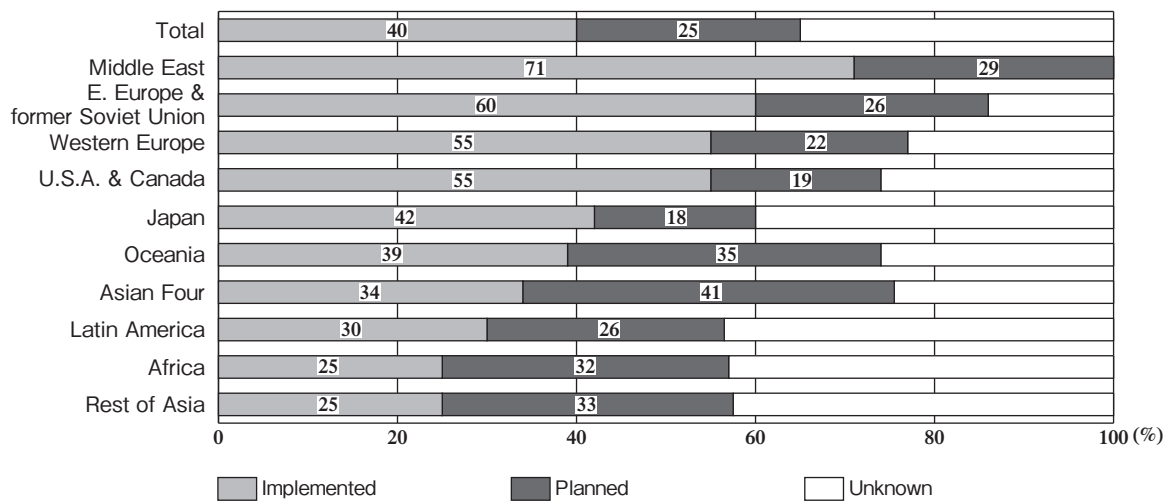
- Overall, 44% of respondents stated they planned to replace their vehicles in the future, whereas 10% indicated they had already implemented this endeavor.
- Respondents in the United States & Canada stated they had implemented this endeavor at 26%, at more than twice the rate of other regions.
- In Japan, a country at the forefront of hybrid vehicle technology development, respondents indicating they had implemented this measure was limited to 11%. This represents a lower implementation level than Eastern Europe & the former Soviet Union, where the response rate for “implemented” was 14%.
- The percentage of respondents who indicated that they planned to replace their conventional vehicle(s) surpassed 35% in most regions. In particular, the response rates were high in the Middle East, Asian Four, and Latin America, at 86%, 60%, and 59%, respectively.

5.2.4 Reduced the Usage of Cars and Remain Careful to Take Public Transportation



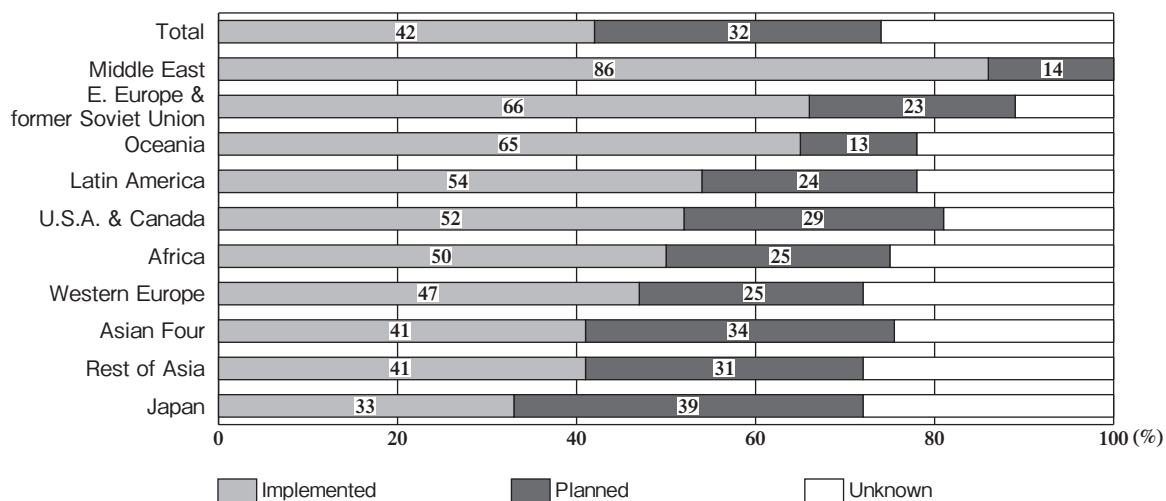
- Of all of the queried measures, respondents most frequently cited the reduction of car usage as the endeavor they had already implemented. Overall, 74% of respondents selected “implemented.”
- The rate of implementation in Japan and other countries in Asia, where public transportation is often highly developed, reached approximately 80%.

5.2.5 Implemented Measures to Increase Insulation of the Home



- Overall, 40% of respondents indicated they had already implemented the increased insulation of the home. In particular, the rates from the United States & Canada, Western Europe, Eastern Europe & the former Soviet Union reached 55 to 60%, while more than 70% of respondents from the Middle East selected “implemented.” Additionally, 25% of respondents overall stated they planned to implement this measure in the future.
- In comparison to the Middle East, Eastern Europe & the former Soviet Union, Western Europe, and the United States & Canada, the percentage of respondents in Japan who selected “implemented” was lower by approximately 10 to 30%.

5.2.6 Replaced Older Refrigerators and Heating/Cooling Systems with Latest and High Efficiency Versions



- In all regions except for Japan, a high percentage of respondents indicated that they had implemented the replacement of older refrigerators and heating/cooling systems. In particular, the response rate was 86% in the Middle East, followed by 66% in Eastern Europe & the former Soviet Union and 54% in Latin America. While Japan had the highest percentage of respondents who indicated that they planned to implement this endeavor in the future, at 39%, it also had the lowest percentage of implementation of all regions, at 33%.

IV. Comments from Respondents

This year's questionnaire elicited a total of 279 comments, including 145 from 54 countries outside Japan and 134 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 47 representing 27 countries and 34 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

The threat of global warming is serious and close but still is not understood well by people or taken seriously by governments. A dedicated and great effort is needed by NGOs and concerned people and institutes.

Hamid Taravati, Managing Director, Taravat Bahar Institute, Iran, 136

Global warming now is the single-most threat to the survival of the human race. If we do not act collectively now, we may not have a next day to act!

Dr. V.K. Banakar, Scientist, National Institute of Oceanography, India, 258

What I am missing most from thinking relating to climate change is TRUST IN NATURE, in its self-recovering capacity. That is more efficient as any that humans can do. The best that humankind would be capable of is helping nature to self-recover with well-engineered concerned actions, e.g. large-scale reforestation, wetland reconstruction, stop soil degradation, restoring natural ecosystems and ecosystem services, et cetera.

Vilmos Kizsel, President, Göncöl Foundation, Hungary, 210

There needs to be more attention paid to the growth of vulnerabilities to the tropical storms as a consequence of climate change.

*Roberto Rodríguez Rojas, Regional Coordinator,
Comisión Centroamericana de Ambiente y Desarrollo, El Salvador, 164*

Biofuel can to some extent contribute to solve the energy problem and can contribute to climate change prevention. However, there is a risk that the production of biofuel creates conflicts with biodiversity conservation (cutting down rainforests to replace them with biomass-producing crops) or with food security (getting better prices for maize used for biofuel, increased food prices especially affecting the poor populations). Every effort must be made to prevent this.

*Robert Zwahlen, Senior Environment and Social Development Specialist,
Pöyry Energy Ltd., Switzerland, 001*

Saving energy is the most effective and timely strategy to reduce climate change. It's up to the governments to set the right incentives for citizens to use energy efficient technologies and to change own behavior.

Dr. Thomas Jostmann, Senior Vice President, Evonik Degussa GmbH, Germany, 027

Converting sugarcane bagasse to biochar is potentially a very effective method of locking up large volumes of CO₂ and the biochar can be used to increase soil fertility in tropical soils.

M, CABI, Trinidad, 156

I think it is a mistake to ban specific lighting technologies when there is no perfect substitute. If we focus on clean generation of electricity, then conservation becomes of secondary importance. Personally, I pay extra for 100% renewable generation and I think it is my own business how I use this energy as I do not contribute to elevated CO₂ because of my choice of power sources. Fluorescent bulbs have their own environmental problems, e.g. mercury contamination which requires long distance transport for specialized disposal. I doubt if they save much energy in a full life cycle analysis for their application in Canberra.

*Dr. Bradford Sherman, Senior Research Scientist/Research Group Leader,
CSIRO Land and Water, Australia, 180*

Many in Ghana, including me, would like to go for domestic solar power generators, but are constrained by prohibitive cost of installing solar panels.

Ketiboa K. Blay, Executive Chairman, Centre for Social and Community Advancement, Ghana, 203

The most serious problem is ever-increasing population and an economic system that requires that increase to function as it does.

Dr. Herbert Bormann, United States, 064

DNA studies indicate that *H. sapiens* evolved from a single family group of proto-anthropoids. As indicated in *The Linnean* 23 (2) 28-36, the greatest threat to human survival is the recent enormous increase in the world population. This has engendered rapid climate change, of which many threatening facets are surveyed in the Asahi Glass Foundation Questionnaire. The human population of the world will, I believe, become extinct as a result of food shortage and viral diseases. All attempts over the last 40 years to control population increase have ended in failure. It is now too late to escape the inevitable consequences of this failure.

*Professor John Leonard Coudsley-Thompson, Professor of Zoology (Emeritus),
University of London, England, 074*

Much more attention should be paid on relationships between biodiversity loss and climate change.

M, Metsähallitus, Finland, 003

While I understand the interest in global warming, that is by no means the only issue that should be surveyed and some, including me, would argue that it is not even the most important. This is not because of its impact but it is likely only partially the result of human activity and therefore there is less that we can do about it than some other issues. For me the most critical issues are loss of habitat and pollution levels that are affecting immune systems and disease transmission in natural ecosystems. If we cannot maintain our natural biodiversity, including appropriate levels of pollinators, then global warming or not, the human race will probably vanish.

F, University of Ottawa, Canada, 018

Climate change mitigation measures related to land use and forests should be designed in a way that assures the conservation of biodiversity—preserve primary forests and wetlands.

Friedrich Wulf, International Coordinator, Pro Natural, FOE Switzerland, Switzerland, 123

Pollution—of the air, the sea, rivers, our bodies—is an obvious consequence of unsustainable population growth and misuse of resources. The present unacceptable levels of nonrenewable energy consumption reflect a *laissez-faire* attitude towards changing one's lifestyles. We cannot afford to pursue a piecemeal, apologist approach to the appalling state of our environment. Apathy and negligence result in planetary destruction. The time for action is now, not in 2020 or 2050, otherwise by then we will have passed midnight.

David Black, Trustee, Oxleas Wood Challenge Fund Trust, United Kingdom, 202

Stopping deforestation in areas of grazing and soya production is much more important than costly efforts at reforestation of grazing lands.

Robert K. Walker, Founding Member, Ágere Cooperação em Advocacy, Brazil, 028

Air, water, soil and noise pollution becomes increasingly serious along with industrial development. As a result, the urgency to protect the environment is turning into a global issue faced by human beings. As an important protection tool for the environment, there should be more emphasis on forests. Compared to other methods of environmental protection, forestation has its unique advantages. Thus, it should be a common obligation for all countries throughout the world to speed up forestation in order to protect the homeland of humanity ourselves.

*Zhengdao Jin, Office Director,
China Institute of Sand Treatment and Sand Industry, China, C002*

Public education and awareness programs directed at all levels of societies, from primary schools to the top echelons of policy makers must be intensified, to ground more aggressive action to reverse the negative impacts of environmental degradation.

*Milton Haughton, Deputy Executive Director,
Caribbean Regional Fisheries Mechanism Secretariat, Belize, 143*

Reforestation will occur throughout the country through environmental education at a national level.

Waldo Tapia Contreras, Coordinator, Asociación Cubana Técnicos Agrícolas y Forestales, Cuba, 283

Sustainable lifestyles, simplicity and green jobs are the only remedies for the current global environment and economic crises.

M, Ministry of Environment and Natural Resources, Sri Lanka, 200

The most important thing is that humans should change their lifestyles and values for the environment. Reinforcing education and promoting green living could fulfill this.

M Institute of Transportation and Communication Taiwan, 001

As global environmental problems are much more of a social problem, it is very important to start the change from the way people live, rather than just focusing on technology. An over-emphasis on technology may mislead the public and result in citizens feeling released from the responsibility that should be incurred by every individual. Constraining people's behavior would be more important than counting on the development of science and technology.

M, Tsinghua University, China, C022

A key step to change consumer behavior is to make the most environmentally positive alternatives economically competitive. Governments must use their purchasing power and ability to regulate to make this happen. When the price of greener alternatives is better than the others, the demand will change. This way, we don't need to change anyone's environmental beliefs, only their behavior.

Dr. Edward W. Manning, President, Tourisk Inc., Canada, 048

We need a global tax system where costs of sustainable products are being made cheaper.

Willem Ferwerda, Director, IUCN Netherlands, The Netherlands, 105

I feel government initiatives are more important than individual gestures.

Alan Massam, Chair, Environment Communications, United Kingdom, 282

The recent policy statement by U.S. President Barack Obama to motor vehicle manufacturers to make vehicles of higher energy efficiency (to reduce gas demand and supply) is a positive step forward in reducing gas emissions, when implemented. If political leaders in other developed countries can adopt such a move, the gas emissions problem could be effectively tackled in the post-2012 framework.

Michael E. Sizomu-Kagolo, National Forestry Authority, Uganda, 257

There is an absence of permanent information to come to the popular masses. There needs to be sustained governmental programs with serious scientific backing. The former cannot achieve progress if national, regional, and local governments don't encourage it through education, eradication of poverty, responsible family planning, norms of using and occupying land while avoiding settling of homes in unfit zones, which result in danger to its inhabitants and poor use of environmental resources.

Maria Cristina Bo, Argentina, 031

I believe and hope that the current world economic crisis will prove to be a blessing in disguise for the future of mankind and our planet. It will slow down growth, cause us to reexamine our priorities and values and put more attention on environmentally friendly ways of living.

Paul M. Koch, P.Eng, Canada, 021

The reduced consumption arising from the current economic crisis is a great help in bringing down carbon emissions. May it also show people in the rich countries that one can live without a lot.

Lothar Luken, Ireland, 041

Developed countries must pay for global environmental deterioration for the reason that they developed earlier and produced pollution in the course of their development. Although they solved the pollution problem of their own, it shouldn't be forgotten that this is based on the global division that developed countries have transferred those high-polluting industries to the developing countries, which made the latter produce their goods and left the pollution locally. This is not fair at all. Therefore, they have an obligation to help developing countries to face the problems of pollution!

Qingbao Zheng, Director of Department of Members and Communications, All-China Environment Federation, China, C024

To be short, I would just like to underline the issues of resource use and distribution of wealth here between on the one hand, developed countries and a few emerging powers including China and India, vis-à-vis other developing countries. I am fairly concerned that the current situation, e.g. in Africa or Asia is not only environmentally detrimental, but also socially very unfair and will create new problems to be solved by the world community, e.g., accommodating refugees from areas affected by civil wars. Approaches to change this have filled books but need implementation in the next 20 years as problems are felt already in developed countries, e.g. asylum seekers, migration effects, et cetera.

Gerhard Stimmeder, Desk Officer, Ministry of Agriculture, Forestry, Environment, and Water Management, Austria, 132

People in developing countries are much more vulnerable to the effects of environmental degradation because they often directly depend on the land.

M, G.B. Pant Institue of Himalayan Environment and Development, India, 204

Developed countries should help developing countries to be developed this time in an environmentally friendly way.

John Tiyang Acha, Chief, International Association for the Protection of Environment, Cameroon, 277

Developed countries should institute structural and functional changes in their systems of life and development models. One cannot continue to believe infinitely in myths; they must realize that the land has finite resources.

Edgar Selvin Pérez, Director, Oficina Técnica de Biodiversidad, Guatemala, 256

Environmental protection must be a global political issue. No separate effort is sufficient enough unless it is backed by decisions/actions at a global level.

Bilyana Ivanova, State Expert Ministry of Environment and Water, Bulgaria, 182

1. Encourage various emissions reduction measures and energy conservation, as well as smaller scale long-term projects rather than be concerned with larger projects only.
2. Support the civic power in environmentally sensitive areas, empower them to protect the local environment from deterioration.
3. Encourage more individuals and organizations to participate in the task of energy conservation, emissions reduction, and environmental protection.
4. Developed countries should pay more attention to the environmental changes in developing countries as to avoid North-South imbalance in environmental issues.

Jierong Han, CIO, Gansu China Biological Energy System Co.,Ltd, China, C031

In my view, the environment is one, not a series of disconnected “issues.” Global population pressure and consumption patterns in both poor and rich countries continue to place too much strain on natural resources. It is not much use if you only concentrate on avoiding climate change and then find that your food supply disappears. Ecological imbalance in intense monocultures can easily open up for new plant diseases and in many countries such as the U.S., the groundwater supplies give out. Or if public health deteriorates because of chemical pollution. A proper strategy has to provide positive aims and alternatives, not just lists of dangers and what not to do.

M, Ministry of the Environment, Norway, 036

Different sectors such as government, local government, private sectors, NGOs, and individual families should incorporate and integrate disaster management and environment (climate change) component into their general planning, from country strategies to the household.

Ajith Tennakoon, Regional Director, Sewalanka Foundation, Sri Lanka, 053

I think the need for reforestation and other measures to increase carbon sinks has been neglected. Also the global recession of such major proportions should take front stage at COP15 and elsewhere. The nuclear proliferation threat is also imminent and serious.

Dr. David Pitt, Switzerland, 067

Unfortunately, the environment seems to have taken “backstage” in this past year in relation to the other economic challenges that the world is facing. It is unfortunate because a better, safer, and more resilient environment is the only way out of all of the seemingly more important challenges. In agriculture, the cost of agrochemical inputs is rising and leading to high food prices, but the recycling of the nutrients in nature is likely to decrease greenhouse gases in the atmosphere and result in cheaper, safer, and healthier food. Similarly, the use of biological and physical pest control methods will have the same effect on our food supply. Therefore, there seems to be a need to refocus our energies on the environment as the major solution to economic woes. Take care of the environment and it will take care of you.

*Leslie Simpson, Jamaica Representative,
Caribbean Agricultural Research and Development Institute, Jamaica, 247*

We need to change our cultural patterns. We are manipulated to move towards consumers patterns by industry. We need to change our relationship with the available resources.

F, Urban Land Institute, Uruguay, 030

I think that the public opinion starts to be conscious but keeps skeptical at the real interest and actions of governments. There are too many institutional barriers that present significant changes to occur.

Andrea Zomasa Signoret, Sustainability Manager, Industrias Peñoles SAB de CV, Mexico, 201

Every little does not help. It makes no difference. More drastic measures are required.

Bernard Fisher, Principal Air Quality Scientist, Environment Agency, United Kingdom, 047

The automobile is a serious problem. But the underlying aspect that is so bad environmentally is that cars, despite being used exclusively on shared-access rights-of-way, are privately owned. This means that there are too many of them, with few used more than 5% of the time, and too many of them on the roads at the same time, resulting in congestion and extra emissions via idling. OPOCO (one-person, one-car orientation) means that individuals have to “take” this particular car everywhere in order to have constant access to one; the high fixed costs ensure it is used even when it is not optimal to do so; access is closer than bus service; and as much land is devoted to parking cars as to “parking” people. And many people in society have second-class access to transportation because of income, ability, or age (and now developing countries are embracing OPOCO as “progress”). Consider “MASC,” or metered access to shared cars, by combining carsharing, ridesharing, taxis, and car-rentals with newer technologies to make all cars accessible to all people, whose uses (in terms of seat-kms) are tracked by proximity cards and bookings via cell phones.

Chris Bradshaw, Principal, Bradshaw Communi-Ties, Canada, 211

We have to worry about the energy that drives progress, but we cannot ignore the energy that drives all humans, “the energy of food.” If you accept or not, mankind now has to change their lifestyle, if we want to, continue living on planet Earth.

Ricardo Rocha de Sousa, Environmental Front, Divinópolis, Brazil, 271

For the lives of human beings, only one Earth exists, thus every single person ought to realize our own responsibility to protect the environment. We should make our Earth well-protected by cultivating a good habit and promoting a better culture towards the environment. Protecting the environment should start with the education of young children and involve all people over the world.

*Zhibiao Zhang, Counseling Director, Green Xiaoxiang
(Human Association for Environment Protection) China, C013*

Changing people's ways of life is the most practical approach, and developed countries should play a leading role in emissions reduction. The United States, as the highest per capita energy consumption country, should first carry it out. Developing countries should also consider how to find a more suitable way of development for their own, rather than act as the United States does. It is more feasible to learn from the ancient wisdom of human beings to keep a harmonious relationship with nature. Pursuing ever-increasing desires in an effort to develop economically is a type of self-destruction. We mankind ought to curb our desires to reduce waste and consumption of material and energy, and to provide various types of species with certain living space. Curbing desires has been emphasized in detail in Buddhism, Christianity, and Islam. Thus, a return to religions need to be encouraged, instead of the one-sided encouragement of economic means of the pursuit of happiness. Wealth is only one kind of distribution means fabricated by human beings, and it is not the same as happiness. The ultimate solution to reduce the infinite expansion of desires is through religion.

Meishan Guo, Research Fellow, Li Ze Zhong He Research Institute, China, C026

Comments from Japan

I would like to see environmental problems approached not only through the perspective of greenhouse gases, but also from the standpoint of how to effectively use limited natural resources. The picture changes depending on how one frames environmental problems, the problem of the survival of mankind, and the timeframe through which to evaluate the problems: by 100-year units, by a million to 100 million years, or by framing the history of mankind within 4.6 billion years.

Takeshi Takashiro, CSR Environmental Management, Hitachi Chemical Co. Ltd., Japan, 001

Environmental problems are not limited to global warming and greenhouse gases. We cannot forget that poverty, discrimination, tribal conflict, and numerous other factors are associated with environmental problems, and that it is important to continue to take multidimensional approaches, considering the use of scientific technology, political and diplomatic efforts, and others.

M, Central Glass Co. Ltd., Japan, 006

Similar to what the European Union did, we must paint a clear picture of the direction towards which the country should progress, combining the environment and welfare, and establish incentives through tax policies and legal regulations to encourage individual and corporate behavior. The awareness of each individual citizen is essential to the fruition of such a society.

M, IBM Japan, Japan, 013

Global warming is not the only global environmental problem. There are too many problems with theories about carbon dioxide. We should go back to the basics and rethink the issues regarding the preservation of biodiversity, the protection of forests, energy conservation, and pollution prevention.

M, The Chunichi Shimbun, Japan, 028

As long as these severe economic conditions continue, we cannot necessarily expect the United States, and China and India to commit to significant emissions reduction and suppression. Under such circumstances, it will not be possible to gain support from citizens and industry for unfair reduction obligations. So rather than aiming for too high of a standard, it may be more realistic to think about a formula that allows the major countries including the United States, China, and India to take one or two steps forward. On the other hand, although investments in energy conservation and the implementation of new energies cannot on their own turn the economy around, they are meaningful targets for the government to support and will provide important opportunities to move societal systems. If each country proceeds with such measures, perhaps it will lead towards a consensus that is more conducive to producing an agreement on global warming prevention.

Setsuo Iuchi, Director, Trade Policy Division, Trade Policy Bureau, Ministry of Economy, Trade, and Industry, Japan, 042

I believe that a lifestyle that eliminates waste, in which people learn the importance of objects and embrace recycling and reuse, will lead to kindness towards nature and people. If these values become the societal norm, the environment will also improve naturally. Economic development will follow sound technological development.

Minoru Yoneda, Director, Environmental Operations, Asa Corporation, Japan, 045

There are serious scientific problems in the passionate discourse about global warming seen recently. In particular, the way the subject is handled in the Japanese press is very reminiscent of the pre-World War II cry, “We will not ask until victory comes,” and seems like a similarly dogmatic campaign.

M, Ministry of Land, Infrastructure, Transport, and Tourism, Japan, 067

I hope that the recent global economic downturn becomes a springboard that catalyzes a paradigm shift, which in turn progresses global warming countermeasures.

Katsunori Suzuki, Professor, Frontier Science Organization, Kanazawa University, Japan, 100

In reducing carbon dioxide emissions, I think it would be meaningful to establish reduction targets that take into account the economic strength of each country (develop and incorporate an economic coefficient) into the equation.

M, Honda Foundation, Japan, 125

It is time to move away from the thinking that equates the reduction of greenhouse gas emissions as the only measure towards global warming prevention. While the reduction of carbon dioxide emissions is important, so are many other factors. These include the scientific study and establishment of proof of the changes in the natural environment on Earth, including the changes occurring to forests and other mechanisms which possess the ability to mitigate the climate, and the promotion of other research. In addition, we must establish a way in which changes on the planet can be forecast, so that mankind can sustain a lifestyle that conserves energy and resources while maintaining a certain quality of life.

Michiko Imai, President, Le Verseau Inc., Japan, 132

In order to undertake this problem, there must be a significant paradigm shift towards energy conservation and a low carbon society. Asking people to restrain and stretch themselves is not sustainable. Setting objectives too high and introducing a lot of regulations will demoralize people. It is essential for “corporate” industries to improve and innovate technology for energy conservation and carbon reduction, and for citizens to support, applaud, and cooperate with these endeavors.

Teruaki Masumoto, Consultant, Tokyo Electric Power Company, Japan, 134

A large proportion of energy and resource use falls within the household category. There needs to be incentives to encourage people to transform lifestyles.

M, Ministry of Land, Infrastructure, Transport, and Tourism, Japan, 136

Changing lifestyles culturally should be given priority than raising energy efficiency through technological advances.

M, Doshisha University, Japan, 138

There is something I was once again made aware of in building my house. It is the fact that setting up solar power systems, for example, requires money. It is a reality that if I had such money to invest, I would want to allocate it to other uses. Updating household electronics is not an easy task either. Unless the government implements a bold strategy, it will remain difficult for citizens to act. The world reacted favorably to the analysis of the IPCC. If we are to accept this as the premise, governments around the world must implement policies towards global warming prevention beyond what they say on papers.

Yasuyoshi Tanaka, Deputy Director, Science and Environment Division, Mainichi Shimbun, Japan, 145

While it is important to have ample environmental education, the school curricula do tend to emphasize negative

thinking. So another important task is to determine how we can give the youth hope for the future. I believe we should reevaluate the elementary and middle school curricula and their contents.

M, Societal Systems Research Forum, Japan, 147

There is too much fuss around global warming specifically. We must look not only at global warming and carbon dioxide emissions, but also review and reevaluate endeavors to protect the global environment in its totality, including reviewing the mass consumption society, waste reduction, and protecting nature.

Yumi Nakayama, Staff Writer, Science News Section, Asahi Shimbun, Japan, 152

Extreme urbanization and development have progressed as if we have forgotten that humans are but one member of the planet's organisms. This combined with our lifestyle which distances us from nature seems to be affecting the balanced mental and physical growth of children.

F, Mainichi Shimbun, Japan, 175

When I found out about the disappearance of bees, I felt that we have entered a truly dangerous era. I believe that the loss of biodiversity will be felt more like a body blow. I hope that the government will begin thinking about these problems in earnest; companies will not enact changes unless they are required by law.

Akihito Yoneda, EMC Director, BM Division, PM Service Operations, NTT Urban Development Builservice Co., Japan, 187

There has been a proliferation of greenwashing, in other words, products and services that appear ecological on the surface but are not in substance. This is happening not only on products, but with governmental policies as well; it is important to keep on eye and to carefully decide which really are useful for the conservation of the global environment. It is a shame that there isn't a reliable organization that is fully capable to take on this monitoring role.

M, Yomiuri Shimbun, Japan, 188

I would like to see the planting of trees and forests promoted on a global scale, including the creation of forests in urban areas and the greening of deserts. I would also like for there to be more attention paid to the cultivation of the forests of the ocean, sea algae.

Shigeo Onda, Global Environment Office, Mainichi Shimbun, Japan, 191

The reduction of highway tolls (applicable to passenger cars, capped at 1,000 yen on weekends and holidays) is clearly a policy that is counter to global warming prevention. Even the labeling system identifying the most energy conserving household appliances, though seeming at first glance to help global warming prevention, cannot be said to contribute to the reduction of energy consumption as they are becoming bigger and bigger. If environmental strategies are morphing to serve the purposes of economic strategies (economic recovery, recession strategies), I cannot imagine how they will lead to the prevention of global warming.

Satoshi Fujioka, Department of Environment, Agriculture, Forestry and Fisheries, Government of Osaka Prefecture, Japan, 197

I think it is an extremely welcome development that environmental problems are taught comprehensively within the curricula of the compulsory education system. Education will continue to comprise a large proportion in cultivating the awareness of each individual person, and I believe continued efforts are necessary in this arena.

Kazuyoshi Yogozaawa, Editor-in-Chief, Climb Corporation, Japan, 199

The government should clearly present a "grand design," an ambitious picture of where we should be in 2020, in 2050, and urgently begin to work towards widely garnering the understanding and cooperation of citizens.

Takamasa Higuchi, Director General, World Widelifund, Japan, 205

Global perspectives and endeavors are indispensable in global warming prevention. It is indispensable to set the reduction target and create a system so that major emissions-producing countries, such as the United States and China could participate and contribute to global emissions reduction. Japan must contribute by urging America to increase these efforts. It must help to change the awareness of American citizens and generate understanding that there is indeed a need to share international responsibility, by reaching out to its U.S. counterparts, friends, and acquaintances at every level, including government, bureaucracy, industry, citizenry, and the press.

Tsutomu Yamaguchi, Chairman of the Board of Directors, Examination Center for Electrical Engineers, Japan, 214

I think that everyone is beginning to realize that there is something "odd" about the climate conditions of recent years. But it seems as though the general public is still limiting their view of global warming to somewhat of an "exercise" within environmental education. But I think that education becomes meaningful only when it leads to (or is led to) implementation and action. Japan, a country that is dependent on foreign countries for energy and food, perhaps lacks efforts in both explaining and understanding the intricate connections between global warming and economic, food, and population problems that affect the world, which in turn includes Japan.

Shuichi Takanashi, Atmospheric Protection Division, Environmental Life Department, Government of Chiba Prefecture, Japan, 216

Plant trees, and trap and fix carbon dioxide in the forests.

Akira Miyawaki, Director, IGES – Japanese Center for International Studies in Ecology, Japan, 242

While those of us currently “present” are concerned about environmental problems, we continue to benefit from the planet. We must give consideration in earnest to the circumstances resulting from environmental changes (deterioration) that will be a reality for the youth of the “future.” I hope that we will not leave the youth indebted, and living on a thin layer of ice.

*Michiyoshi Furuichi, Office of the President,
The Japan Atomic Power Company, Japan, 246*

Many products have appeared on the market since the start of the global economic downturn last year that claims to complement environmental measures. But these products, as well as policies, including the reduction of the highway toll, are senseless when evaluated as environmental measures. What is necessary now is a transformation in lifestyles towards one that can coexist with the environment. There is a limit to the purchase of updated products. There need to be a change from policies favoring industries to prioritizing consumers by creating systems so that consumers could participate in solving environmental problems. There are many things we need to accomplish in public works as well, such as the construction of lanes dedicated to bicycles.

Hajime Oshitani, Professor, Department of Regional Environmental Studies, Rakuno Gakuen University, Japan, 251

I sense a change in awareness appearing towards global warming prevention among industry as a whole. In particular, there is something eye-opening about the endeavors automobile manufacturers are undertaking to produce hybrid and electric vehicles instead of gasoline vehicles.

M, International Environmental Technology Center, United Nations Environment Programme, Japan, 258

This year, Tokyo experienced several days of summer heat in May, with high temperatures above 25 degrees Celsius. And with spring flowers blooming earlier in the year and habitats of organisms like insects moving further north, the effects of global warming are appearing in our backyards. I lament the shortening of spring and autumn, which are Japan’s best seasons.

Tomoaki Fujii, Deputy Director General, The Tokyo Foundation for Better Environment, Japan, 274

The explanation about the tremendous recent changes in the Earth’s temperatures in Al Gore’s “An Inconvenient Truth” was extremely memorable. Closer to home, whenever I speak to farmers and fishermen, I get a solid sense that things have vastly changed from the past. As global warming necessitates significant changes in both our individual lives and at work, I keenly hope that endeavors to grapple with this problem become strong and robust. In Saga Prefecture, the prefectural government hopes to develop a citizens’ movement by first utilizing energy conserving fluorescent lights, proactively engaging in the shift to hybrid cars for public vehicles, and taking other actions that serve as a pacemaker in this marathon.

Yasushi Furukawa, Governor, Saga Prefecture, Japan, 275

Environmental problems were brought about by the totality of human activity, as mankind pursued a convenient and pleasant way of life. As such, a significant feature of environmental problems is that everyone is both a perpetrator and a victim. For this very reason, I believe it is necessary for each of us as individuals to develop awareness, transform our way of thinking, and take on every measure immediately at our disposal. In order to contribute to global warming prevention on a regional basis, Kanagawa Prefecture made a “Cool Renaissance Declaration” in January of last year to call for “planetary restoration” starting in Kanagawa. In addition to undertaking projects to spread electric vehicles and solar power generation, we also urged people to switch from incandescent bulbs to energy efficient fluorescent bulbs as efforts that households can take on closer to home. Even under severe economic and societal conditions, I would like to bring together Kanagawa’s strengths like progressiveness and cooperativeness to further global warming prevention measures from this very region.

Shigefumi Matsuzawa, Governor, Kanagawa Prefecture, Japan, 289

When considering environmental problems from the standpoint of what each individual can tackle, the planting of trees, like energy problems, is an activity that is easy to take on. For this, it is important to publicize the relationship between trees and carbon dioxide in a way that is easy to understand.

Kazushi Yamada, Chief of Greenery Planning Section, Japan Greenery Research and Development Center, Japan, 299

I believe that the transformation of lifestyles, including environmental education, is essential. This is not a problem about being frugal; it is necessary to alter lifestyles in a way that is accompanied by a change in value systems. While I do think it is an extremely difficult problem, it is one that must be undertaken.

Hiroshi Maeda, Director General, Japan Greenery Research and Development Center, Japan, 301

Question 3. COP15 and the Post-2012 Framework

3.1. The Outlook for COP15

	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
	[324]	[42]	[60]	[70]	[122]	[46]	[28]	[23]	[35]	[7]	[433]	[757]	[496]	[196]	[65]
1. Developed countries will agree to a substantial emissions reduction in the post-2012 framework	2	17	13	9	20	26	43	26	11	29	19	12	6	25	18
2. A substantial reduction cannot be expected, but there will be agreement among developed countries	70	48	60	57	51	41	36	39	63	14	51	59	65	46	49
3. It will be difficult for developed countries to come to an agreement	24	26	17	29	25	30	14	30	23	43	25	24	24	25	28
4. Other	4	7	7	0	2	0	4	4	3	14	3	3	4	2	5
Unknown	1	2	3	6	2	2	4	0	0	0	3	2	2	2	0

3.2. The Breadth of Emissions Reduction by Developed Countries

	1. Under 10%	2. 10%	3. 20%	4. 30%	5. 40%	6. 50%	7. Above 51%	Unknown
	4	21	40	18	4	8	4	2
	0	14	24	26	5	10	19	2
	0	8	32	32	12	10	5	2
	6	9	29	23	4	16	11	3
	6	16	29	20	6	11	10	2
	4	2	24	37	13	7	11	2
	14	14	18	18	14	11	11	0
	4	9	22	43	9	4	9	0
	14	23	26	17	9	6	6	0
	14	29	14	29	0	0	14	0
	6	12	27	26	8	10	10	2
	5	16	32	22	6	9	7	2
	3	17	36	21	5	9	6	2
	7	12	26	24	9	10	10	2
	11	18	23	28	8	5	8	0

3.3. The Response of Developing Countries

	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
	[324]	[42]	[60]	[70]	[122]	[46]	[28]	[23]	[35]	[7]	[433]	[757]	[496]	[196]	[65]
1. All developing countries bear some emissions reduction obligation	18	45	23	26	19	28	32	35	23	14	26	22	22	23	26
2. Differentiate obligations between high emitting countries like China and India, and all other developing countries. Major developing countries should maintain emissions at current levels, while all other developing countries voluntarily establish their own goals	65	38	55	56	51	50	43	39	51	43	50	56	60	49	46
3. Both major and all other developing countries contribute through voluntary goals	15	14	17	13	16	13	11	22	17	14	15	15	15	15	18
4. Developed countries are responsible for the onset of global warming; developing countries should not bear reduction obligations	1	2	2	1	11	9	11	4	6	29	7	4	1	11	8
Unknown	2	0	3	4	2	0	4	0	3	0	2	2	2	2	2

3.4. Sectoral Approach against Global Warming

	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	
	[324]	[60]	[70]	[122]	[46]	[28]	[23]	[35]	[7]	[433]	[757]	[496]	[196]	[65]	
1. I am aware of this approach and understand it	68	21	15	21	11	9	7	13	29	14	15	38	51	10	22
2. I have heard of the approach, but am not aware of the contents	26	38	47	39	34	39	39	26	43	0	37	32	31	36	32
3. I have not heard of the approach	6	40	37	39	54	52	54	61	29	86	46	29	17	54	46
Unknown	0	0	2	1	1	0	0	0	0	0	1	1	1	1	0

3.5. Response to the Sectoral Approach

	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
	N= [324]	[42]	[60]	[70]	[122]	[46]	[28]	[23]	[35]	[7]	[433]	[757]	[496]	[196]	[65]
1. It is an effective approach; it should be applied	28	22	22	13	36	0	0	33	40	100	25	27	26	25	43
2. The approach is worth considering	56	56	78	73	57	100	50	0	40	0	60	57	58	65	29
3. It is not an effective approach	15	11	0	13	0	0	50	0	0	0	6	13	14	5	0
4. I do not know	0	11	0	0	0	0	0	33	20	0	6	1	0	0	21
Unknown	1	0	0	0	7	0	0	33	0	0	3	1	1	5	7

3.6. Expectations for the New U.S. Administration

	N= [220]	[9]	[9]	[15]	[14]	[4]	[2]	[3]	[10]	[1]	[67]	[287]	[253]	[20]	[14]
1. The U.S. will aggressively participate in the post-2012 framework and assume a leadership position	31	40	23	19	16	24	18	22	14	14	21	25	29	18	17
2. The U.S. will participate in the post-2012 framework to some degree	56	48	48	46	50	43	61	61	37	29	48	52	53	50	45
3. The U.S. will not immediately be an aggressive participant but will promise to do so in the near future	8	10	22	30	20	24	18	13	43	29	23	16	13	20	31
4. There will be no changes	2	2	3	3	11	9	4	0	6	14	6	4	2	10	5
5. Other	2	0	0	0	2	0	0	4	0	14	1	1	1	1	3
Unknown	1	0	3	3	2	0	0	0	0	0	1	1	1	1	0

3.7. The Effects of the Actions of the New U.S. Administration

	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
	[324]	[42]	[60]	[70]	[122]	[46]	[28]	[23]	[35]	[7]	[433]	[757]	[496]	[196]	[65]
1. Mid-term goals with aggressive objectives agreed upon among developed countries	19	10	7	29	17	17	11	13	14	29	16	17	18	16	15
2. Significant effect on participation of major developing countries like China and India in post-2012 framework	55	21	27	44	19	22	32	39	20	14	27	39	47	21	26
3. U.S. participation will lay the ground for developing countries to accept some reduction obligation	18	48	50	16	52	43	50	43	34	43	42	32	24	50	38
4. There will not be much of an effect	6	10	10	7	9	15	7	0	29	14	11	9	7	10	17
5. Other	2	7	3	0	1	0	0	4	0	0	2	2	2	1	2
Unknown	1	5	3	4	2	2	0	0	3	0	3	2	2	2	2

Question 4. Strategies to Suppress CO₂ Emissions

	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
	[324]	[42]	[60]	[70]	[122]	[46]	[28]	[23]	[35]	[7]	[433]	[757]	[496]	[196]	[65]
1. Dedicate concerted efforts to shifting energy supply to renewable sources, like wind, solar, geothermal, and bio energy	45	26	30	34	48	46	43	57	29	14	39	41	40	46	37
2. Instead of focusing on energy supply, improve energy efficiency, thus suppressing energy demand	35	31	33	49	25	20	14	35	37	43	31	33	37	22	37
3. Dedicate efforts to absorb and capture CO ₂ and suppress its emission into the atmosphere, including planting, preventing deforestation and forest deterioration, carbon capture and storage	10	7	5	6	22	17	25	0	23	14	14	13	9	21	14
4. Other	8	31	25	1	2	7	14	9	9	29	11	9	11	5	11
Unknown	2	5	7	10	2	11	4	0	3	0	5	4	4	5	2

Question 5. Awareness and Actions Concerning the Prevention of Global Warming

5.1. Awareness and Actions Towards the Prevention of Global Warming

	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
	N= [324]	[42]	[60]	[70]	[122]	[46]	[28]	[23]	[35]	[7]	[433]	[757]	[496]	[196]	[65]
1. My day-to-day actions are consistently based on awareness of global warming prevention	32	45	37	26	20	39	29	43	34	43	31	32	33	26	38
2. I maintain some degree of awareness on a daily basis, and some of my actions support global warming prevention	61	50	58	57	62	57	64	57	37	57	57	59	59	61	46
3. My current actions do not reflect awareness, but I plan to be more aware and change some of my future behavior	4	2	0	14	15	4	4	0	20	0	9	7	5	11	11
4. My actions do not reflect awareness, and I have no plans to change my behavior	1	2	2	0	2	0	4	0	9	0	2	2	1	2	5
Unknown	1	0	3	3	1	0	0	0	0	0	1	1	1	1	0

5.2. Actual Endeavors Towards the Prevention of Global Warming as an Individual

	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
	[324]	[42]	[60]	[70]	[122]	[46]	[28]	[23]	[35]	[7]	[433]	[757]	[496]	[196]	[65]
Switched incandescent lights to fluorescent lights	70	88	72	69	74	78	71	52	51	86	72	71	72	74	55
Planned	15	5	13	17	16	17	21	26	31	14	17	16	14	17	28
Unknown	15	7	15	14	10	4	7	22	17	0	11	13	14	8	17
Implemented	8	5	17	6	20	13	7	22	3	14	13	11	8	17	11
Planned	33	31	40	53	39	59	68	43	63	71	47	41	37	47	57
Unknown	59	64	43	41	41	28	25	35	34	14	40	48	55	36	32
Implemented	11	26	7	4	7	9	4	9	14	0	9	10	11	7	11
Planned	40	38	43	60	39	59	50	35	51	86	47	44	43	45	49
Unknown	49	36	50	36	53	33	46	57	34	14	44	46	46	47	40
Implemented	81	69	70	79	72	50	43	70	74	71	68	74	78	63	72
Planned	8	7	12	17	12	24	29	13	14	29	15	12	9	17	15
Unknown	11	24	18	4	16	26	29	17	11	0	16	14	12	20	12
Implemented	42	55	55	34	25	30	25	39	60	71	38	40	44	26	54
Planned	18	19	22	41	33	26	32	35	26	29	30	25	22	31	29
Unknown	40	26	23	24	43	43	43	26	14	0	32	35	35	43	17
Implemented	33	52	47	41	41	54	50	65	66	86	49	42	37	45	68
Planned	39	29	25	34	31	24	25	13	23	14	27	32	36	29	18
Unknown	28	19	28	24	28	22	25	22	11	0	24	26	27	26	14
Implemented	13	38	20	3	6	20	18	17	17	14	14	14	15	11	17
Planned	2	0	0	3	4	2	4	0	3	0	2	2	2	4	2
Unknown	85	62	80	94	90	78	79	83	80	86	83	84	84	86	82

Respondent Affiliations

Employment

	Japan	U.S.A & Canada	Western Europe	Asian Four	Rest of Asia	Latin America	Africa	Oceania	E.U. & former Soviet Union	Middle East	Overseas Total	Total	Developed Regions	Developing Regions	Others
	N= [324]	[42]	[60]	[70]	[122]	[46]	[28]	[23]	[35]	[7]	[433]	[757]	[496]	[196]	[65]
1. Central Government	4	10	18	7	9	17	21	22	20	43	14	10	7	13	23
2. Regional/Municipal Government	20	0	0	9	2	0	4	9	0	0	3	10	14	2	3
3. University/Research Institution	15	17	18	20	24	33	11	17	54	14	24	20	17	24	37
4. Nongovernmental Organization	17	17	20	53	41	26	36	4	20	14	32	25	23	37	14
5. Corporation	25	14	22	4	17	4	11	13	0	0	12	17	21	13	5
6. Other	12	40	20	4	3	17	18	35	6	29	14	13	14	9	18
7. Media	4	0	0	0	0	0	0	0	0	0	0	2	3	0	0
Unknown	2	2	2	3	3	2	0	0	0	0	2	2	2	3	0

Sex

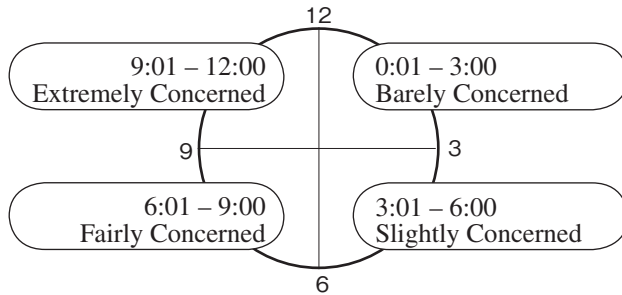
	1. Male	2. Female	Unknown
	90	9	1
	83	14	2
	83	15	2
	70	27	3
	73	21	6
	70	30	0
	82	14	4
	65	35	0
	77	23	0
	86	14	0
	75	22	3
	82	16	2
	86	13	1
	73	22	4
	74	26	0

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 survival 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 select up to three (3) of the following items of concern.

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

YOUR SELECTION () () ()

2. Progress Toward Agenda 21

Seventeen 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 selecting the rating from (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. COP15 and the Post-2012 Framework

3-1. The Outlook for COP 15

During the summit of major industrialized countries last year, delegates agreed to “achieve at least 50% reduction of global emission by 2050.” Further, the Bali Action Plan was reconfirmed at the COP14 meeting. What type of agreement do you expect to result from the COP15 meeting this year? Please select one item from the following list that best reflects your opinion.

1. Developed countries will come to an agreement towards a substantial emissions reduction with respect to the post-2012 framework.
2. Progress towards a substantial reduction cannot be expected, but there will be an agreement among developed countries.
3. It will be difficult for developed countries to come to an agreement towards emissions reduction.
4. Other : _____

YOUR SELECTION ()

3-2. The Breadth of Emissions Reduction by Developed Countries

COP15 will focus on achieving an agreement based on the Bali Action Plan. What is the percentage at which you think emissions reduction by 2020 should be established for developed countries as a whole? Please select one item from the following list that best reflects your opinion.

1. Under 10%
2. 10 %
3. 20%
4. 30%
5. 40%
6. 50%
7. Above 51%

YOUR SELECTION ()

3-3. The Response of Developing Countries

In order to achieve the long-term stabilization scenario for atmospheric CO₂ as under 450 parts per million. this scenario, it is understood that appropriate reduction efforts will be needed from developing nations in addition to emissions reduction by developed countries. In your opinion, what is the desired agreement at COP15 with respect to the role of developing countries? Please select one item from the following list that best reflects your opinion.

1. All developing countries should bear some amount of emissions reduction obligation.
2. There should be a differentiation in the obligations between high emitting major developing countries like China and India, and all other developing countries. Major developing countries should bear the responsibility of maintaining emissions levels at around current levels, whereas all other developing countries voluntarily establish their own goals to contribute to the suppression of emissions.
3. Both major developing countries and all other developing countries contribute to suppressing emissions through voluntary goals.
4. Developed countries bear the responsibility for the onset of global warming; thus, developing countries should not bear reduction obligations for the foreseeable future.

YOUR SELECTION ()

3-4. Sectoral Approach against Global Warming

Among the various methods to determine a country's emissions volume, there is an approach proposed by Japan which is called Sectoral Approach. Are you aware of this approach? Please select one item from the following list that best reflects your opinion.

1. I am aware of this approach and understand its contents.
2. I have heard of the approach, but am not aware of the contents.
3. I have not heard of the approach.

YOUR SELECTION ()

3-5. Response to the Sectoral Approach

Please answer this question if you selected 1. "I am aware of this approach and understand its contents" in the previous question. What do you think of the sectoral approach? Please select one item from the following list that best reflects your opinion.

1. It is an effective approach and it should be applied.
2. The approach is worth considering.
3. It is not an effective approach.
4. I do not know.

YOUR SELECTION ()

3-6. Expectations for the New U.S. Administration

With the inauguration of the new administration, it is hoped that the United States will adopt a more aggressive stance in undertaking the problems of global warming. What is your perspective on the actions of the United States in the days ahead? Please select one item from the following list that best reflects your opinion.

1. The United States will aggressively participate in the post-2012 framework and set the pace by assuming a leadership position.
2. The United States will participate in the post-2012 framework to some degree.
3. The United States will not immediately be an aggressive participant, but will promise to do so in the near future.
4. There will be no changes from the past.
5. Other : _____

YOUR SELECTION ()

3-7. The Effects of the Actions of the New U.S. Administration

What do you think will be the effects of the new U.S. administration if it were to participate in the post-2012 framework? Please select one item from the following list that best reflects your opinion.

1. Mid-term goals incorporating aggressive reduction objectives will be agreed upon among developed countries.
2. There will be a significant effect on the participation of major developing countries like China and India in the post-2012 framework.
3. U.S. participation will lay the ground for developing countries to accept some level of reduction obligation.
4. There will not be much of an effect.
5. Other : _____

YOUR SELECTION ()

4. Strategies to Suppress CO2 emission

In order to contain the temperature rise within 2 degrees Celsius of current levels, it is necessary to lower the emissions of CO2 before 2020. It may be difficult to depend on nuclear power which takes 10 to 30 years from planning to operation to suppress CO2 emission considering the time frame. When considering these circumstances, what do you think would comprise an effective strategy to suppress CO2 emissions? Please select one item from the following list that best reflects your opinion.

1. Dedicate concerted efforts to shifting the supply of energy to renewable sources, such as wind energy, solar power, geothermal energy, and bio energy.
2. Rather than focusing on the energy supply, dedicate efforts to improving energy efficiency and thus suppressing demand for energy .
3. Dedicate efforts towards measures for absorbing and capturing carbon dioxide and thereby suppressing its emission into the atmosphere, including planting, prevention of deforestation and forest deterioration, carbon capture and storageincluding underground carbon sequestration.
4. Other : _____

YOUR SELECTION ()

5. Awareness and Actions Concerning the Prevention of Global Warming

5-1. Awareness and Actions Towards the Prevention of Global Warming

Are your day-to-day actions and behavior based on an awareness of global warming prevention? Please select one item that applies to your situation.

- 1. My day-to-day actions and behavior are consistently based on an awareness of global warming prevention.
- 2. I maintain some degree of awareness on a day-to-day basis, and some of my actions support global warming prevention.
- 3. My current actions do not reflect awareness, but I plan to be more aware and change some of my future behavior.
- 4. My day-to-day actions do not reflect awareness, and I have no plans to change my behavior.

YOUR SELECTION ()

5-2. Actual Endeavors Towards the Prevention of Global Warming as an Individual

Which of the following actions have you implemented or do you plan to implement in the future from the standpoint of an individual concerned with the prevention of global warming? Please mark each item which best reflects your action in the appropriate column.

Action Item

- 1. Switched incandescent lights to fluorescent lights in the house.
IMPLEMENTED () PLANNED ()
- 2. Installed solar panels at the house or other equipment to utilize solar power.
IMPLEMENTED () PLANNED ()
- 3. Replaced the conventional automobile(s) with fuel efficient hybrid or electric vehicle(s)
IMPLEMENTED () PLANNED ()
- 4. Reduced the usage of cars as much as possible, and remain careful to take public transportation like buses and trains.
IMPLEMENTED () PLANNED ()
- 5. Implemented measures to increase insulation of the home.
IMPLEMENTED () PLANNED ()
- 6. Replaced older refrigerators and heating/cooling systems with latest and high efficiency versions
IMPLEMENTED () PLANNED ()
- 7. Other : ()
IMPLEMENTED () PLANNED ()

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

**Results of the 18th Annual
“Questionnaire on Environmental Problems and the Survival of Humankind”**

REPORT

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