



**Results of the 24th Annual
“Questionnaire on Environmental Problems and the Survival of Humankind”**

Report

THE ASAHI GLASS FOUNDATION

September 2015

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Foreword

This report summarizes the results of the 2015 Questionnaire on Environmental Problems and the Survival of Humankind, a survey conducted annually by the Asahi Glass Foundation since 1992. As in previous years, the Asahi Glass Foundation wishes to continue communicating the current thoughts and opinions of environmental experts around the world on the state of the global environment to as many people as possible.

Owing to the collaboration of our participants around the world, we received 2,081 responses to the questionnaire this year, surpassing 2,000 responses for the second year in a row. We would like to extend our heartfelt gratitude to be in a position to report the results of an environmental questionnaire that covers most regions of the globe.

Beginning this year, we have added a new category within the Repeat Topics section. It analyzes and reports on the relationship that the age group to which the respondent belongs has with the movements of the Environmental Doomsday Clock. We will strive to produce meaningful results in examining the reasons behind the changes in the Environmental Doomsday Clock each year.

As in previous reports, we have continued the bubble graphs charting the correlation between the “Environmental Condition of Concern” and the Environmental Doomsday Clock by region and the yearly changes.

And like last year, we have made available the comments the respondents have left on the Foundation’s web site. As such, please visit the Asahi Glass Foundation online at <http://www.af-info.or/questionnaire/result.html> for the responses to Question 2-2-3, Question 3 (Additional Comments).

At the Foundation, we sincerely hope that we can contribute to the resolution of environmental problems using this questionnaire to raising environmental interest among as many people as possible, not limited to environmental experts.

Once again, we extend our deepest gratitude to the respondents for taking the time to share their valuable opinions and experience through the survey. In closing, we appeal to readers of this report for advice on how to enhance the survey in the coming years.

The Asahi Glass Foundation
September 2015

I. Facts about the 24th Annual “Questionnaire on Environmental Problems and the Survival of Humankind”

Response period: Questionnaires were sent out in April 2015 with a return deadline of June 2015.

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

Questionnaires mailed: 25,306 (24,070 to overseas and 1,236 within Japan)

Questionnaires returned: 2,081

Response rate: 8.2%

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

Region	Number of responses	Percent of total
Oceania	88	4.2
United States & Canada	238	11.4
Central America, Caribbean countries	51	2.5
South America	115	5.5
Western Europe	242	11.6
Africa	132	6.3
Middle East	41	2.0
Eastern Europe & former Soviet Union	58	2.8
Asia	1116	53.6
Total (Including three area unknown responses)	2081	100.0

Gender	Number of responses	Percent of total
Male	1483	71.3
Female	589	28.3
No response	9	0.4
Total	2081	100.0

Occupational Affiliation	Number of responses	Percent of total
National government, Local government	241	11.6
University or research institution	734	35.3
Nongovernmental organization	467	22.4
Corporation	298	14.3
Mass Media	39	1.9
Others	296	14.2
No response	6	0.3
Total	2081	100.0

*1 Unless otherwise noted, the questionnaire calculated as 100% the total number of responses received for questions where respondents were only asked to choose one item. For questions with multiple selections, the questionnaire calculated the percentages based on the number of times a valid response was given.

*2 Figures have been rounded to the first or second decimal places.

*3 Each question was calculated based on the number of responses to that question and not the number of questionnaires that were returned.

II. Summary of Questionnaire Results

1. Awareness of the Crisis Facing Human Survival —The Environmental Doomsday Clock

- The average time on the Environmental Doomsday Clock for all the world was 9:27, an advancement of 4 minutes from last year.
- Overall, “climate change” continued to be the most frequently selected environmental condition of concern in determining the time on the Environmental Doomsday Clock. This was followed by “pollution/contamination,” “water resources,” “biodiversity,” and “land use.”
- Overall, when arranging the top-ranked environmental conditions of concern in descending order of severity on the Environmental Doomsday Clock, “biodiversity” and “population” have the most advanced time of 9:36. These were followed by “pollution/contamination,” then “lifestyles” and “environment and economy” at the same time on the Environmental Doomsday Clock.

2. Shifts in the Environmental Doomsday Clock Based on Respondent Age (new Repeat Topics category starting this year)

We analyzed the shifts in the time on the Environmental Doomsday Clock from 2011 to 2015 as marked by respondents around the world, with a particular focus on the age of the respondents.

- The older the respondents, the more they tend to report more advanced times on the Environmental Doomsday Clock.
- The analysis revealed that a large part of the shifts in time on the Environmental Doomsday Clock from 2011 to 2015 was attributed to respondents under the age of 60.

III. Questionnaire Results

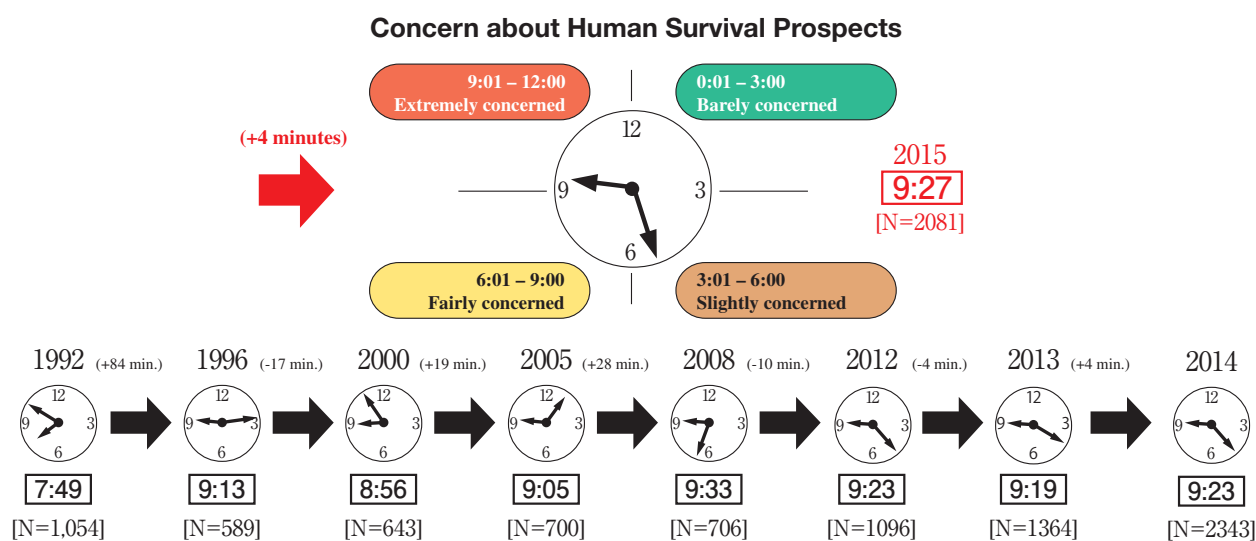
1. AWARENESS OF THE CRISIS FACING HUMAN SURVIVAL (QUESTION 1)

In Table 1, environmental issues to be taken into account are shown. Keeping in mind the problems that the environment faces at a global level, please select the three most pressing issues for the country or the region where you reside. Then, please rank them in the order of importance. Lastly, for each item, select a time using hours and minutes between 0:10 to 12:00, to indicate the level of crisis for that issue.

About the calculation of the time on the Environmental Doomsday Clock

The time on the Environmental Doomsday Clock will be determined by taking the weighted average of the data. The issue ranked in first place will be weighted at 50%, second place at 30%, and third place at 20%.

A-1. The Environmental Doomsday Clock



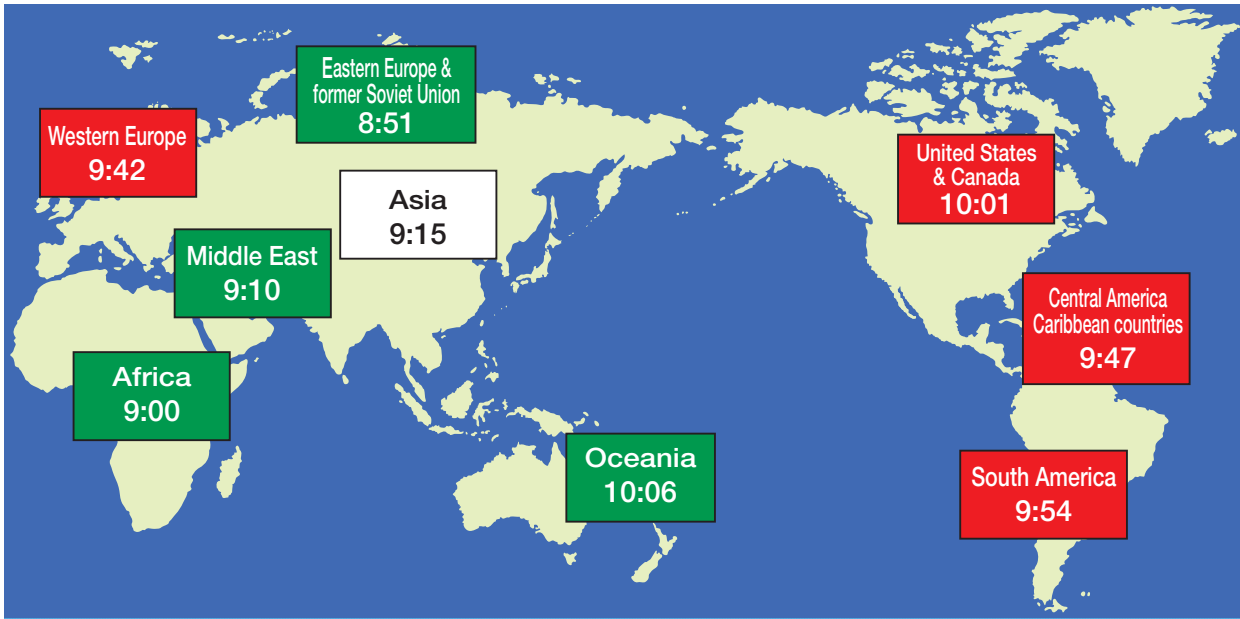
	Changes in time from year to year			Changes in average time by region	
	'05	'14	'15	'05 → '15	'14 → '15
Total	9:05	9:23	9:27	+22	+4
Oceania	9:18	10:08	10:06	+48	-2
United States & Canada	8:54	9:55	10:01	+67	+6
Central America, Caribbean countries	9:08*	9:12	9:47	+39	+35
South America		9:23	9:54	+46	+31
Western Europe	8:43	9:33	9:42	+59	+9
Africa	9:03	9:09	9:00	-3	-9
Middle East	9:18	9:21	9:10	-8	-11
Eastern Europe & former Soviet Union	8:26	8:59	8:51	+25	-8
Asia	9:15	9:15	9:15	±0	±0

(Red indicates the advancement in time from last year; green indicates a reversal)

*Central America, Caribbean countries and South America are comparisons with Latin America

- The average time on the Environmental Doomsday Clock for all respondents was 9:27, an advancement of 4 minutes from last year's time of 9:23.

Regional Times

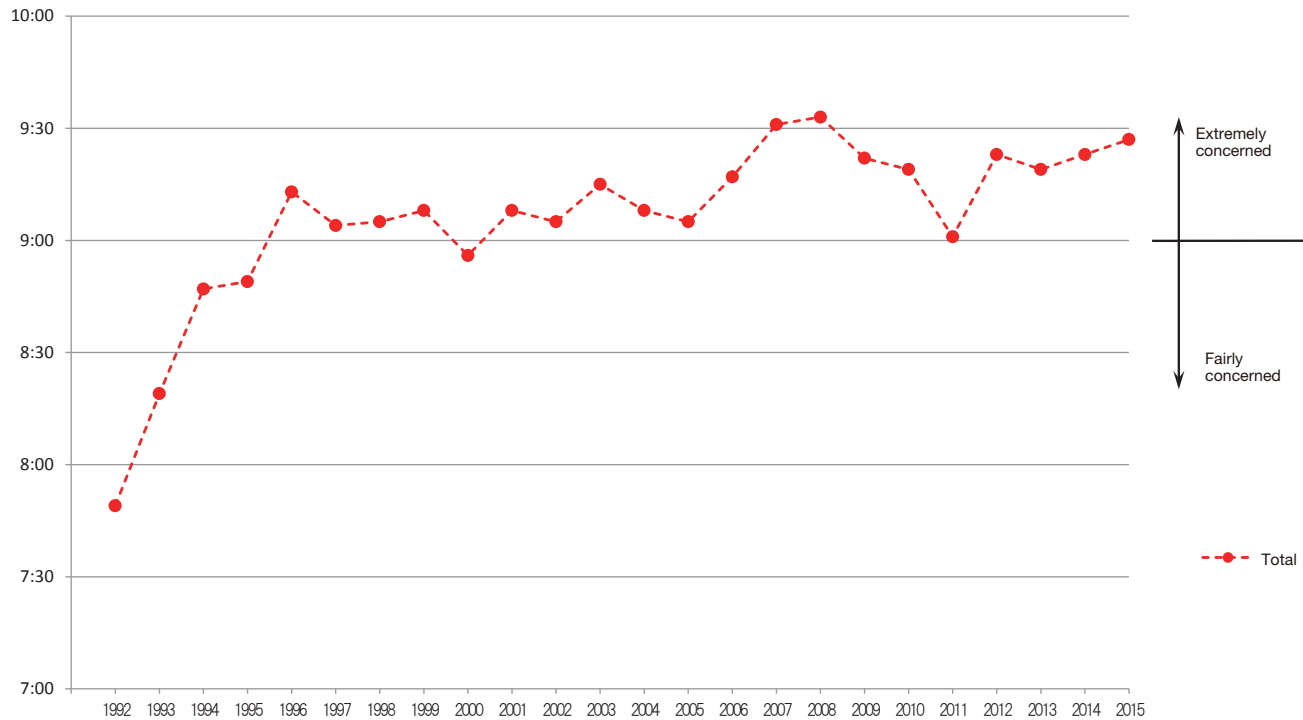


■ represents regions/countries where the time advanced from last year
■ represents regions/countries where the time retreated from last year
 represents regions/countries where the time remained the same
 *Central America, Caribbean countries and South America are comparisons with Latin America

Changes in the Environmental Doomsday Clock (Overall)

1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
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	9:19	9:01	9:23	9:19	9:23	9:27

Since the inception of the survey, ■ represents the lowest sense of crisis, while ■ represents the highest.



A-2. Shifts in the Environmental Doomsday Clock Based on Respondent Age (2011 - 2015)

- The older the respondents were, the more they tended to report more advanced times on the Environmental Doomsday Clock.
- The analysis revealed that a large part of the shifts in time on the Environmental Doomsday Clock from 2011 to 2015 was attributed to respondents under the age of 60. (See chart and graph below.).

A-2-1. Shifts in the Environmental Doomsday Clock By Generation

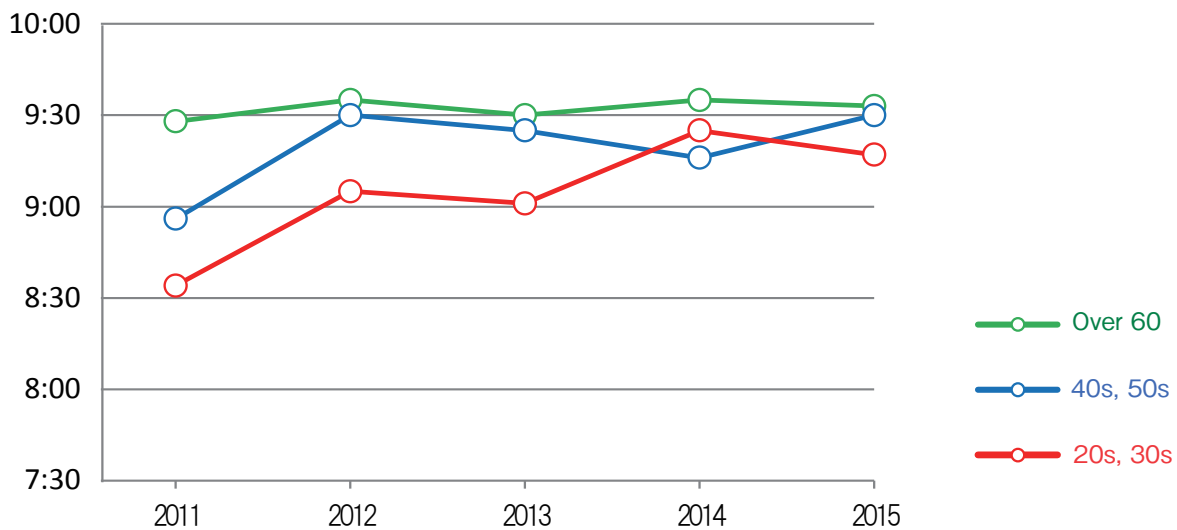
- Shifts in time on the Environmental Doomsday Clock for respondents over the age of 60 were relatively stable and were within the range of 9:28 to 9:35.
- For respondents between the ages of 40 and 60, the Environmental Doomsday Clock advanced from 8:56 in 2011 to 9:30 one year later, but the times have remained relatively stable since then.
- For respondents between the ages of 20 and 40, the Environmental Doomsday Clock has tended to advance each year, moving from 8:34 in 2011 to 9:17 this year.

The Effects of Each Generation on the Environmental Doomsday Clock

- The 22-minute advancement of the Environmental Doomsday Clock from 9:01 in 2011 to 9:23 the following year can be largely attributed to respondents under the age of 60.
- The Environmental Doomsday Clock advanced 4 minutes from 9:19 in 2013 to 9:23 the following year. This movement can be attributed mostly to respondents between the ages of 20 and 40.
- The Environmental Doomsday Clock advanced 4 minutes from 9:23 in 2014 to 9:27 this year. This movement can be attributed entirely to respondents between the ages of 40 and 60.

Shifts in the Environmental Doomsday Clock by Generation

	2011	2012	2013	2014	2015
Average Time	9:01	9:23	9:19	9:23	9:27
Over 60	9:28	9:35	9:30	9:35	9:33
40s, 50s	8:56	9:30	9:25	9:16	9:30
20s, 30s	8:34	9:05	9:01	9:25	9:17



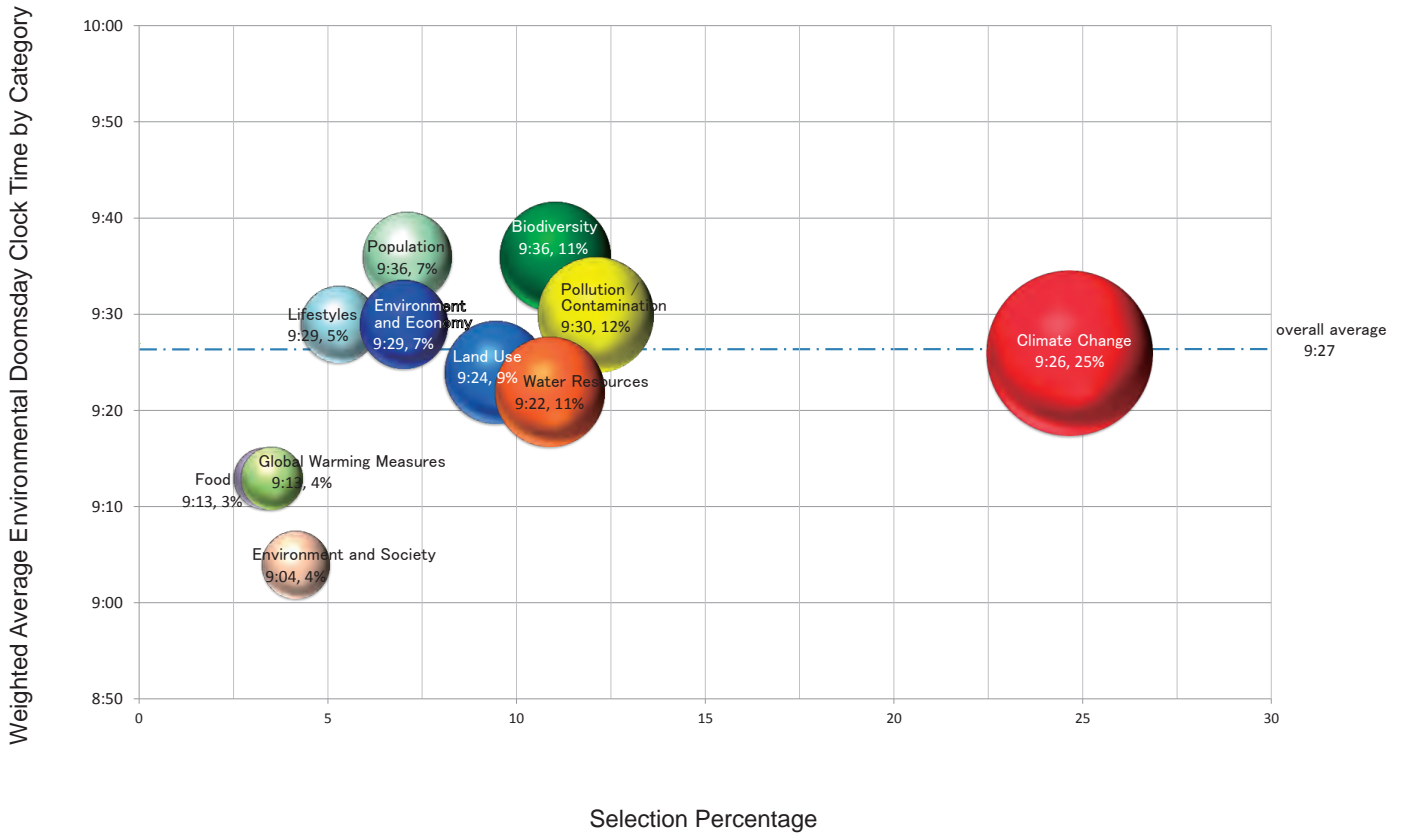
B. Environmental Conditions of Concern

Category	Main Elements
1. Climate Change	Atmospheric concentration of CO₂ ; global warming ; ocean acidification ; climatic aberrations (droughts, torrential rains and flooding, severe storms, heavy snow, abnormal temperatures, drying of rivers and lakes, desertification, etc.)
2. Biodiversity	Acceleration of species extinction rate ; effects of contamination, climate change, land use
3. Land Use	Expansion of cultivated land mass; destruction of forests due to excessive development; desertification caused by overgrazing; agriculture and land use without regard for the environment; urbanization
4. Pollution /Contamination	River and ocean pollution : eutrophication caused by excessive nitrogen and phosphorus and contamination by chemical substances; atmospheric pollution : particulates suspended in the atmosphere, soot and chemical substances
5. Water Resources	Diminution of usable fresh water resources (depletion, contamination)
6. Population	Population growth beyond what the Earth can support; aging of the population
7. Food	Diminution of food supply from land and oceans
8. Lifestyles	Transformation of lifestyles away from excessive consumption of resources like energy
9. Global Warming Measures	Progress of measures for mitigation and adaption
10. Environment and Economy	<u>Progress towards implementing an economic system to reflect environmental costs, the bearing of social costs: imposition of taxes for fossil fuels that emit CO₂, which causes global warming-related damages; TEEB (The Economics of Ecosystems and Biodiversity), etc.</u> <u>The operation of an environmentally conscious economy:</u> the realization of a green economy , sustainable economic development , etc.
11. Environment and Society	Environmental awareness at the individual and societal levels, progress of environmental education ; poverty , governance ; the status of women
12. Other	()

Terms in **blue** are categories listed in “Planetary Boundaries” (Johan Rockstrom, et al.,: Ecology and Society 14 (2):32, 2009); those in **green** are the major categories of SDG(Sustainable Development Goals of United Nations).

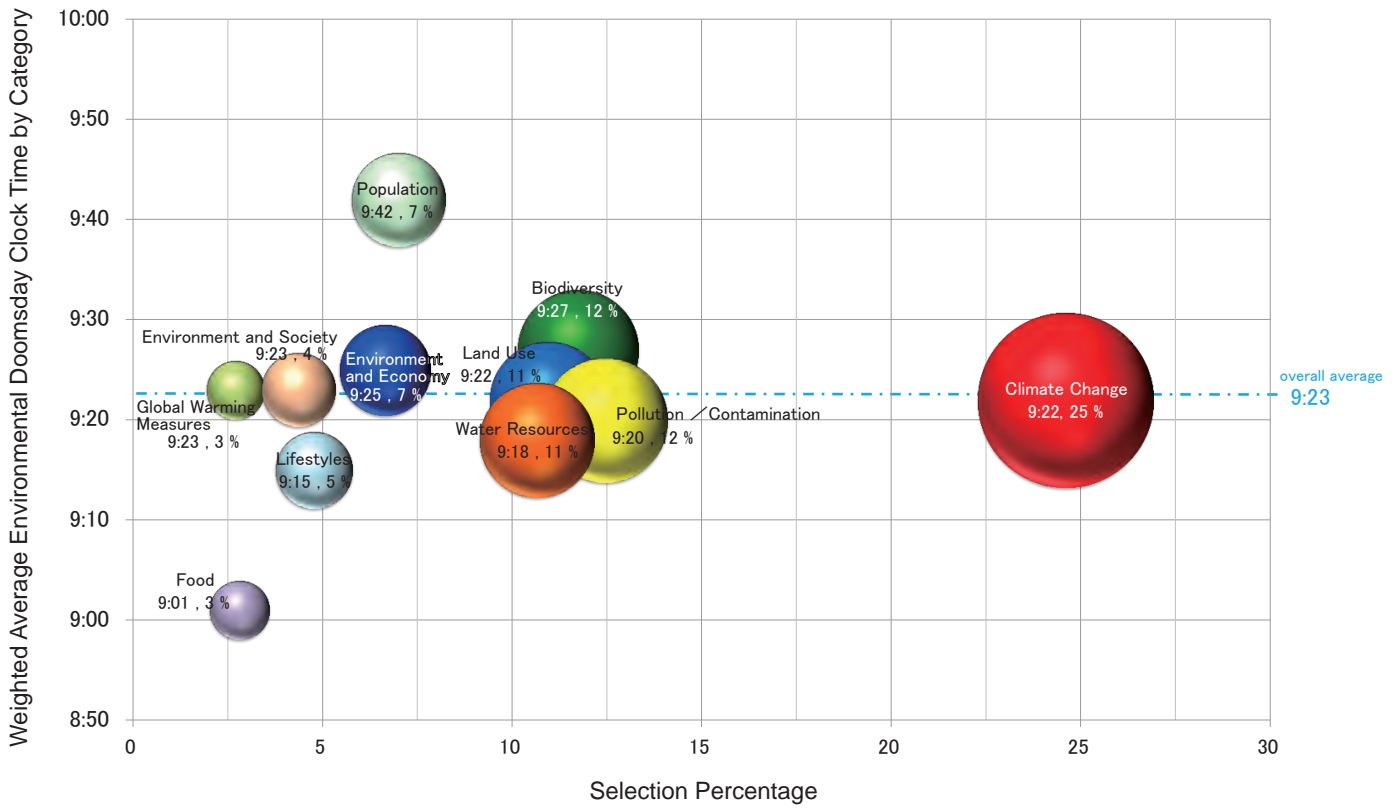
1. Overall Analysis of the Environmental Conditions of Concern (Categories Ranked 1 - 3)

Graph 1. Overall (2015)

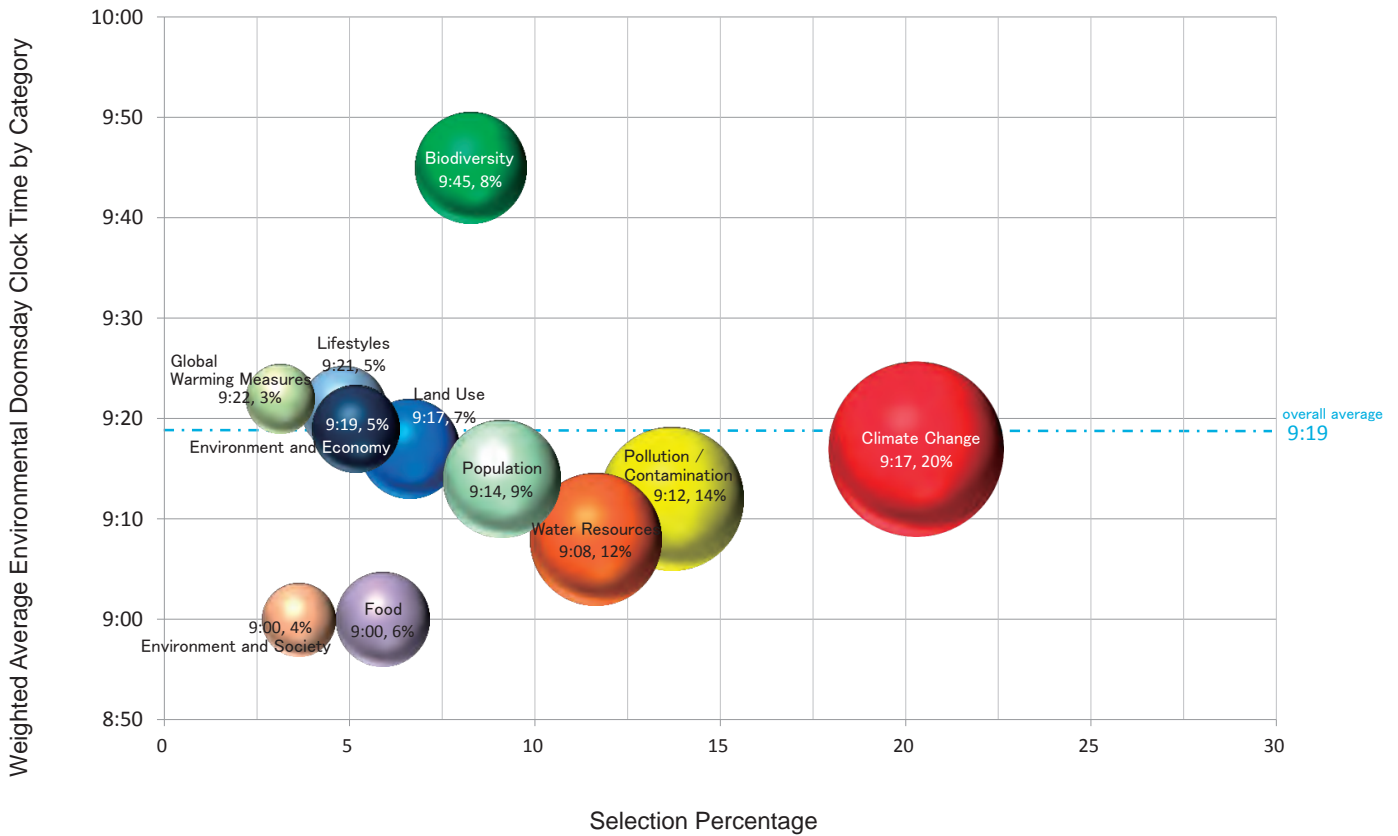


- In organizing the environmental conditions of concern by the frequency in which respondents selected them in descending order, climate change was, similar to last year, the highest at 25%. This was followed by pollution/contamination at 12%, biodiversity at 11%, water resources at 11%, and land use at 9%.
- Of the conditions of concern, respondents expressed the most heightened sense of crisis for biodiversity and population, which had a time of 9:36 on the Environmental Doomsday Clock. Times for the other categories ranged between 9:04 and 9:30.

Graph 2. Reference (2014)

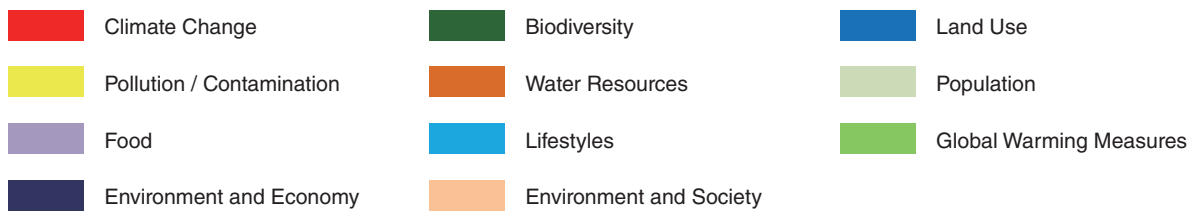
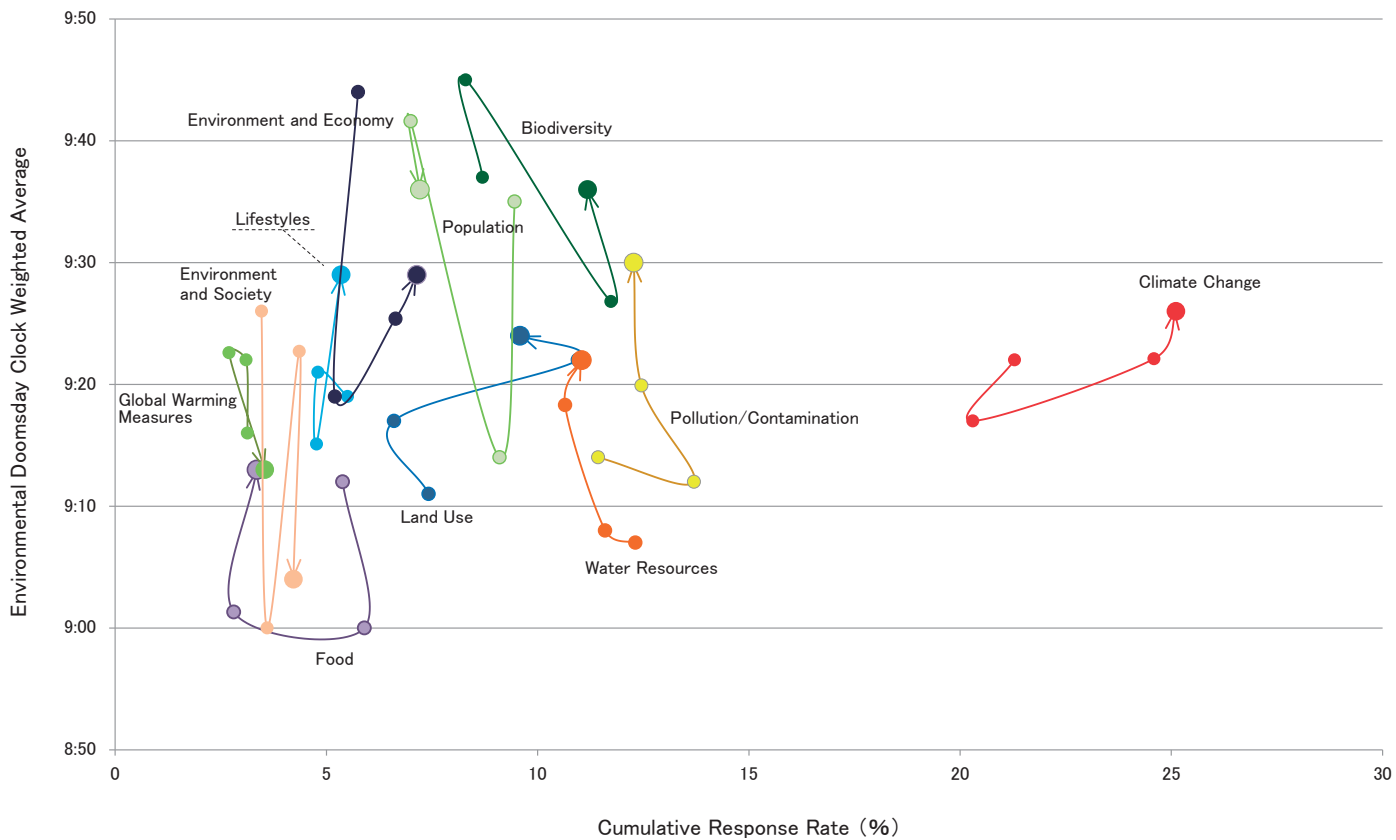


Graph 3. Reference (2013)



2. Distribution of the Environmental Conditions of Concern (2012 - 2015)

Graph 4.



3. Selection Patterns for Environmental Conditions of Concern By Region

	1.Climate Change	2.Biodiversity	3.Land use	4.Pollution/Contamination	5.Water resources	6.Population	7.Food	8.Lifestyle	9.Global warming measures	10.Environment and economy	11.Environment and Society
Total	25%	11%	9%	12%	11%	7%	3%	5%	4%	7%	4%
Oceania	28%	18%	8%	6%	8%	10%	0%	3%	3%	8%	4%
Australia	31%	19%	9%	4%	8%	11%	0%	2%	3%	6%	4%
Oceania (except Australia)	18%	18%	7%	11%	10%	6%	2%	4%	1%	15%	2%
United States & Canada	33%	11%	8%	6%	11%	10%	1%	5%	2%	7%	4%
USA	33%	11%	8%	6%	11%	11%	1%	5%	3%	6%	4%
Canada	32%	13%	9%	7%	9%	8%	1%	4%	2%	11%	3%
Central America, Caribbean countries	21%	11%	12%	8%	18%	5%	3%	6%	3%	7%	3%
South America	17%	18%	23%	8%	12%	3%	2%	5%	1%	7%	3%
Western Europe	23%	16%	13%	8%	7%	8%	1%	10%	2%	8%	3%
UK	26%	14%	12%	6%	5%	8%	1%	11%	2%	11%	4%
Western Europe (except UK)	22%	17%	13%	9%	8%	8%	1%	9%	2%	8%	3%
Africa	23%	16%	18%	6%	13%	7%	5%	3%	1%	3%	5%
Middle East	16%	10%	13%	10%	30%	5%	2%	2%	3%	6%	2%
Eastern Europe & former Soviet Union	16%	14%	13%	11%	13%	4%	2%	5%	1%	11%	7%
Asia	25%	8%	6%	16%	10%	7%	5%	5%	5%	7%	4%
India	17%	15%	9%	15%	18%	17%	1%	2%	1%	2%	3%
China	15%	4%	5%	29%	14%	5%	6%	4%	5%	9%	3%
Taiwan	27%	3%	12%	22%	13%	2%	3%	3%	3%	5%	7%
Republic of Korea	32%	9%	2%	16%	5%	3%	2%	20%	1%	6%	3%
Japan	32%	9%	5%	8%	6%	8%	6%	6%	7%	7%	5%
Asia*	25%	16%	12%	10%	13%	9%	2%	1%	3%	4%	4%

■ represents the most frequently selected item in the region/country, ■ represents the second most frequently selected item in the region/country

*With the exception of India, China, Taiwan, Korea, and Japan

- Overall, climate change was the most frequently selected environmental condition of concern, at 25%. This was followed by pollution/contamination (12%), biodiversity (11%), and water resources (11%).
- Whereas respondents in most regions most frequently selected climate change, there were some regional differences. The most frequently selected item among respondents in China was pollution/contamination, whereas it was land use in South America, water resources in India and the Middle East, and biodiversity in Oceania (excluding Australia).
- In many regions, biodiversity was the second most frequently selected environmental condition of concern.

4. Regional Distribution of the Environmental Doomsday Clock Time for Environmental Conditions of Concern

	Total	1.Climate Change	2.Biodiversity	3.Land use	4.Pollution/Contamination	5.Water resources	6.Population	7.Food	8.Lifestyle	9.Global warming measures	10.Environment and economy	11.Environment and Society
Total	9:27	9:26	9:36	9:24	9:30	9:22	9:36	9:13	9:29	9:13	9:29	9:04
Oceania	10:06	10:13	10:19	9:30	10:47	9:55	10:22	-	10:21	-	9:58	8:31
Australia	10:01	10:17	10:26	9:13	10:35	9:43	10:18	-	10:04	-	10:14	8:20
Oceania (except Australia)	10:22	10:11	10:09	10:41	10:56	10:38	-	-	-	-	10:27	-
United States & Canada	10:01	10:09	9:59	9:43	10:03	9:42	10:13	8:48	9:50	9:59	9:56	9:21
USA	10:02	10:07	10:03	9:46	10:02	9:45	10:11	8:53	9:49	9:55	9:49	9:24
Canada	9:54	10:11	9:42	9:48	10:04	9:12	10:34	-	10:17	-	10:26	-
Central America, Caribbean countries	9:47	10:03	10:14	9:23	8:59	9:45	9:47	-	10:10	-	9:31	9:19
South America	9:54	9:38	9:59	10:02	9:05	10:16	10:25	10:38	10:01	-	10:06	10:38
Western Europe	9:42	9:44	9:42	9:28	9:10	9:38	10:07	-	9:51	10:11	9:32	9:33
UK	9:49	9:37	10:06	9:35	8:46	8:53	10:26	-	9:58	10:13	9:51	-
Western Europe (except UK)	9:39	9:49	9:36	9:24	9:14	9:43	10:01	-	9:49	10:10	9:20	9:34
Africa	9:00	8:29	9:32	9:00	8:38	8:33	8:38	9:45	9:55	-	10:32	9:37
Middle East	9:10	8:47	9:07	9:43	8:17	9:42	10:10	-	-	8:51	-	10:18
Eastern Europe & former Soviet Union	8:51	9:01	8:56	9:04	8:46	8:15	-	-	7:42	-	8:59	8:43
Asia	9:15	9:13	9:16	9:14	9:32	9:14	9:16	9:07	9:16	9:03	9:15	8:54
India	9:22	8:35	8:53	9:29	9:53	9:14	9:49	-	-	-	-	9:33
China	9:29	9:14	8:46	9:27	9:53	9:32	9:12	9:13	9:00	9:00	9:32	9:33
Taiwan	8:29	8:39	9:56	8:39	8:50	8:25	8:32	-	8:41	-	8:07	8:01
Republic of Korea	9:19	9:26	9:47	-	9:05	7:51	-	-	9:23	-	9:46	-
Japan	9:09	9:16	9:23	8:59	9:05	8:46	9:11	8:58	9:28	9:03	9:00	8:45
Asia*	9:30	9:37	9:26	9:36	9:16	9:35	9:28	11:09	-	-	9:08	9:43

■ indicates the 11 o'clock hour, ■ indicates the 10 o'clock hour, ■ indicates the 8 o'clock hour, and ■ the 8 o'clock hour

*With the exception of India, China, Taiwan, Korea, and Japan

- Overall, respondents indicated the highest sense of crisis for biodiversity and population at 9:36. This was followed by pollution/contamination at 9:30, then lifestyle, and environment and economy at 9:29. With the exception of environment and society, which was at 9:04, all categories fell within a relatively narrow range between 9:13 and 9:36.

Regions and Countries Expressing a High Degree of Crisis

	Regions Indicating an Environmental Doomsday Clock Time Past 10 O'clock
1. Climate Change	Oceania, United States & Canada, Central America, Caribbean countries
2. Biodiversity	Oceania, USA, Central America, Caribbean countries, UK
3. Land use	Oceania (Except Australia), South America
4. Pollution/Contamination	Oceania, United States & Canada
5. Water resources	Oceania (Except Australia), South America
6. Population	Oceania, United States & Canada, South America, Western Europe, Middle East
7. Food	Asia*, South America
8. Lifestyle	Oceania, Canada, Central America, Caribbean countries, South America
9. Global warming measures	Western Europe
10. Environment and economy	Australia, Oceania (Except Australia), Canada, South America, Africa
11. Environment and society	South America, Middle East

- Although climate change was the most frequently selected environmental condition of concern, its time on the Environmental Doomsday Clock was 9:26, ranking it in 6th place.

2. YOUR OPINIONS ON ENVIRONMENTAL PROBLEMS (QUESTION 2)

2-1 Which environmental issue do you believe is most closely related to the category of problems you selected in first place in Question 1? Please select one category from the 12 listed in Table 1.

Categories Closely Related to the Top Environmental Condition of Concern

Table Q2-1		Total (Responses)	Categories Closely Related to the Top Environmental Condition of Concern (%)											
			1.Climate Change	2.Biodiversity	3.Land use	4.Pollution/Contamination	5.Water resources	6.Population	7.Food	8.Lifestyle	9.Global warming measures	10.Environment and economy	11.Environment and Society	12.Other
Total		1397	9%	6%	11%	6%	3%	9%	3%	12%	10%	16%	9%	4%
Q1-1. Top Environmental Condition of Concern	1. Climate Change	520		8%	7%	8%	4%	8%	2%	13%	26%	16%	6%	3%
	2. Biodiversity	149	11%		39%	2%	1%	9%	1%	6%	0%	18%	7%	4%
	3. Land use	128	8%	20%		4%	2%	13%	3%	11%	1%	22%	13%	5%
	4. Pollution/Contamination	109	11%	5%	5%		10%	14%	4%	11%	0%	26%	10%	6%
	5. Water resources	112	26%	5%	12%	17%		14%	4%	3%	1%	12%	4%	2%
	6. Population	117	13%	3%	24%	5%	4%		10%	9%	1%	9%	17%	4%
	7. Food	25	24%	0%	20%	4%	0%	24%		8%	0%	12%	8%	0%
	8. Lifestyle	65	15%	2%	5%	8%	0%	17%	6%		3%	15%	17%	12%
	9. Global warming measures	37	51%	0%	0%	0%	0%	0%	0%	19%		22%	8%	0%
	10. Environment and economy	66	9%	5%	11%	8%	2%	9%	2%	26%	0%		24%	5%
	11. Environment and Society	45	9%	4%	4%	2%	0%	9%	0%	33%	2%	22%		13%
	12. Other	15	13%	7%	0%	7%	0%	13%	0%	27%	0%	20%	13%	

■ indicates the most frequently selected category, ■ was excluded as the Top Environmental Condition of Concern was the same as the Closely Related Category.

- The chart above indicates what other category respondents selected as being closely related to the top-ranked environmental condition of concern. The categories highlighted in red are those that were most frequently selected by respondents. On the other hand, the areas shaded in gray represent where the top environmental condition of concern was the same as the closely related category, and were excluded.

2-2. Please select one item from the Table 2 that best reflects your rationale behind your choice in Question 2-1.
 2-3. What type of measures do you think would be most effective in solving the two categories of environmental problems that you selected in Questions 1 and 2-1? Please select one category from Table 3. Furthermore, please also specify the rationale for your selection, or write a specific measure.

Rationale for Selecting the Closely Related Issue, and Measures Most Effective in Solving Environmental Problems

Combination Number	Frequently Selected Combinations in Q2-1		Table Q2-2				Table Q2-3				
			Q2-2. Rationale for Selecting the Closely Related Issue				Q2-3. Measures Most Effective in Solving Environmental Problems				
	Top Environmental Condition of Concern	Closely Related Issue	1. Cause	2. Result	3. Interaction	4. Other	1. Political Action	2. Economic Measures	3. Society and Education	4. Scientific Technology	5. Other
①	1. Climate Change	9. Global warming measures	50%	13%	36%	0%	36%	28%	20%	14%	2%
②	2. Biodiversity	3. Land use	45%	3%	52%	0%	28%	36%	31%	3%	2%
③	3. Land use	10. Environment and economy	54%	4%	43%	0%	7%	54%	36%	0%	4%
④	4. Pollution/Contamination	10. Environment and economy	57%	4%	39%	0%	18%	54%	18%	7%	4%
⑤	5. Water resources	1. Climate Change	41%	10%	48%	0%	28%	10%	52%	10%	0%
⑥	6. Population	3. Land use	7%	61%	32%	0%	18%	14%	54%	7%	7%
⑦	7. Food	1. Climate Change	100%	0%	0%	0%	33%	17%	17%	33%	0%
⑧	7. Food	6. Population	83%	0%	0%	17%	33%	17%	50%	0%	0%
⑨	8. Lifestyle	6. Population	27%	0%	73%	0%	9%	27%	55%	0%	9%
⑩	8. Lifestyle	11. Environment and Society	36%	0%	64%	0%	0%	18%	82%	0%	0%
⑪	9. Global warming measures	1. Climate Change	21%	37%	37%	5%	37%	26%	16%	21%	0%
⑫	10. Environment and economy	8. Lifestyle	29%	18%	53%	0%	12%	47%	35%	6%	0%
⑬	11. Environment and Society	8. Lifestyle	7%	7%	87%	0%	13%	27%	53%	7%	0%

■ indicates the most frequently selected category

- Table Q2-2, Q2-3) Rationale for Selecting the Closely Related Issue, Measures Most Effective in Solving Environmental Problems that are highlighted in red are those that respondents selected frequently.
- Table Q2-2 Cause) The combinations in which respondents indicated that the closely related issue was the **cause** behind the top-ranked condition were: ①. “Global Warming Measures (closely related issue) – Climate Change (top-ranked condition)”; ③ and ④ “Environment and Economy – Land Use, Pollution/Contamination”; ⑦ and ⑧ “Climate Change, Population – Food.
- Table Q2-2 Result) The combinations in which respondents indicated that the closely related issue was the **result** of the top-ranked condition were: ⑥ “Land Use (closely related issue) – Population (top-ranked condition).” In this case, it can be inferred that population growth would lead to the increased demand for food, and consequently the expansion of land under cultivation.
- Table Q2-2 Interaction) The combinations in which respondents indicated that there was a strong **interaction** between the closely related issue and the top-ranked condition included: ⑫ and ⑬ “Lifestyles (closely related issue) – Environment and Economy, Environment and Society (top-ranked condition)”; and ⑩ “Environment Society” – Lifestyle.” These combinations offer easily imaginable reasoning on the part of the respondents. On the other hand, number ⑪ “Climate Change (closely related issue) – Global Warming Measures (top-ranked condition) were frequently selected for different rationales, and numbers ① through ⑤ also often ranked in second place. This result shows that respondents held diverging views on the relationships between the closely related issue and the top-ranked condition, and suggests that a more thorough review is required to gain a better understanding.

- Table Q2-3) In terms of the measures that would be most effective in solving the two categories of environmental problems, respondents indicated a high degree of support for political action involving numbers ① and ⑪; in other words, the combination of closely related issues involving Global Warming Measures and Climate Change. It can be inferred that respondents are anticipating a solution to global warming to be developed through international cooperation.
- With respect to economic measures, respondents showed a high degree of support for the combination of numbers ③ and ④, which combine the environment and the economy. It can be inferred that respondents are anticipating a solution to environmental problems to come about through progress in areas like the operation of an economy that takes the environment into consideration.
- In the area of society and education, respondents showed a high degree of support for numbers ⑧, ⑩ and ⑬, in other words, the combination of population and environment and society, or lifestyles. It can be inferred that respondents are anticipating the suppression of population growth through the advancement of environmental education, and the transformation of lifestyles. Furthermore, although numbers ② and ⑥ both cite land use as the closely related issue, the effective measures towards solving these problems vary from economic ones to those in society and education. The top-ranked condition for number ② was biodiversity, while it was population for number ⑥; each suggests how unregulated development can lead to the destruction of the natural environment, and how poverty can cause population growth and the expansion of land under cultivation.

The chart below shows the selection rationale or comments about specific measures for combinations ① through ⑬ on the previous page.

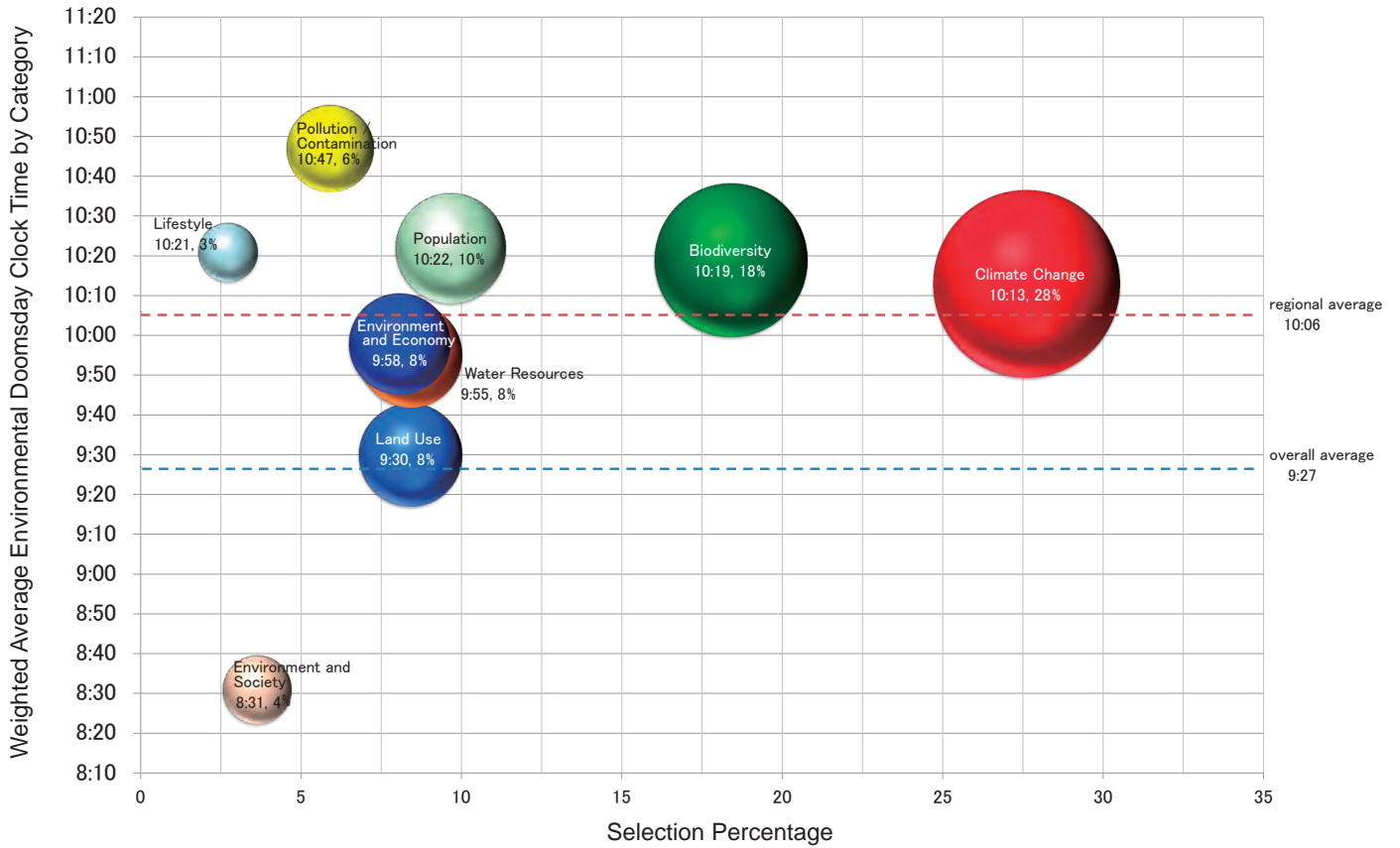
Question 2-3 Comments (Selection Rationale or Specific Measures)

	1. Political Action	2. Economic Measures	3. Society and Education	4. Scientific Technology	5. Others
Selection Rationale or Examples of Specific Measures	<ul style="list-style-type: none"> • Measures borne from international cooperation • Need for international political leadership 	<ul style="list-style-type: none"> • Pricing that reflects the cost to the environment • Carbon pricing 	<ul style="list-style-type: none"> • Environmental Education • Improved awareness for environmental preservation • Lifestyle alteration • Tangible endeavors in environmental protection 	<ul style="list-style-type: none"> • Development of theories about the environment • Development of energy conservation technology 	<ul style="list-style-type: none"> • Legal regulation for environmental protection • Transformation of energy, use of nuclear power • Combination of other areas
Total 199	60	55	54	21	9

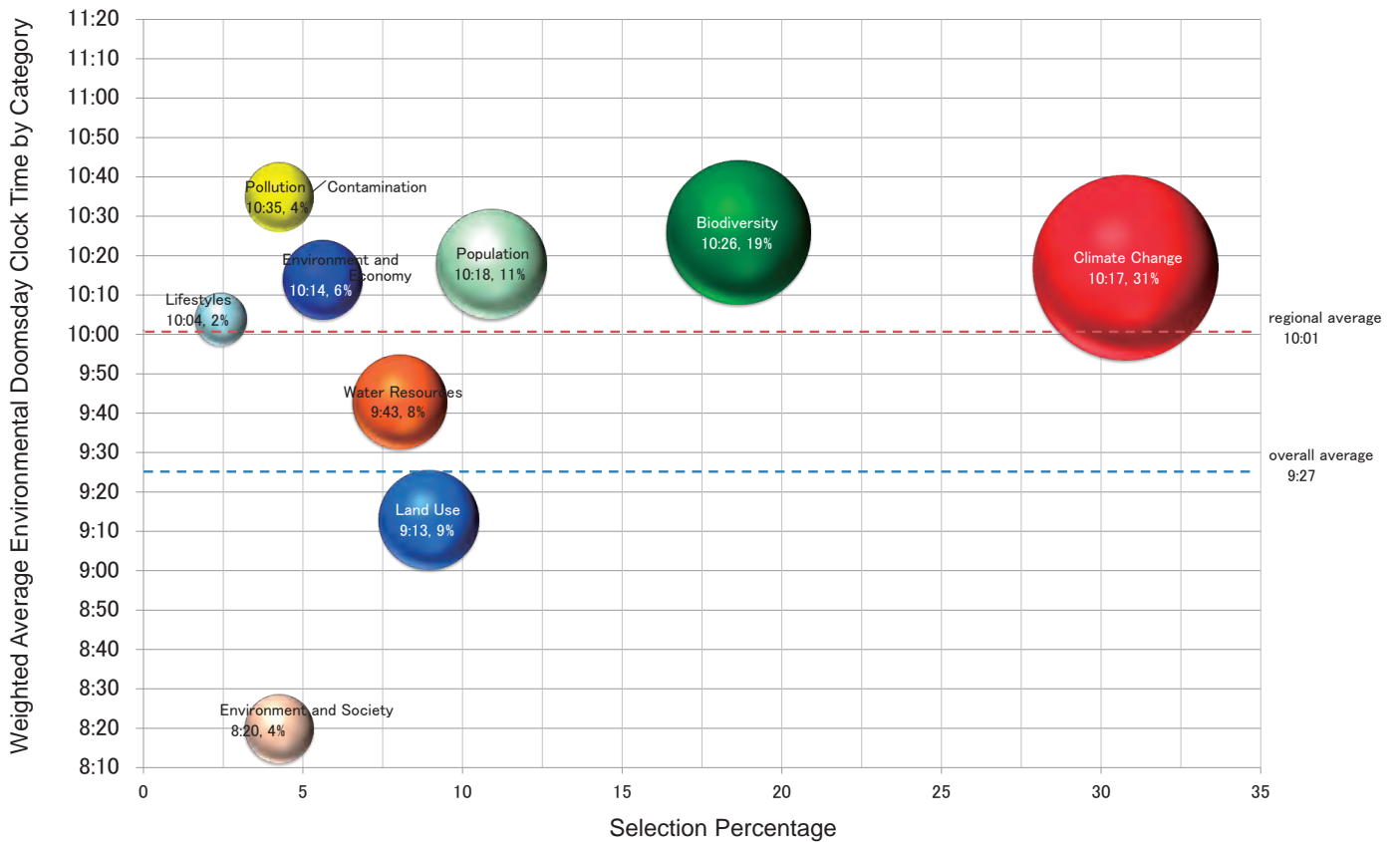
- Within comments about political action, there were many that reflected the respondents' anticipation of measures borne out of international cooperation and political leadership to confront global-scale environmental problems like climate change.
- In terms of economic measures, respondents most frequently expressed their opinions supporting pricing mechanisms that reflected the cost to the environment and carbon pricing. In the field of society and education, respondents most frequently left comments about environmental education. In particular, they expressed their anticipation of increased awareness of the environment through education among younger people, who will bear the responsibility in the years to come, and for this to lead to a transformation in politics, the economy, and society in the future.
- With regards to scientific technology, respondents expressed their anticipation of the development of theories concerning the environment, as well as the advancement of forecasting technology.
- In other areas, comments regarding the need to establish regulations for environmental protection were notable.

Reference) Distribution of the Environmental Conditions of Concerns by regions

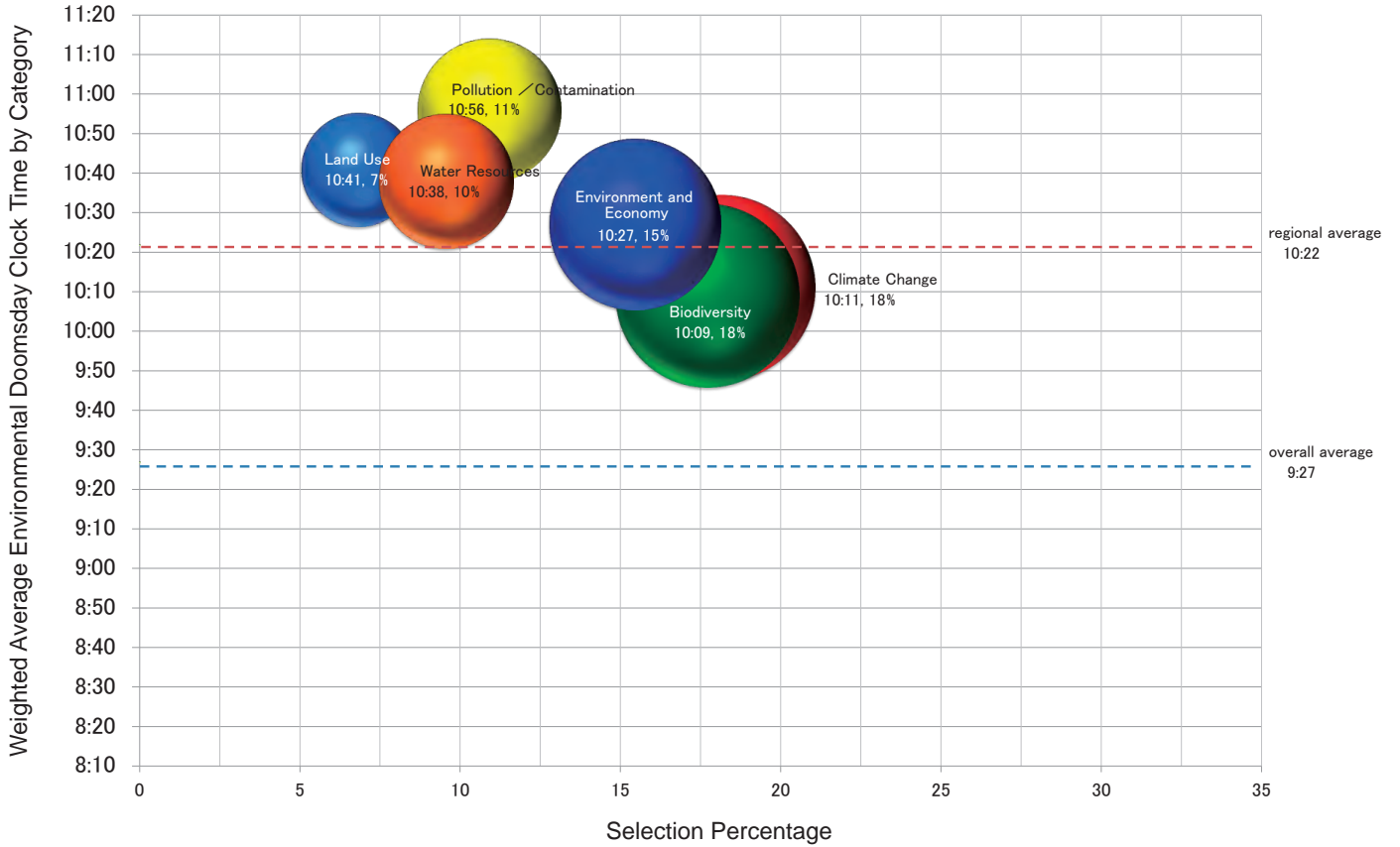
Graph 5-1. Oceania



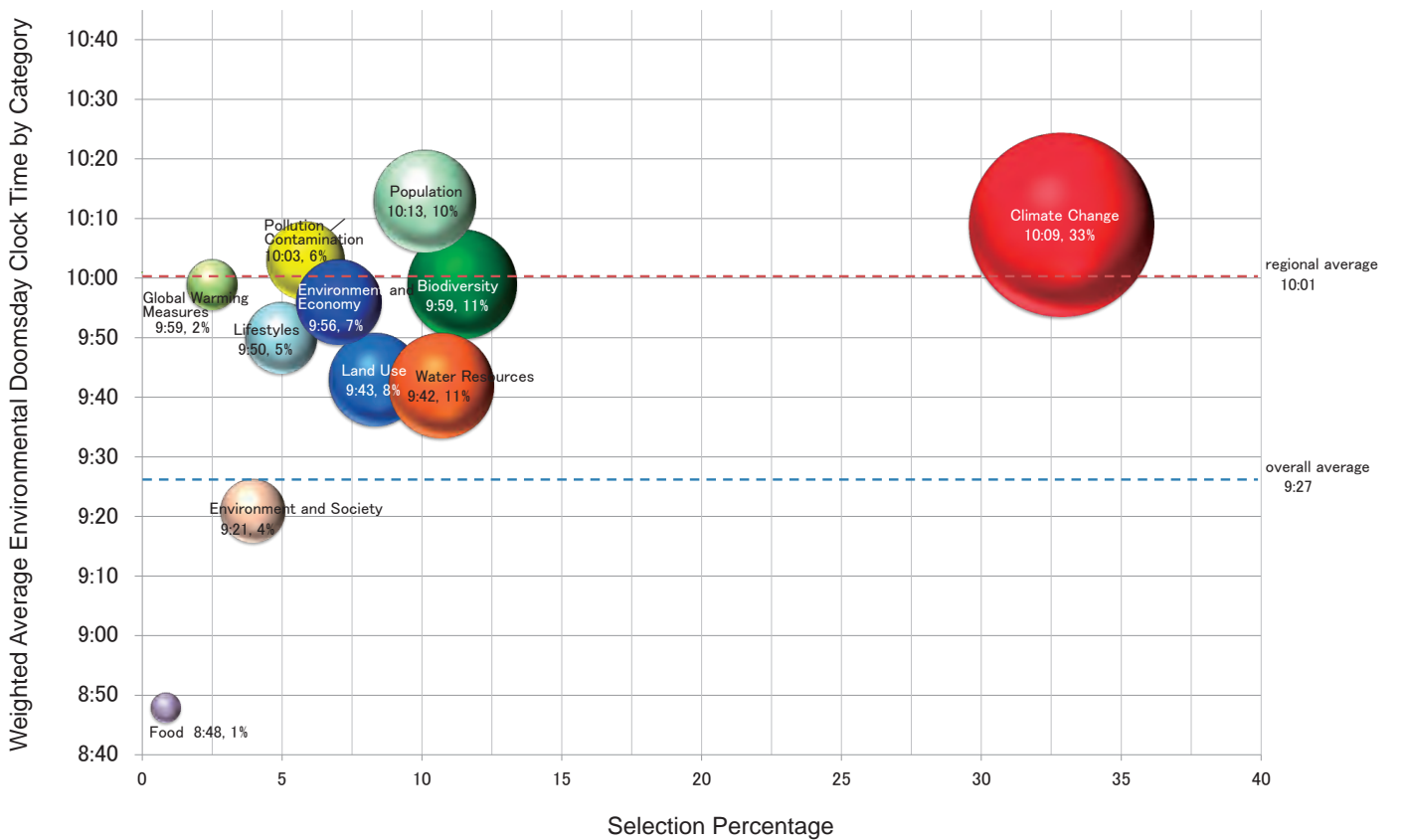
Graph 5-2. Austraria



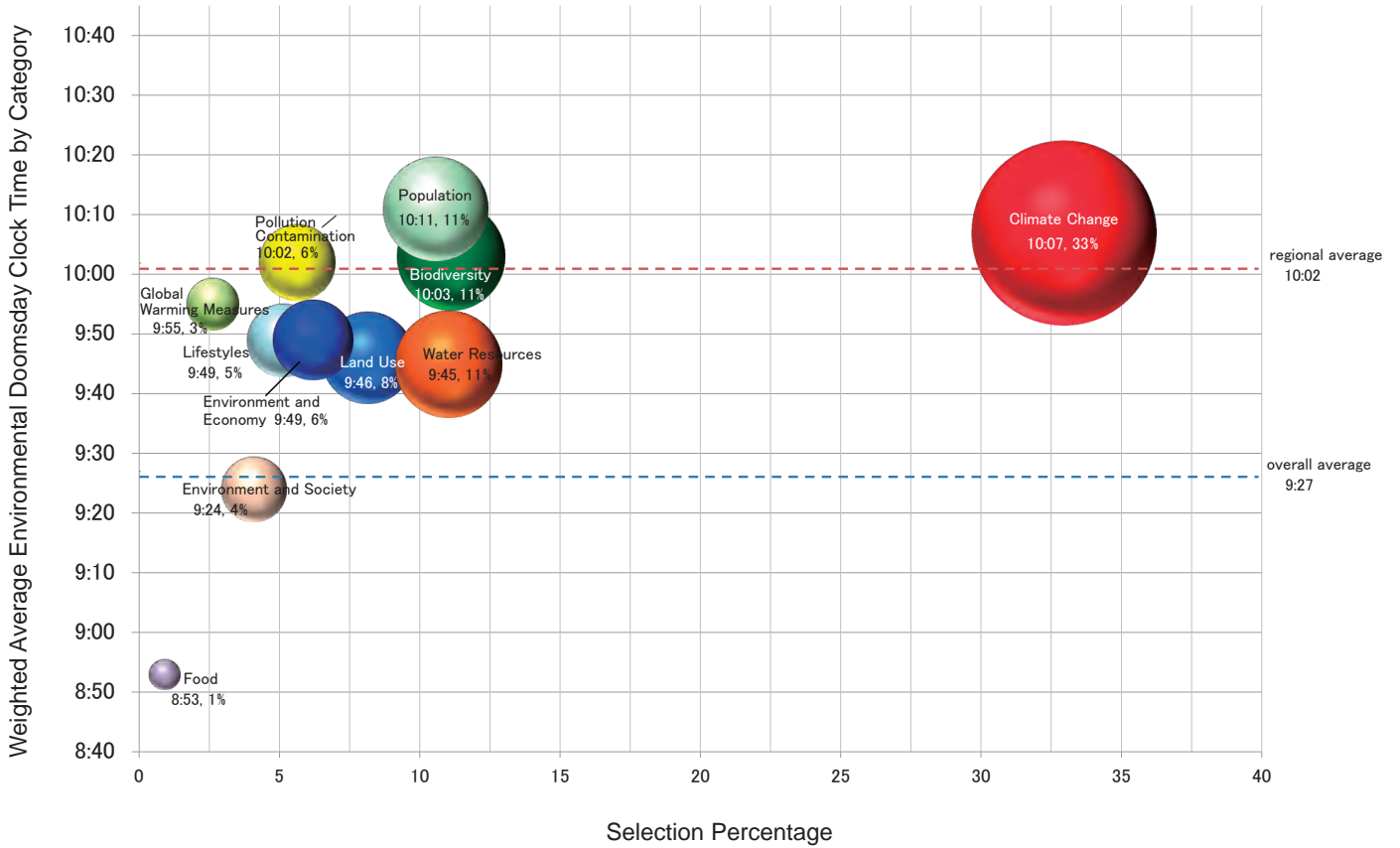
Graph 5-3. Oceania (Except Australia)



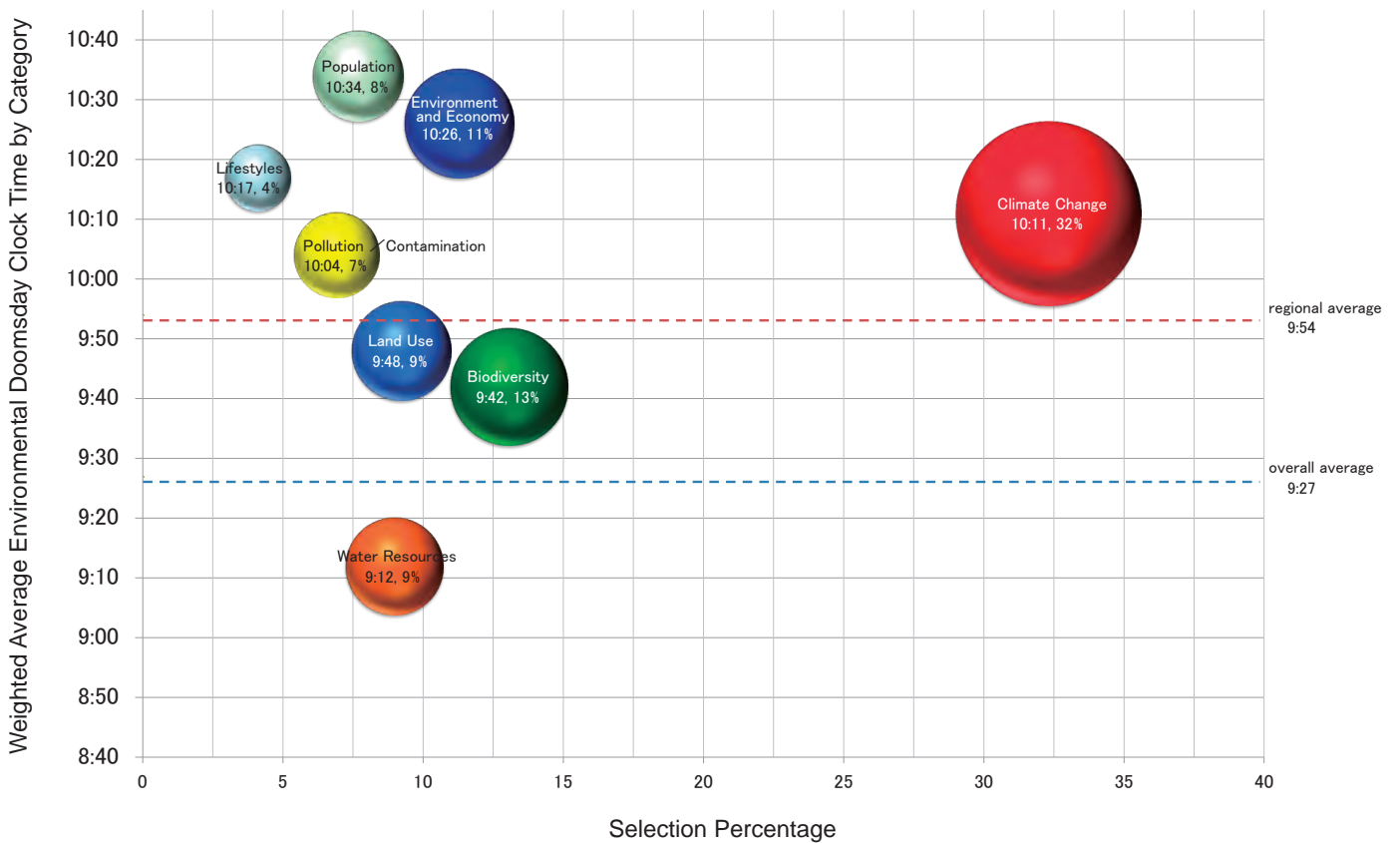
Graph 6-1. United States & Canada



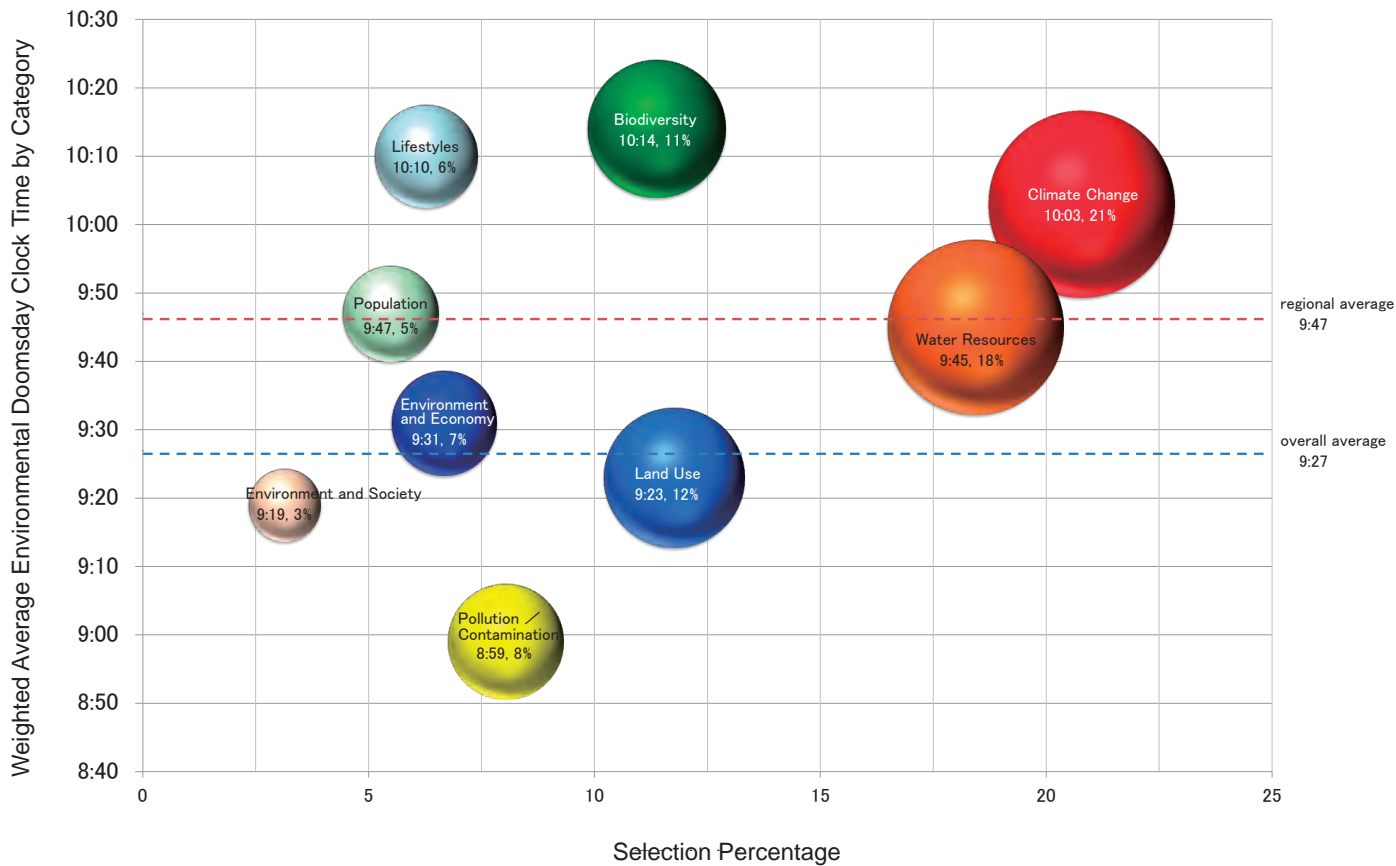
Graph 6-2. USA



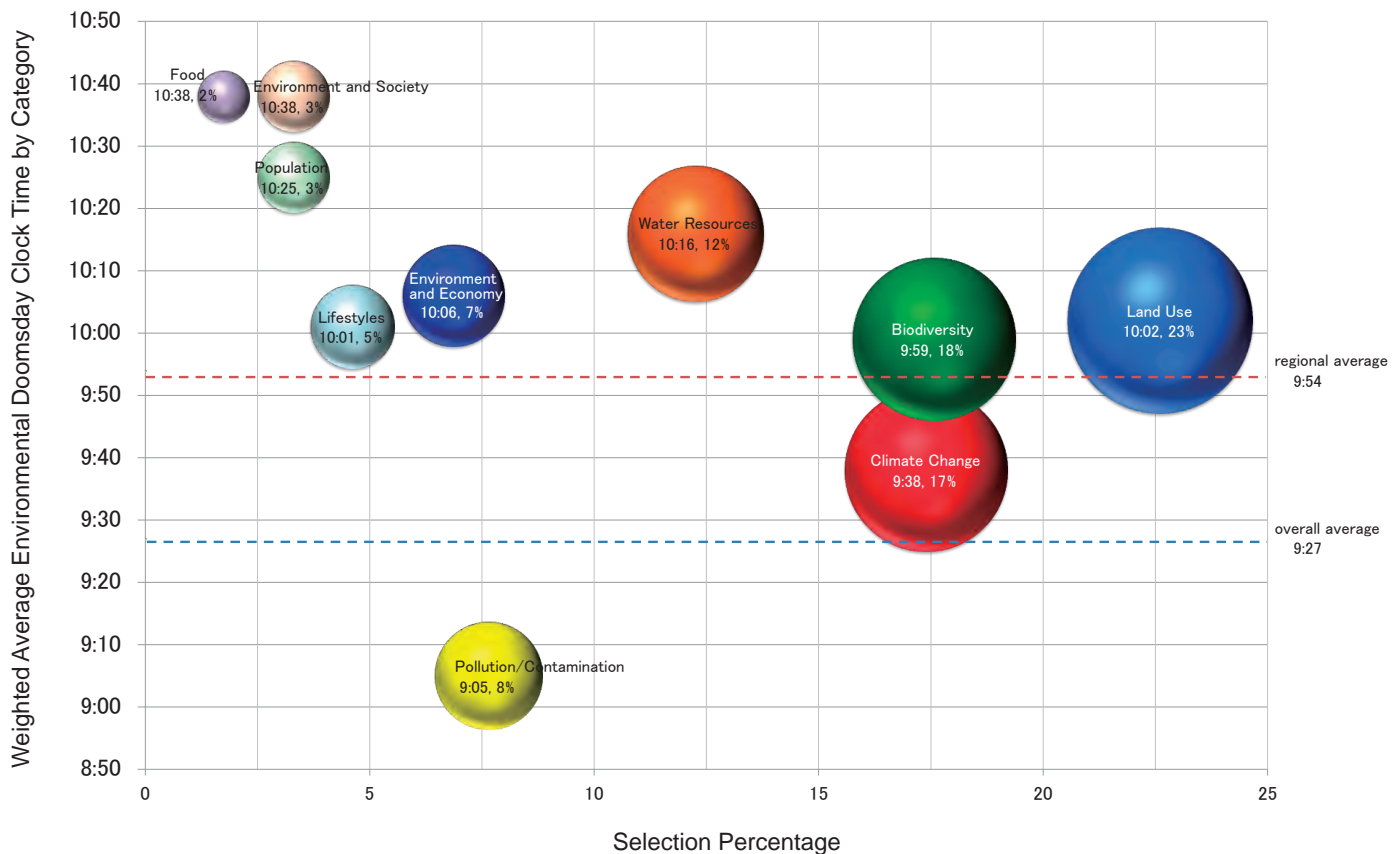
Graph 6-3. Canada



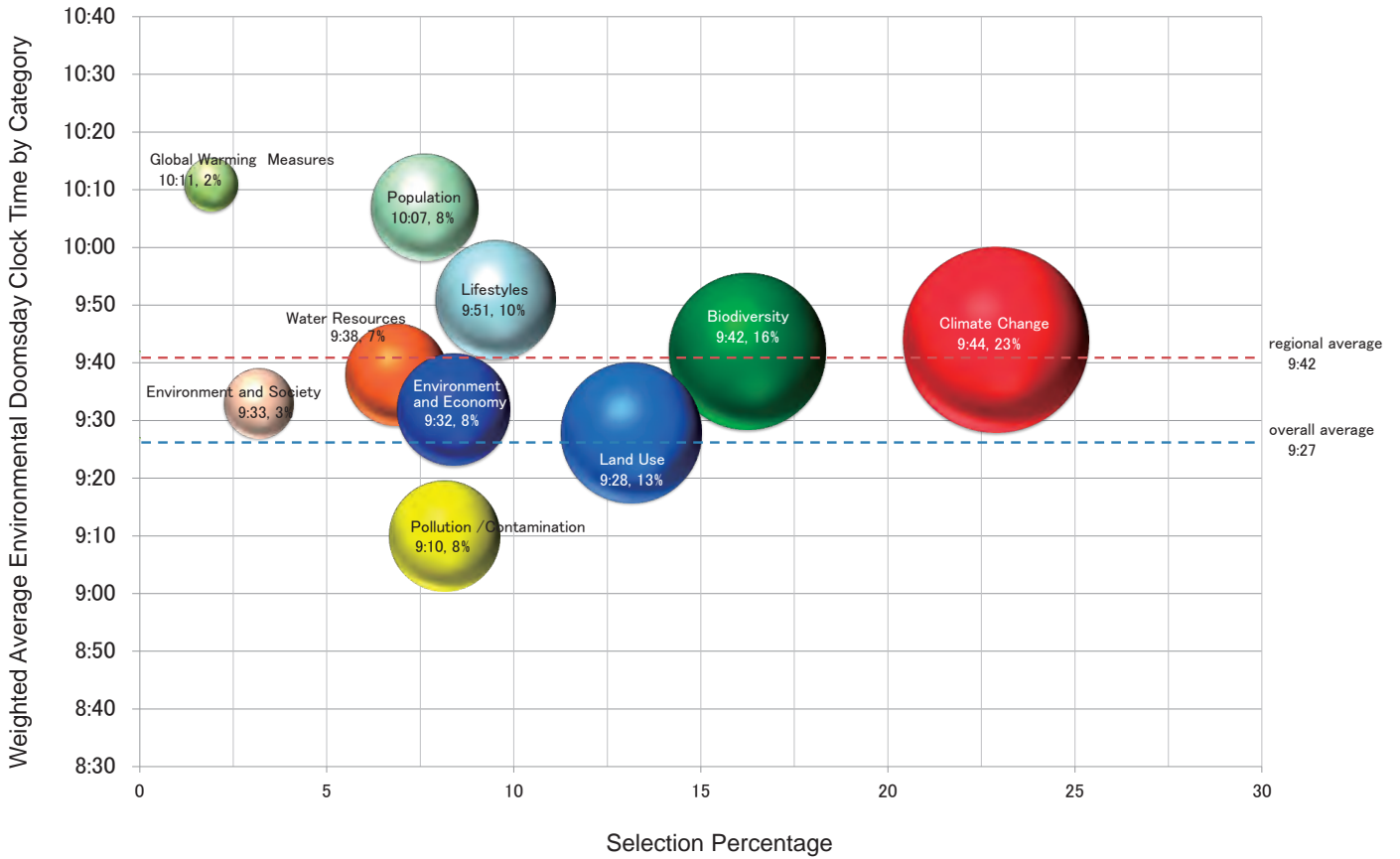
Graph 7. Central America, Carribean countries



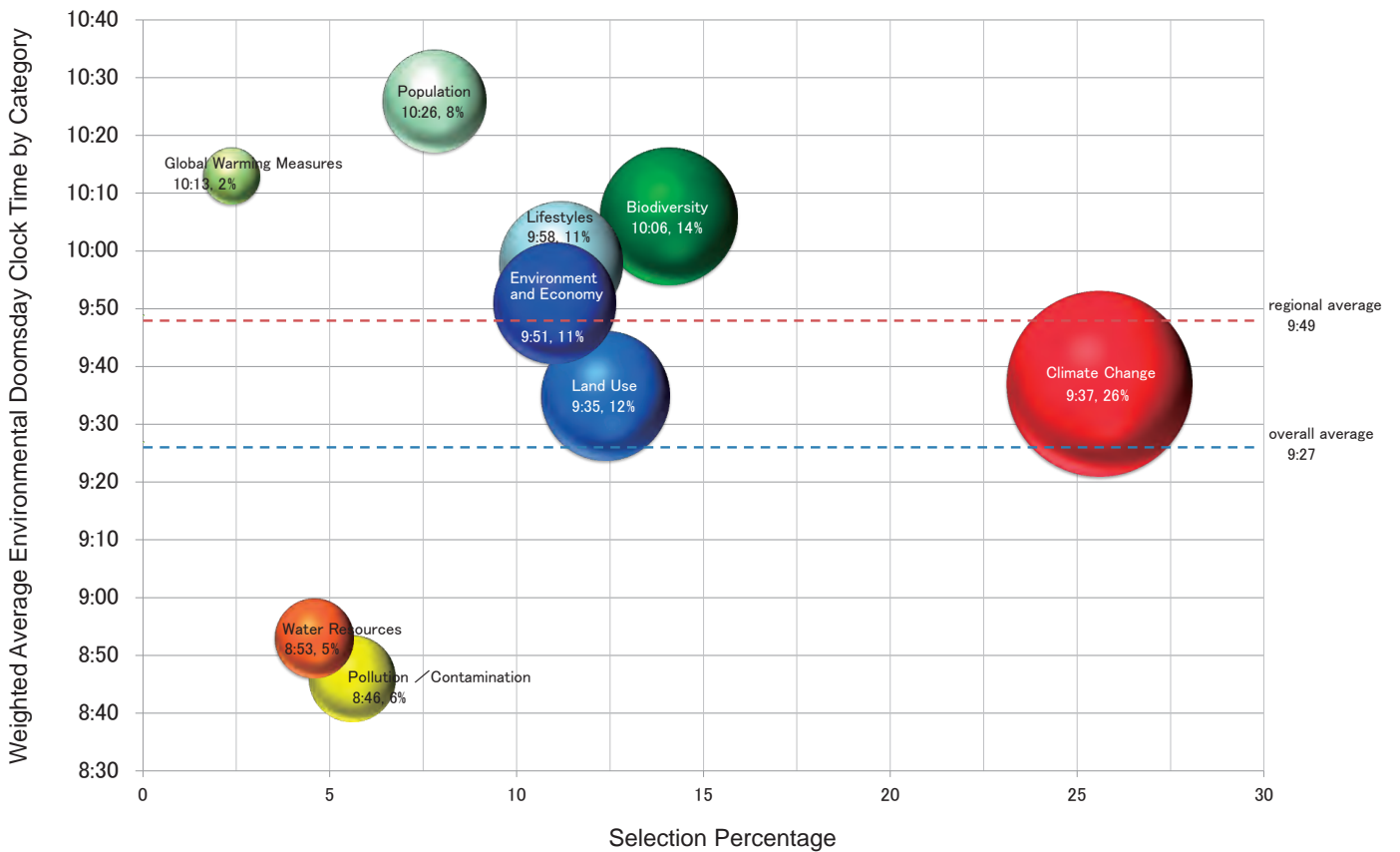
Graph 8. South America



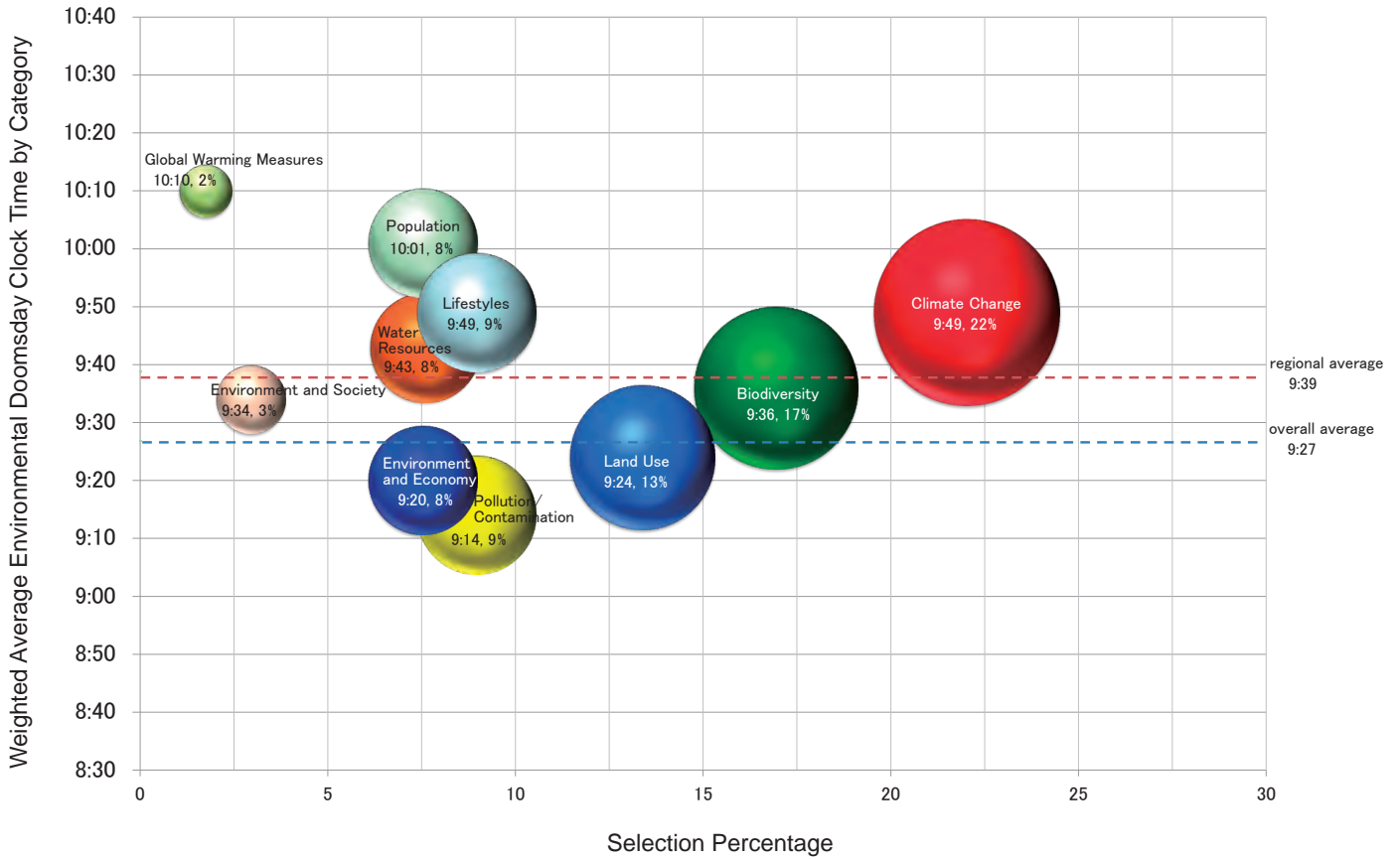
Graph 9-1. Western Europe



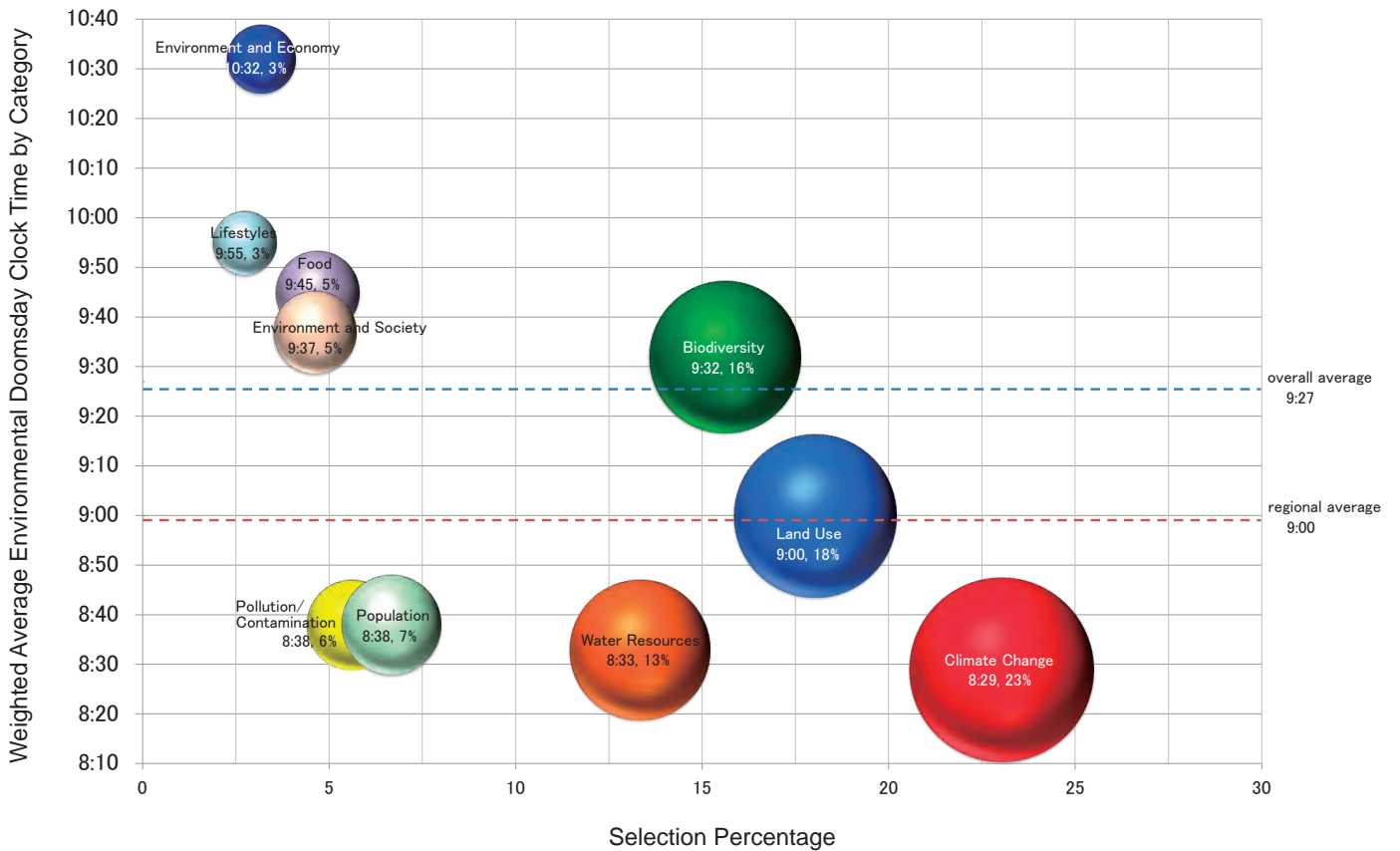
Graph 9-2. UK



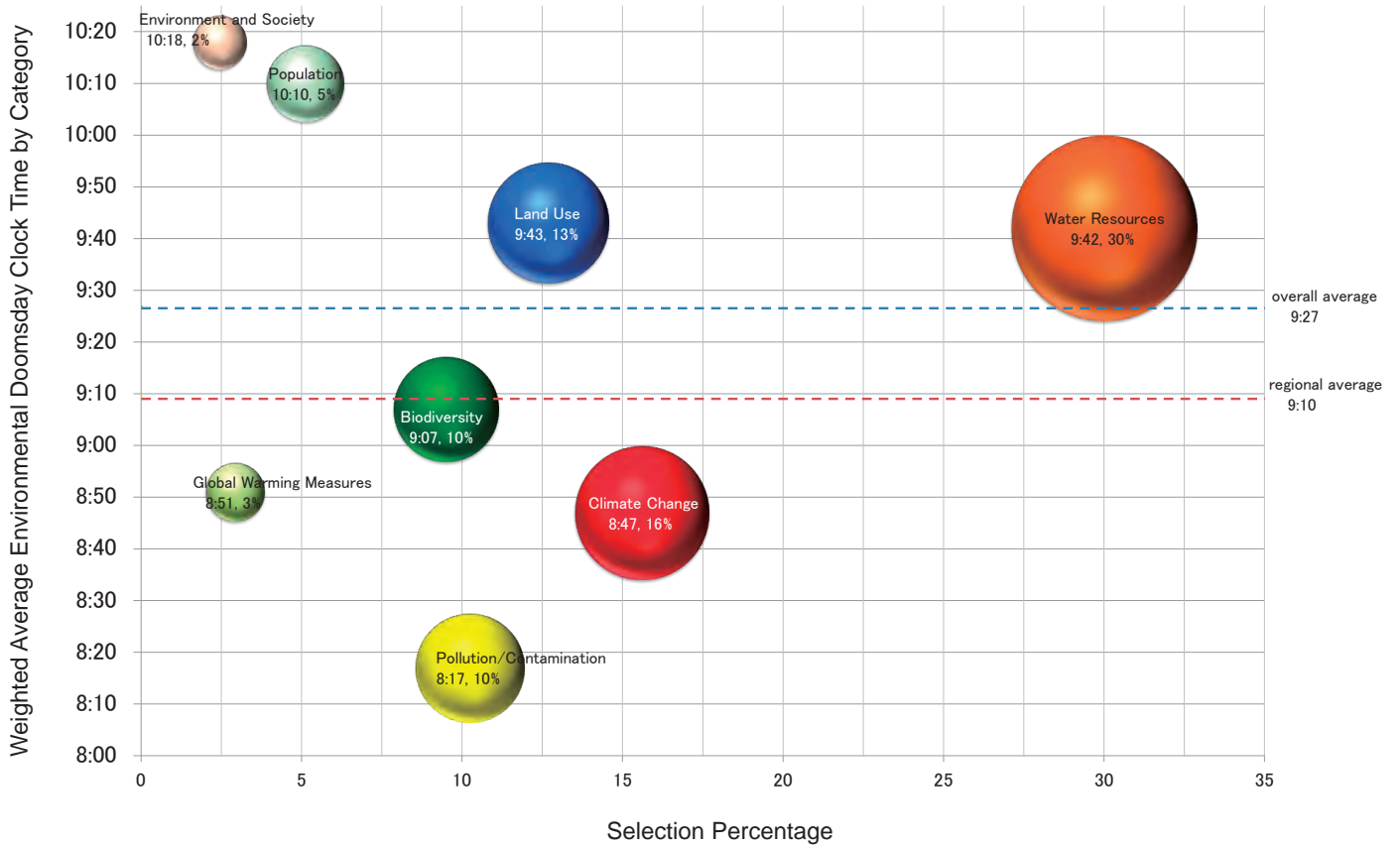
Graph 9-3. Western Europe (except UK)



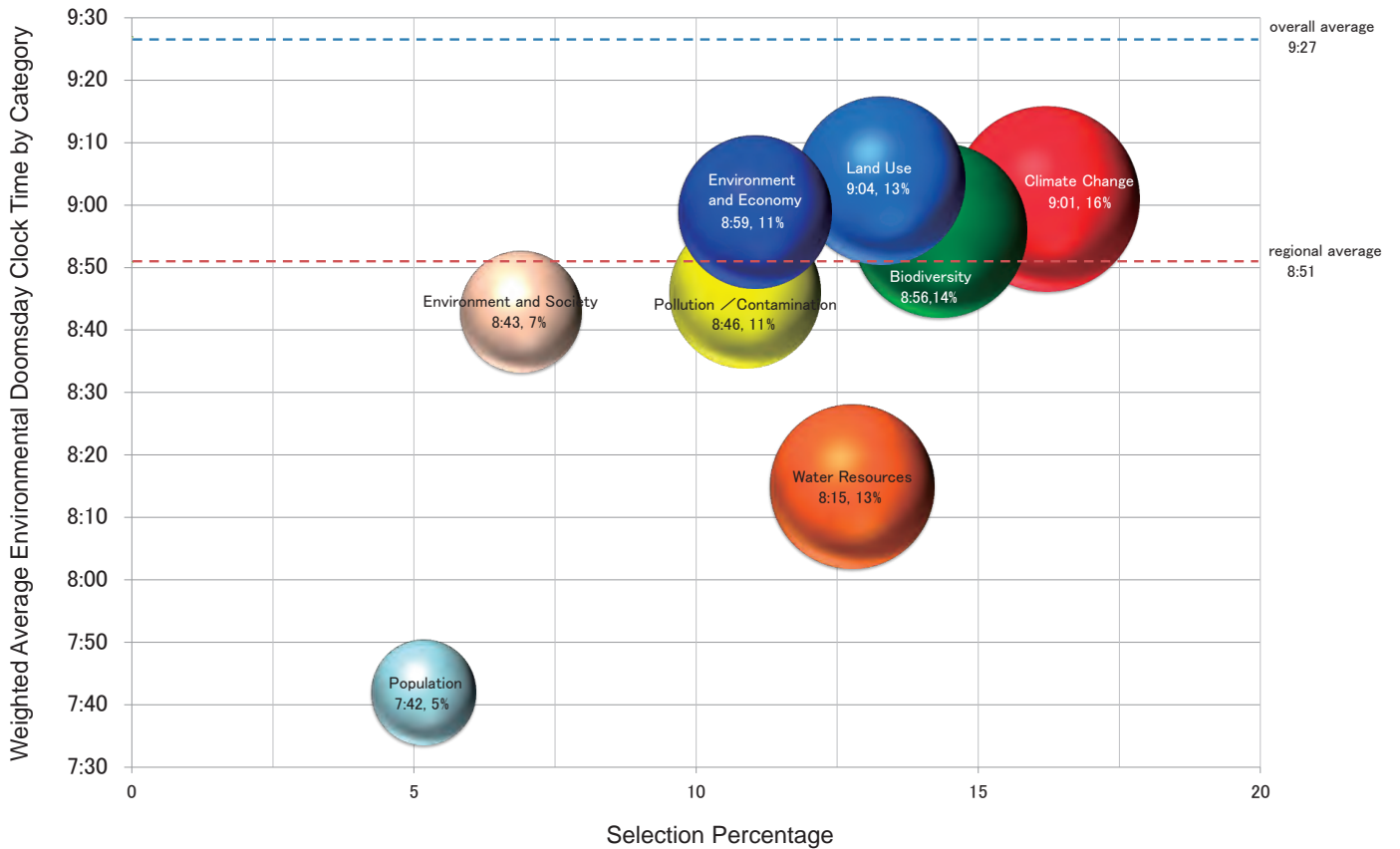
Graph 10. Africa



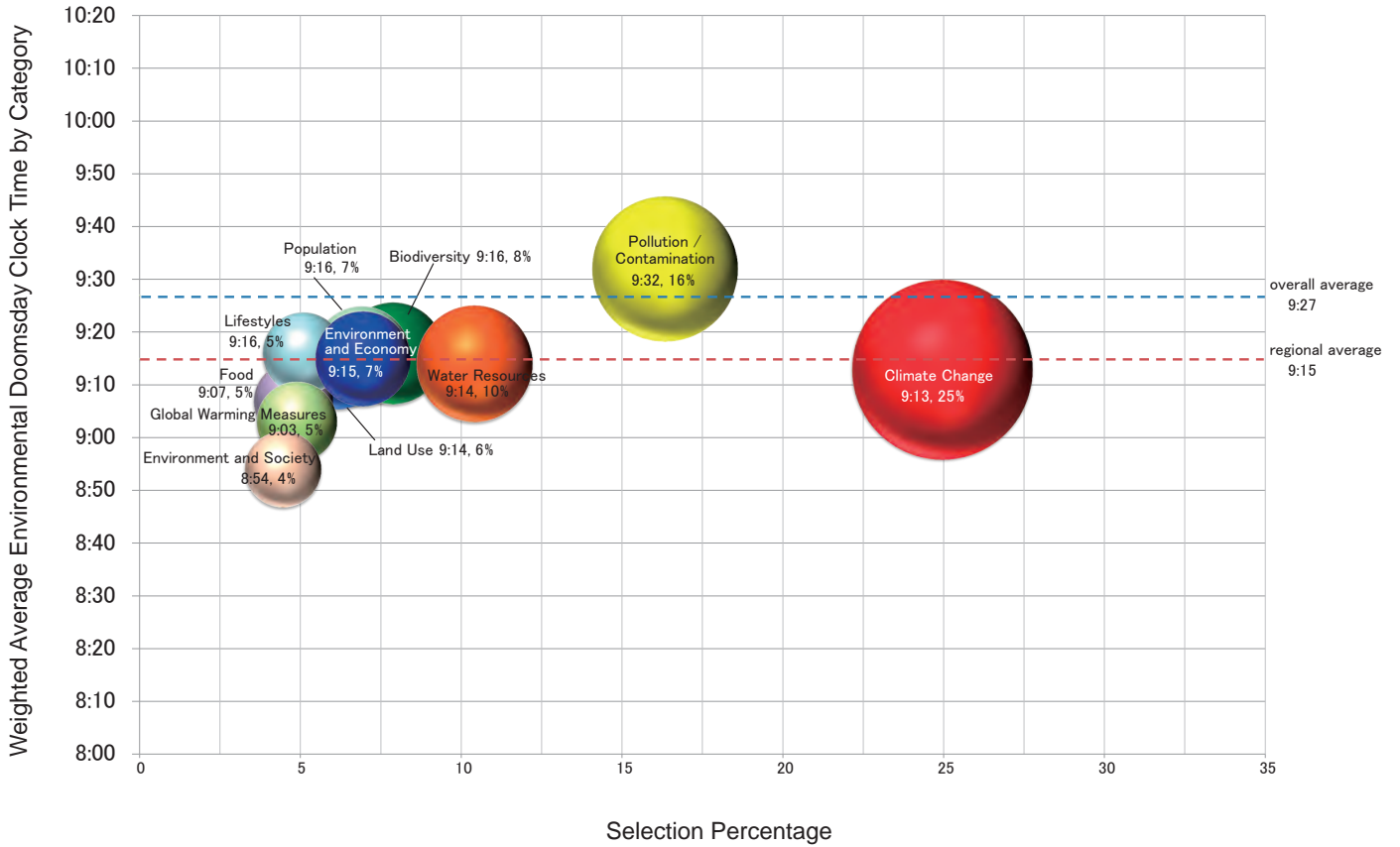
Graph 11. Middle East



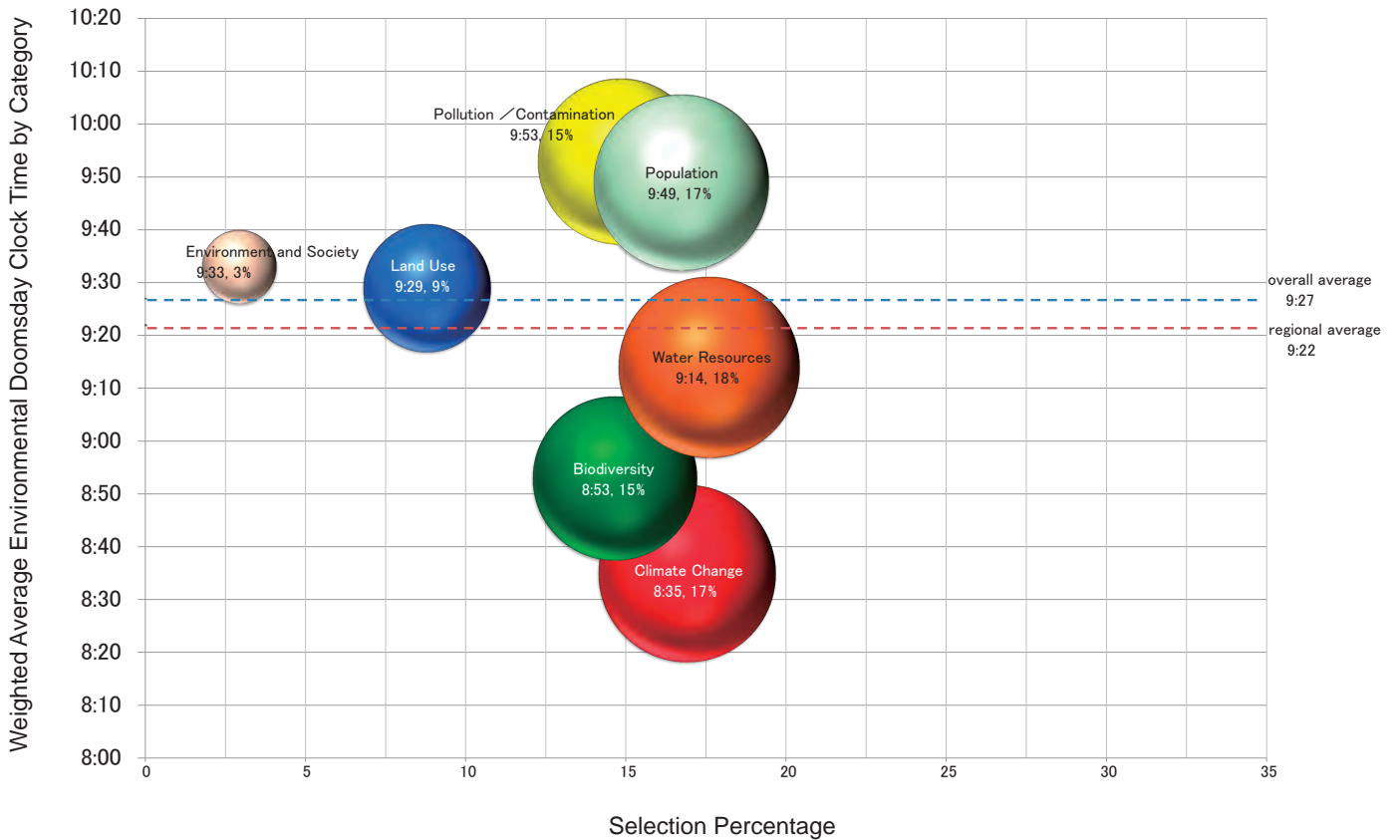
Graph 12. Eastern Europe & former Soviet Union



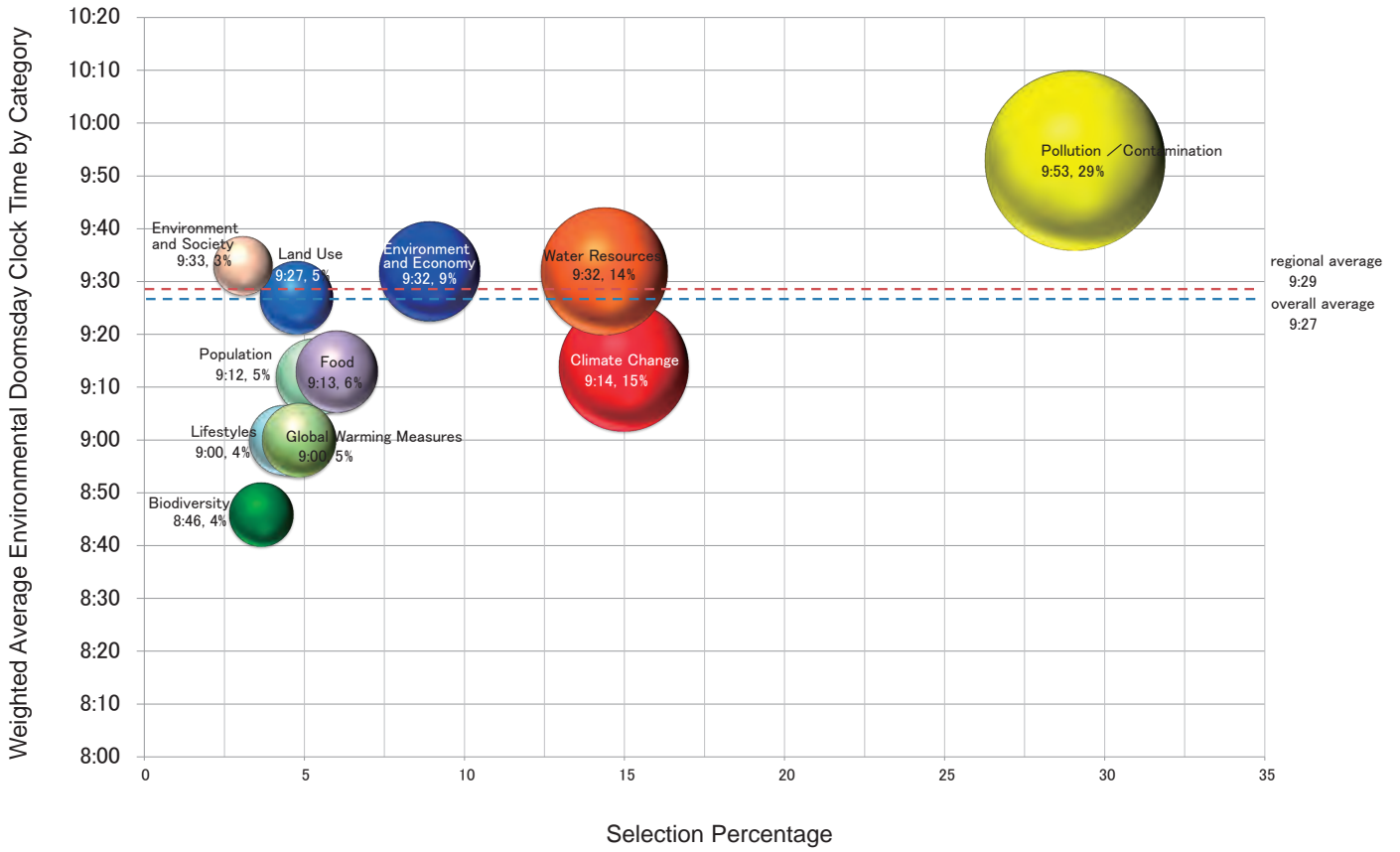
Graph 13-1. Asia



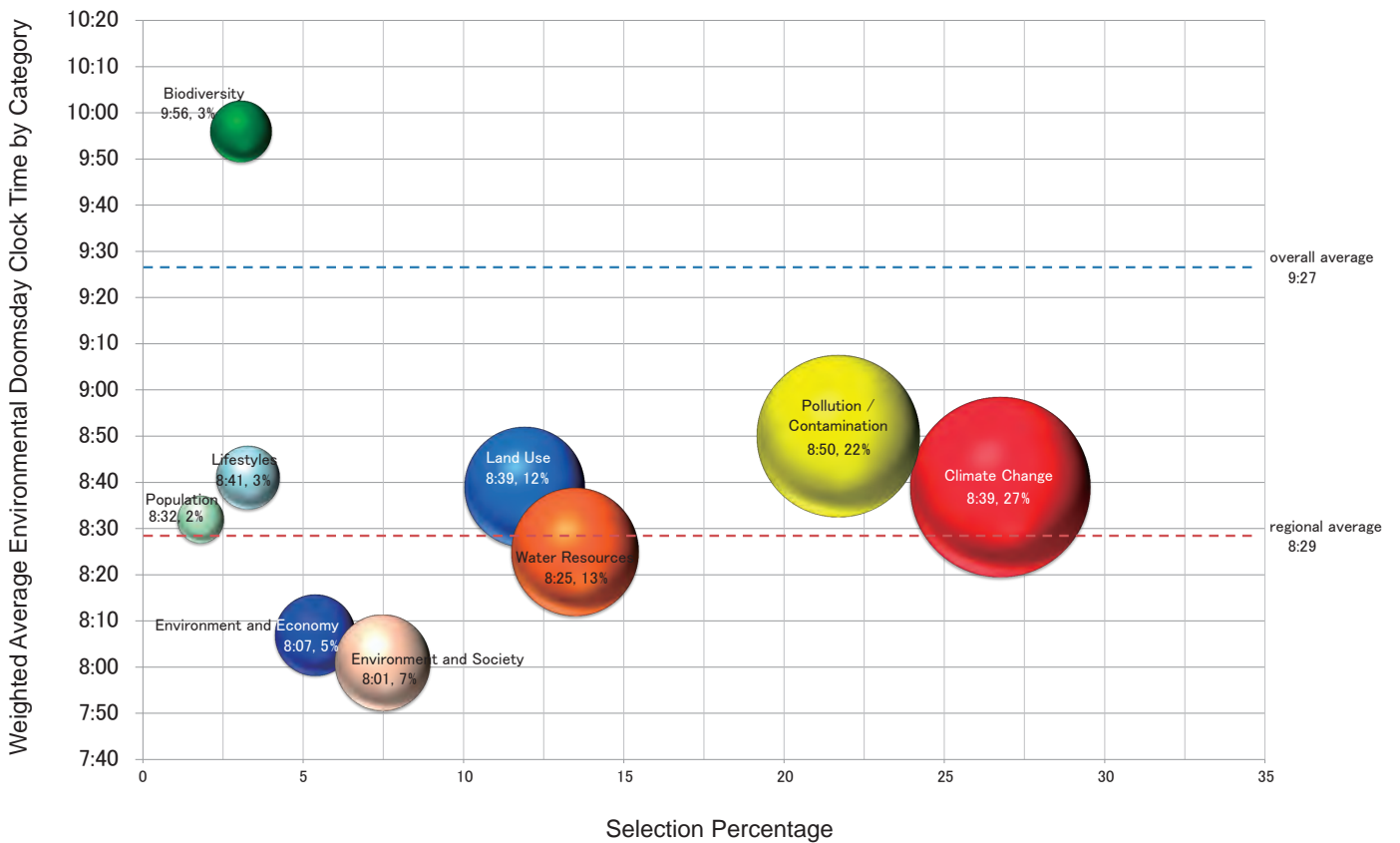
Graph 13-2. India



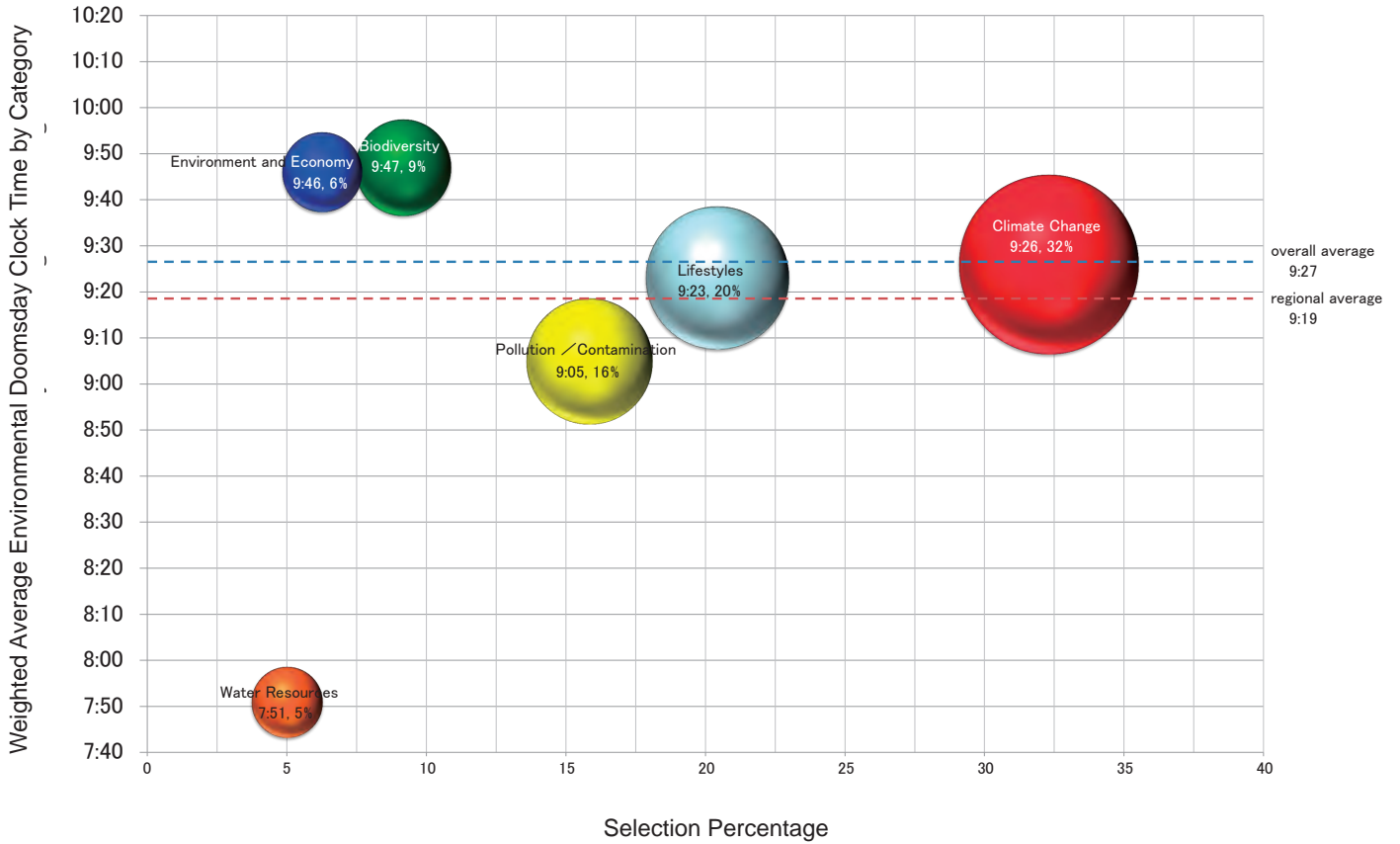
Graph 13-3. China



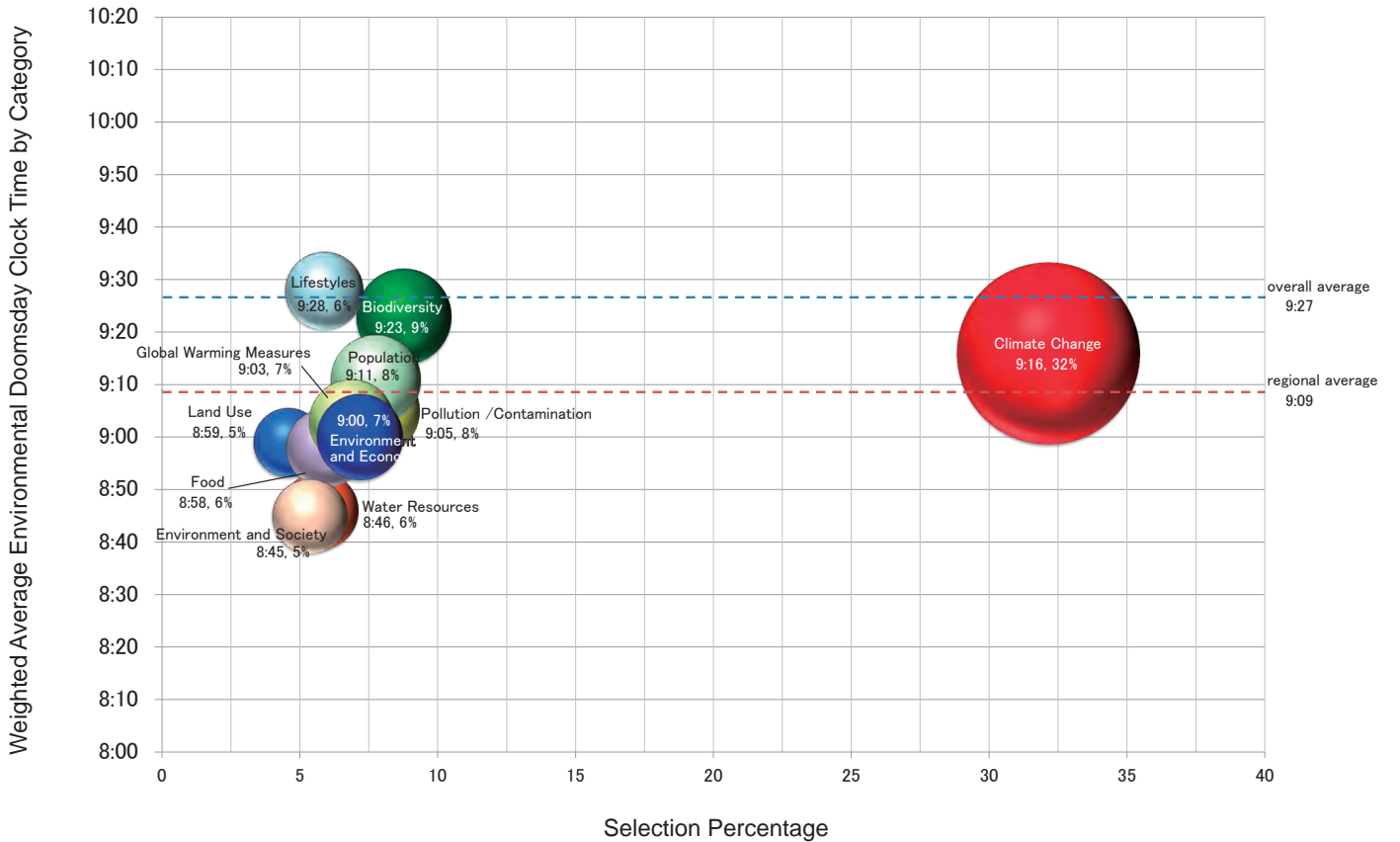
Graph 13-4. Taiwan



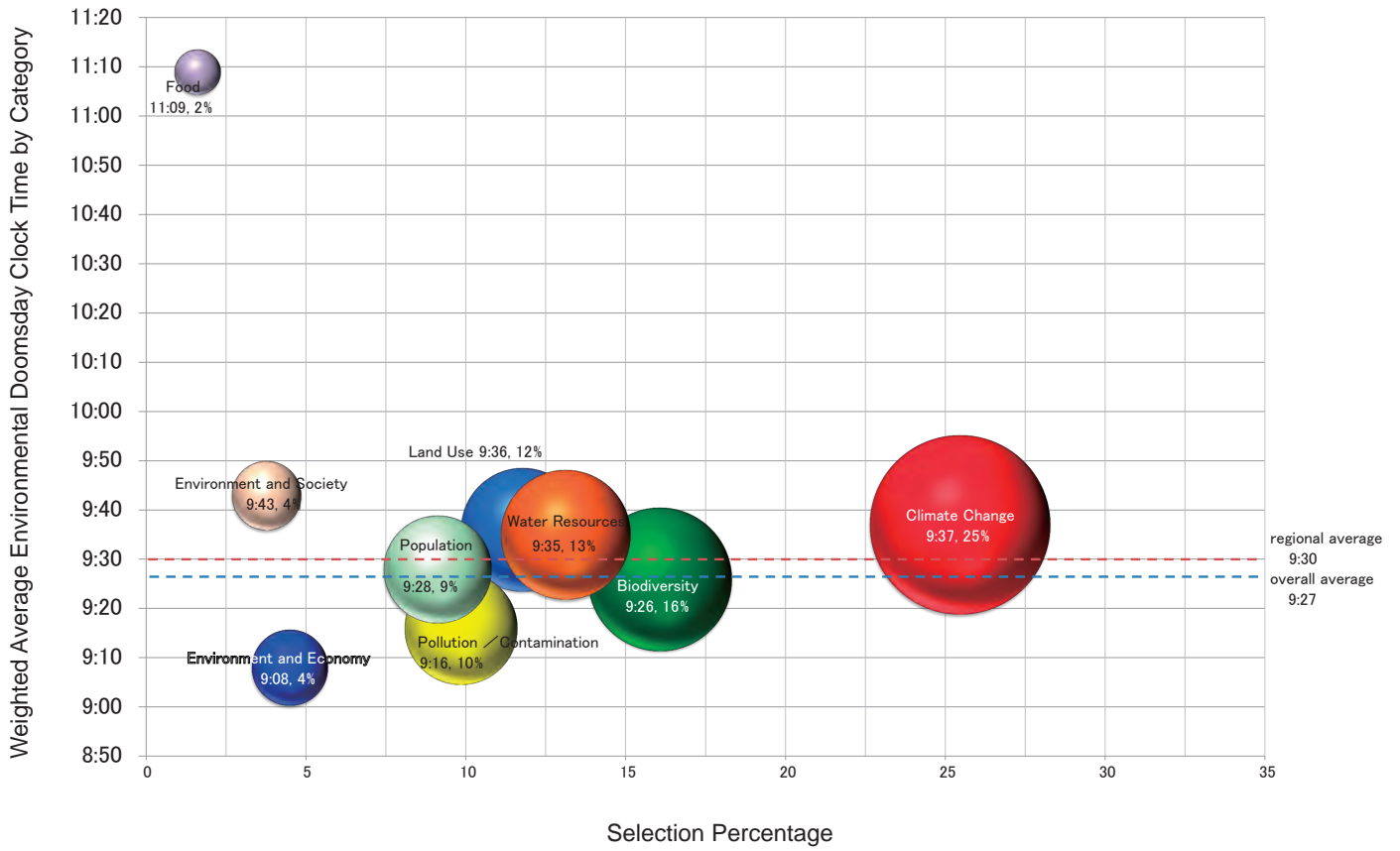
Graph 13-5. Republic of Korea



Graph 13-6. Japan



Graph 13-7. Asian Region (except India, China, Taiwan, Korea, Japan)



IV. Data

Number of Counties Surveyed

Region	Country	Total
Africa	ALGERIA	4
	ANGOLA	1
	BENIN	1
	BOTSWANA	2
	BURKINA FASO	7
	CAMEROON	6
	CONGO	8
	COTE D'IVOIRE	4
	DJIBOUTI	1
	EGYPT	4
	GABON	2
	GHANA	2
	GUINEA-BISSAU	1
	KENYA	8
	LIBYA	1
	MADAGASCAR	11
	MALAWI	1
	MALI	4
	MAURITANIA	1
	MAURITIUS	6
	MOROCCO	3
	MOZAMBIQUE	2
	NAMIBIA	3
	NIGER	1
	NIGERIA	4
	REPUBLIC OF GUINEA	1
	RWANDA	1
	SENEGAL	1
	SIERRA LEONE	3
	SOUTH AFRICA	16
	TANZANIA	2
	TOGO	2
	TUNISIA	6
UGANDA	8	
ZAMBIA	1	
ZIMBABWE	3	
Africa Total	132	
Asia	AFGHANISTAN	3
	BAHRAIN	1
	BANGLADESH	8
	BHUTAN	2
	BRUNEI	1
	CAMBODIA	4
	CHINA	338
	HONG KONG	1
	INDIA	58
	INDONESIA	13
	JAPAN	452
	KOREA	48
	LAOS	1
	MALAYSIA	10
	MONGOLIA	3
	NEPAL	8
	PAKISTAN	16
	PHILIPPINES	14
	SINGAPORE	5
	SRI LANKA	11
TAIWAN	95	
THAILAND	13	
VIETNAM	11	
Asia Total	1116	

Region	Country	Total	
Oceania	AUSTRALIA	66	
	COOK ISLANDS	1	
	FIJI	3	
	FRENCH POLYNESIA	1	
	NEW ZEALAND	11	
	PALAU	1	
	PAPUA NEW GUINEA	2	
	SAMOA	1	
	TUVALU	1	
	VANUATU	1	
	Oceania Total	88	
	Western Europe	ANDORRA	1
		AUSTRIA	9
		BELGIUM	8
DENMARK		2	
FINLAND		7	
FRANCE		20	
GERMANY		24	
GREECE		3	
ICELAND		1	
IRELAND		2	
ITALY		25	
LIECHTENSTEIN		1	
MALTA		2	
NORWAY		5	
PORTUGAL		7	
SPAIN		23	
SWEDEN		1	
SWITZERLAND	23		
THE NETHERLANDS	19		
UK	59		
Western Europe Total	242		
Eastern Europe & former Soviet Union	ALBANIA	2	
	ARMENIA	1	
	BELARUS	1	
	BULGARIA	3	
	CROATIA	8	
	CZECH	2	
	ESTONIA	2	
	GEORGIA	2	
	HUNGARY	3	
	KAZAKHSTAN	2	
	LITHUANIA	1	
	MACEDONIA	1	
	MONTENEGRO	1	
POLAND	4		
ROMANIA	4		
RUSSIA	8		
SERBIA	4		
SLOVAKIA	1		
SLOVENIA	2		
UKRAINE	5		
UZBEKISTAN	1		
Eastern Europe & former Soviet Union Total	58		

Region	Country	Total
Middle East	BAHRAIN	1
	CYPRUS	2
	IRAN	9
	IRAQ	1
	ISRAEL	3
	JORDAN	6
	KUWAIT	1
	LEBANON	2
	PALESTINE	1
	QATAR	1
SAUDI ARABIA	4	
TURKEY	3	
UNITED ARAB EMIRATES	6	
YEMEN	1	
Middle East Total	41	
United States & Canada	CANADA	39
	USA	199
United States & Canada Total	238	
Central America, Caribbean countries	BARBADOS	1
	BELIZE	3
	COSTA RICA	11
	CUBA	2
	DOMINICAN REPUBLIC	1
	EL SALVADOR	2
	GUATEMALA	3
	HONDURAS	3
	JAMAICA	3
	MEXICO	12
	NICARAGUA	1
PANAMA	4	
PUERTO RICO	1	
TRINIDAD AND TOBAGO	2	
TURKS AND CAICOS ISLANDS, W.I.	1	
US VIRGIN ISLANDS	1	
Central America, Caribbean countries Total	51	
South America	ARGENTINA	13
	BOLIVIA	3
	BRAZIL	29
	CHILE	6
	COLOMBIA	22
	ECUADOR	8
	GUYANA	2
	PARAGUAY	3
	PERU	19
	SURINAME	1
URUGUAY	5	
VENEZUELA	4	
South America Total	115	

1. AWARENESS OF THE CRISIS FACING HUMAN SURVIVAL—ENVIRONMENTAL DOOMSDAY CLOCK

In Table 1, environmental issues to be taken into account are shown. Keeping in mind the problems that the environment faces at a global level, please select the three most pressing issues for the country or the region where you reside. Then, please rank them in the order of importance. Lastly, for each item, select a time using hours and minutes between 0:10 to 12:00, to indicate the level of crisis for that issue. For the purposes of calculating results, please select your times in units of 10 minutes. If you wish to suggest another category, please do so under item “12. Others.”

Unit:%

Rank 1 Category

	Total	Oceania			USA & Canada			Central America, Caribbean countries	South America	Western Europe			Africa	Middle East	Eastern Europe & former Soviet Union	Asia (All)						
	[2081]	[88]	Oceania (Except Australia) [22]	Australia [66]	[238]	Canada [39]	USA [199]	[51]	[115]	[242]	UK [59]	Western Europe (except UK) [183]	[132]	[41]	[58]	[1116]	Asian Region* [125]	India [58]	China [338]	Taiwan [95]	Korea [48]	Japan [452]
1. Climate Change	37	41	23	47	51	51	51	29	21	33	39	32	30	22	22	38	38	22	17	40	52	53
2. Biodiversity	10	16	18	15	8	10	8	10	17	15	12	16	16	7	17	6	18	12	2	1	6	6
3. Land Use	8	6	5	6	4	3	4	10	26	12	10	13	19	10	12	4	8	7	4	12	0	2
4. Pollution/Contamination	12	5	9	3	4	5	4	6	8	5	3	5	6	5	9	18	3	10	42	24	13	6
5. Water Resources	8	7	5	8	6	8	6	18	9	5	2	5	10	41	10	8	10	17	12	12	2	2
6. Population	7	8	9	8	12	10	13	4	3	8	7	9	8	2	7	7	11	26	3	1	0	9
7. Food	2	0	0	0	0	0	1	0	2	0	0	0	3	0	0	3	1	0	5	0	0	4
8. Lifestyles	4	2	5	2	4	3	5	8	5	10	12	9	2	0	5	3	0	0	4	1	21	3
9. Global Warming Measures	3	0	0	0	1	0	2	6	0	1	2	1	0	2	0	4	5	0	4	0	2	5
10. Environment and Economy	5	9	18	6	5	10	4	6	8	8	12	7	1	7	9	4	3	0	6	4	4	2
11. Environment and Society	3	2	0	3	2	0	3	2	1	1	0	2	4	2	7	3	2	3	1	5	0	4
12. Other	1	2	5	2	1	0	1	0	0	2	2	2	0	0	0	1	1	2	1	0	0	3
No Response	0	2	5	2	0	0	1	2	1	0	0	0	2	0	2	0	0	0	0	0	0	0
Number of Responses	[2055]	[86]	[21]	[65]	[237]	[39]	[198]	[50]	[112]	[242]	[59]	[183]	[124]	[41]	[57]	[1106]	[124]	[57]	[332]	[95]	[48]	[450]
Time for Rank 1 Category	9:59	10:30	10:54	10:22	10:27	10:25	10:28	10:13	10:30	10:11	10:15	10:10	9:29	9:52	9:31	9:49	10:00	9:54	10:12	8:56	9:49	9:41

*With the exception of India, China, Taiwan, Korea, and Japan

- Climate Change..... Atmospheric concentration of CO₂; global warming; ocean acidification; climatic aberrations (droughts, torrential rains and flooding, severe storms, heavy snow, abnormal temperatures, drying of rivers and lakes, desertification, etc.)
- Biodiversity..... Acceleration of species extinction; effects of contamination, climate change, land use
- Land Use..... Expansion of cultivated land mass; destruction of forests due to excessive development; desertification caused by overgrazing; agriculture and land use without regard for the environment; urbanization
- Pollution/Contamination..... River and ocean pollution: eutrophication caused by excessive nitrogen and phosphorus and contamination by chemical substances; atmospheric pollution: particulates suspended in the atmosphere, soot and chemical substances
- Water Resources..... Diminution of usable fresh water resources (depletion, contamination)
- Population..... Population growth beyond what the Earth can support; aging of the population
- Food..... Diminution of food supply from land and oceans
- Lifestyles..... Transformation of lifestyles away from excessive consumption of resources like energy
- Global Warming Measures..... Progress of measures for mitigation and adaption
- Environment and Economy ... Progress towards implementing an economic system to reflect environmental costs, the bearing of social costs: imposition of taxes for fossil fuels that emit CO₂, which cause global warming-related damages; TEEB (The Economics of Ecosystems and Biodiversity), etc.
- Environment and Society..... The operation of an environmentally conscious economy; the realization of green economy, sustainable economic development, etc
- Environment and Society..... Environmental awareness at the individual and societal levels, progress of environmental education; poverty; the status of women

Rank 2 Category

Unit:%

	Total	Oceania			USA & Canada			Central America, Caribbean countries	South America	Western Europe			Africa	Middle East	Eastern Europe & former Soviet Union	Asia (All)						
	[2081]	[88]	Oceania (Except Australia) [22]	Australia [66]	[238]	Canada [39]	USA [199]	[51]	[115]	[242]	UK [59]	Western Europe (except UK) [183]	[132]	[41]	[58]	[1116]	Asian Region* [125]	India [58]	China [338]	Taiwan [95]	Korea [48]	Japan [452]
1. Climate Change	14	17	14	18	18	15	19	14	14	13	10	14	14	7	9	14	14	9	13	15	17	15
2. Biodiversity	13	25	14	29	15	18	15	14	19	19	14	20	16	10	12	10	16	17	6	4	10	12
3. Land Use	11	10	9	11	12	13	12	14	21	16	19	15	17	15	17	8	18	9	5	13	2	7
4. Pollution/Contamination	13	5	9	3	7	8	7	12	8	12	8	13	5	20	17	16	18	28	22	24	21	9
5. Water Resources	14	11	18	9	16	10	18	22	18	10	7	10	20	24	21	13	14	17	19	16	6	8
6. Population	7	14	5	17	7	5	8	8	3	7	10	5	6	10	0	7	5	7	8	2	4	8
7. Food	4	0	0	0	0	0	1	4	2	1	0	1	5	5	2	6	2	3	6	4	4	7
8. Lifestyles	6	2	5	2	5	3	6	4	3	9	12	8	4	5	2	7	1	5	4	6	25	8
9. Global Warming Measures	5	6	5	6	4	3	5	0	3	2	2	2	2	2	3	6	2	0	5	4	0	10
10. Environment and Economy	7	6	18	2	8	15	7	6	5	8	10	8	7	0	12	8	5	2	9	5	8	9
11. Environment and Society	4	2	0	3	5	8	4	2	4	4	8	3	3	2	3	4	4	2	4	6	2	4
12. Other	1	0	0	0	1	3	1	0	0	1	0	1	1	0	0	1	0	0	0	0	0	2
No Response	1	2	5	2	1	0	1	2	1	0	0	0	2	0	2	0	0	2	0	0	0	0
Number of Responses	[2055]	[86]	[21]	[65]	[236]	[39]	[197]	[50]	[113]	[242]	[59]	[183]	[126]	[41]	[57]	[1104]	[124]	[56]	[331]	[95]	[48]	[450]
Time for Rank 1 Category	9:10	9:58	9:59	9:58	9:49	9:37	9:51	9:30	9:35	9:26	9:41	9:21	8:43	8:52	8:29	8:57	9:18	8:55	9:09	8:17	9:01	8:50

*With the exception of India, China, Taiwan, Korea, and Japan

Rank 3 Category

Unit: %

	Total [2081]	Oceania (Except Australia)			USA & Canada			Central America, Caribbean countries [51]	South America [115]	Western Europe			Africa [132]	Middle East [41]	Eastern Europe & former Soviet Union [58]	Asia (All)						
		[88]	[22]	[66]	[238]	[39]	[199]			UK [59]	Western Europe (except UK) [183]	Asian Region* [125]				India [58]	China [338]	Taiwan [95]	Korea [48]	Japan [452]		
1. Climate Change	11	10	14	9	8	10	8	10	14	12	15	10	19	12	12	10	10	16	14	12	6	6
2. Biodiversity	11	15	23	12	13	13	14	12	16	16	20	15	14	15	10	8	10	17	4	6	15	10
3. Land Use	11	13	9	14	14	21	13	14	17	11	8	12	17	17	10	8	11	14	7	12	8	7
4. Pollution/Contamination	10	11	18	9	10	10	10	8	7	10	7	11	6	10	7	11	14	7	9	12	17	11
5. Water Resources	12	8	9	8	13	10	14	16	12	9	8	9	11	10	7	13	20	19	14	15	10	10
6. Population	6	8	0	11	9	5	10	6	6	7	7	8	5	5	5	6	10	9	6	3	6	5
7. Food	6	2	9	0	3	3	3	8	2	2	3	2	9	5	7	7	2	2	8	6	2	9
8. Lifestyles	7	5	0	6	7	10	6	6	6	11	8	11	2	5	10	7	5	2	6	4	13	9
9. Global Warming Measures	4	6	0	8	3	5	3	2	2	3	5	3	1	5	0	5	0	3	7	7	0	6
10. Environment and Economy	12	9	5	11	11	8	11	10	7	10	10	10	4	12	16	14	7	7	17	8	8	16
11. Environment and Society	9	9	9	9	8	5	8	8	8	7	7	7	9	2	12	9	9	3	7	15	13	10
12. Other	1	2	0	3	1	0	2	0	2	2	0	3	1	2	2	1	2	0	0	0	2	1
No Response	1	2	5	2	1	0	1	2	3	0	0	0	2	0	2	1	0	2	2	0	0	0
Number of Responses	[2044]	[86]	[21]	[65]	[236]	[39]	[197]	[50]	[111]	[242]	[59]	[183]	[127]	[41]	[57]	[1094]	[124]	[56]	[322]	[95]	[48]	[449]
Time for Rank 1 Category	8:31	9:20	9:37	9:15	9:13	9:03	9:15	9:05	8:52	8:52	8:55	8:50	8:11	7:53	7:48	8:16	8:33	8:42	8:13	7:42	8:32	8:15

*With the exception of India, China, Taiwan, Korea, and Japan

2. YOUR OPINIONS ON ENVIRONMENTAL PROBLEMS

2-1. Which environmental issue do you believe is most closely related to the category of problems you selected in first place in Question 1? Please select one category from the 12 listed in Table 1.

Top-Ranked Condition on the Environmental Doomsday Clock

Unit: %

Environmental issue most closely related to category in first place	Total	1. Climate Change	2. Biodiversity	3. Land Use	4. Pollution/Contamination	5. Water Resources	6. Population	7. Food	8. Lifestyles	9. Global Warming Measures	10. Environment and Economy	11. Environment and Society	12. Other
	[1397]	[520]	[149]	[128]	[109]	[112]	[117]	[25]	[65]	[37]	[66]	[45]	[15]
1. Climate Change	9	0	11	8	11	26	13	24	15	51	9	9	13
2. Biodiversity	6	8	0	20	5	5	3	0	2	0	5	4	7
3. Land Use	11	7	39	0	5	12	24	20	5	0	11	4	0
4. Pollution/Contamination	6	8	2	4	0	17	5	4	8	0	8	2	7
5. Water Resources	3	4	1	2	10	0	4	0	0	0	2	0	0
6. Population	9	8	9	13	14	14	0	24	17	0	9	9	13
7. Food	3	2	1	3	4	4	10	0	6	0	2	0	0
8. Lifestyles	12	13	6	11	11	3	9	8	0	19	26	33	27
9. Global Warming Measures	10	26	0	1	0	1	1	0	3	0	0	2	0
10. Environment and Economy	16	16	18	22	26	12	9	12	15	22	0	22	20
11. Environment and Society	9	6	7	13	10	4	17	8	17	8	24	0	13
12. Other	4	3	4	5	6	2	4	0	12	0	5	13	0
No Response	0	0	0	1	0	0	1	0	0	0	2	0	0

*Responses where the same selection was made for the top-ranked condition in Question 1 and Question 2-1 have been excluded from this count.

Top-Ranked Condition on the Environmental Doomsday Clock

Unit: %

	Total [1397]	Oceania			USA & Canada			Central America, Caribbean countries [42]	South America [92]	Western Europe			Africa [92]	Middle East [32]	Eastern Europe & former Soviet Union [42]	Asia (All)						
		Oceania (Except Australia) [19]	Australia [45]	Canada [24]	USA [137]	UK [39]	Western Europe (except UK) [152]			Asian Region* [84]	India [36]	China [26]				Taiwan [90]	Korea [39]	Japan [406]				
1. Climate Change	37	33	21	38	48	50	48	21	21	27	33	26	26	22	21	44	31	22	12	41	46	51
2. Biodiversity	11	16	21	13	7	4	8	12	21	17	15	18	14	3	14	7	20	11	4	1	5	6
3. Land Use	9	6	5	7	4	4	4	7	27	15	15	14	20	9	12	5	12	8	12	10	0	2
4. Pollution/Contamination	8	5	11	2	4	4	4	7	7	6	5	6	9	6	7	10	5	6	38	23	15	6
5. Water Resources	8	9	5	11	6	8	5	21	8	5	3	5	11	41	14	6	10	17	23	12	3	3
6. Population	8	11	11	11	13	13	13	5	2	9	5	10	8	3	5	9	12	31	4	1	0	9
7. Food	2	0	0	0	1	0	1	0	2	0	0	0	4	0	0	3	1	0	0	0	0	4
8. Lifestyles	5	3	5	2	5	4	5	10	5	10	8	11	1	0	5	4	0	0	0	1	23	3
9. Global Warming Measures	3	0	0	0	2	0	2	5	0	1	0	1	0	3	0	4	6	0	0	0	3	6
10. Environment and Economy	5	9	11	9	6	13	4	7	5	8	15	7	0	9	12	3	1	0	4	4	5	3
11. Environment and Society	3	3	0	4	2	0	2	2	1	2	0	2	5	3	7	4	1	3	4	6	0	4
12. Other	1	2	5	0	1	0	1	0	0	1	0	1	0	0	0	2	1	3	0	0	0	2

*Responses where the same selection was made for the top-ranked condition in Question 1 and Question 2-1 have been excluded from this count.

Environmental issue most closely related to category in first place

Unit: %

	Total [1397]	Oceania			USA & Canada			Central America, Caribbean countries [42]	South America [92]	Western Europe			Africa [92]	Middle East [32]	Eastern Europe & former Soviet Union [42]	Asia (All)						
		Oceania (Except Australia) [19]	Australia [45]	Canada [24]	USA [137]	UK [39]	Western Europe (except UK) [152]			Asian Region* [84]	India [36]	China [26]				Taiwan [90]	Korea [39]	Japan [406]				
1. Climate Change	9	9	0	13	10	8	10	14	9	6	3	7	17	9	10	9	12	0	8	18	10	7
2. Biodiversity	6	3	5	2	8	13	7	0	9	9	8	10	9	16	10	4	8	14	8	3	13	2
3. Land Use	11	14	11	16	9	4	10	19	18	12	8	13	18	9	14	9	18	22	4	9	5	6
4. Pollution/Contamination	6	6	11	4	5	8	4	10	3	7	3	8	0	3	21	7	2	22	8	16	13	4
5. Water Resources	3	3	0	4	4	0	5	5	2	2	0	2	7	3	5	3	1	0	19	7	0	1
6. Population	9	14	11	16	16	17	15	10	9	14	18	13	3	6	2	8	12	3	23	8	10	6
7. Food	3	0	0	0	1	0	1	2	1	2	3	2	7	3	0	4	2	0	4	3	0	5
8. Lifestyles	12	5	0	7	11	21	9	12	10	12	26	8	8	16	5	13	6	3	8	9	26	16
9. Global Warming Measures	10	13	5	16	3	0	4	5	5	7	8	7	5	9	0	15	4	6	0	7	3	22
10. Environment and Economy	16	16	21	13	15	21	14	10	21	14	10	14	11	13	14	18	18	17	15	12	18	19
11. Environment and Society	9	13	37	2	9	4	10	7	9	11	10	11	8	9	12	8	8	14	0	9	3	9
12. Other	4	5	0	7	7	4	8	7	4	5	5	5	7	3	7	2	6	0	4	0	0	2
No Response	0	0	0	0	1	0	1	0	0	1	0	1	1	0	0	0	2	0	0	0	0	0

*Responses where the same selection was made for the top-ranked condition in Question 1 and Question 2-1 have been excluded from this count.

2-2. Please select one item from the Table 2 that best reflects your rationale behind your choice in Question 2-1.

Unit: %

Top-ranked condition	Total	1. Climate Change	2. Biodiversity	3. Land Use	4. Pollution/Contamination	5. Water Resources	6. Population	7. Food	7. Food	8. Lifestyles	8. Lifestyles	9. Global Warming Measures	10. Environment and Economy	11. Environment and Society
		Closely related problem	9. Global Warming Measures	3. Land Use	10. Environment and	10. Environment and	1. Climate Change	3. Land Use	1. Climate Change	6. Population	6. Population	11. Environment and Society	1. Climate Change	8. Lifestyles
	[391]	[135]	[58]	[28]	[28]	[29]	[28]	[6]	[6]	[11]	[11]	[19]	[17]	[15]
1. It is the cause behind the first place issue	42	50	45	54	57	41	7	100	83	27	36	21	29	7
2. It is the result of the first place issue	14	13	3	4	4	10	61	0	0	0	0	37	18	7
3. The two categories have a strong interaction	43	36	52	43	39	48	32	0	0	73	64	37	53	87
4. Other	1	0	0	0	0	0	0	0	17	0	0	5	0	0

*Responses where the same selection was made for the top-ranked condition in Question 1 and Question 2-1 have been excluded from this count.

Unit: %

Selection Rational	Total	Oceania			USA & Canada			Central America, Caribbean countries	South America	Western Europe			Africa	Middle East	Eastern Europe & former Soviet Union	Asia (All)						
		Oceania (Except Australia)	Australia		Canada	USA				UK	Western Europe (except UK)	Asian Region*				India	China	Taiwan	Korea	Japan		
	[1397]	[64]	[19]	[45]	[161]	[24]	[137]	[42]	[92]	[191]	[39]	[152]	[92]	[32]	[42]	[681]	[84]	[36]	[26]	[90]	[39]	[406]
1. It is the cause behind the first place issue	40	30	26	31	38	38	38	43	45	41	51	39	37	22	24	43	35	22	50	28	38	50
2. It is the result of the first place issue	17	19	21	18	19	21	19	19	13	19	13	20	12	31	26	15	13	22	15	11	23	16
3. The two categories have a strong interaction	41	44	53	40	39	42	38	36	42	38	36	39	49	44	50	40	49	56	35	61	36	33
4. Other	2	6	0	9	3	0	4	2	0	1	0	1	2	3	0	1	2	0	0	0	3	1
No Response	0	2	0	2	1	0	1	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0

*Responses where the same selection was made for the top-ranked condition in Question 1 and Question 2-1 have been excluded from this count.

2-3. What type of measures do you think would be most effective in solving the two categories of environmental problems that you selected in Questions 1 and 2-1? Please select one category from Table 3. Furthermore, please also specify the rationale for your selection, or write a specific measure.

Unit: %

Category	Top-ranked condition	Total	1. Climate Change	2. Biodiversity	3. Land Use	4. Pollution/Contamination	5. Water Resources	6. Population	7. Food	7. Food	8. Lifestyles	8. Lifestyles	9. Global Warming Measures	10. Environment and Economy	11. Environment and Society
	Closely related problem		9. Global Warming Measures	3. Land Use	10. Environment and	10. Environment and	1. Climate Change	3. Land Use	1. Climate Change	6. Population	6. Population	11. Environment and Society	1. Climate Change	8. Lifestyles	8. Lifestyles
		[391]	[135]	[58]	[28]	[28]	[29]	[28]	[6]	[6]	[11]	[11]	[19]	[17]	[15]
1. Political Action		26	36	28	7	18	28	18	33	33	9	0	37	12	13
2. Economic Measures		31	28	36	54	54	10	14	17	17	27	18	26	47	27
3. Society and Education		32	20	31	36	18	52	54	17	50	55	82	16	35	53
4. Scientific Technology		9	14	3	0	7	10	7	33	0	0	0	21	6	7
5. Others		2	2	2	4	4	0	7	0	0	9	0	0	0	0

*Responses where the same selection was made for the top-ranked condition in Question 1 and Question 2-1 have been excluded from this count.

Unit: %

Category	Total	Oceania			USA & Canada		Central America, Caribbean countries	South America	Western Europe			Africa	Middle East	Eastern Europe & former Soviet Union	Asia (All)							
		Oceania (Except Australia)	Australia		Canada	USA			UK	Western Europe (except UK)	Asian Region*				India	China	Taiwan	Korea	Japan			
	[1397]	[64]	[19]	[45]	[161]	[24]	[137]	[42]	[92]	[191]	[39]	[152]	[92]	[32]	[42]	[681]	[84]	[36]	[26]	[90]	[39]	[406]
1. Political Action	23	31	11	40	25	29	25	19	23	25	31	24	16	16	26	22	29	17	35	12	18	23
2. Economic Measures	28	19	26	16	25	33	24	40	34	31	33	30	28	38	29	26	20	22	27	21	26	28
3. Society and Education	37	36	58	27	38	29	39	26	40	35	31	36	50	41	36	36	42	58	27	46	56	30
4. Scientific Technology	8	2	5	0	6	0	7	2	0	3	3	3	3	6	5	13	5	3	12	17	0	17
5. Others	4	11	0	16	6	8	5	12	3	6	3	7	2	0	5	3	5	0	0	3	0	3
No Response	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0

*Responses where the same selection was made for the top-ranked condition in Question 1 and Question 2-1 have been excluded from this count.

Respondent Affiliation

Employment

Unit: %

	Total [2081]	Oceania			USA & Canada			Central America, Caribbean countries [51]	South America [115]	Western Europe			Africa [132]	Middle East [41]	Eastern Europe & former Soviet Union [58]	Asia (All)						
		Oceania (Except Australia) [88]	Australia [22]		Canada [39]	USA [199]	UK [59]			Western Europe (except UK) [183]	Asian Region* [125]	India [58]				China [338]	Taiwan [95]	Korea [48]	Japan [452]			
1. National government	6	11	9	12	7	13	6	20	9	2	3	2	7	10	12	4	10	10	2	16	4	1
2. Local government	6	3	5	3	3	10	1	6	4	2	0	3	2	10	2	8	2	2	8	19	4	8
3. University/research institution	35	41	36	42	37	26	39	24	39	39	36	40	30	39	45	34	30	29	20	28	6	50
4. Nongovernmental Organization	22	27	41	23	23	15	24	31	33	30	25	32	39	27	33	16	41	41	6	15	73	8
5. Corporation	14	3	0	5	3	13	2	0	3	5	12	3	5	5	0	24	2	2	56	21	2	11
6. Mass Media	2	1	0	2	11	0	13	0	0	0	0	0	0	0	0	1	0	3	0	0	0	2
7. Other	14	13	9	14	17	23	16	20	12	21	24	20	17	10	9	12	15	12	6	1	10	19
No response	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0

*With the exception of India, China, Taiwan, Korea, and Japan

Gender

Unit: %

	Total [2081]	Oceania			USA & Canada			Central America, Caribbean countries [51]	South America [115]	Western Europe			Africa [132]	Middle East [41]	Eastern Europe & former Soviet Union [58]	Asia (All)						
		Oceania (Except Australia) [88]	Australia [22]		Canada [39]	USA [199]	UK [59]			Western Europe (except UK) [183]	Asian Region* [125]	India [58]				China [338]	Taiwan [95]	Korea [48]	Japan [452]			
Male	71	70	55	76	71	87	68	63	66	74	73	75	77	76	69	71	70	83	49	60	38	92
Female	28	30	45	24	29	13	32	35	34	25	27	25	21	24	31	29	29	17	50	40	63	8
No response	0	0	0	0	0	0	0	2	0	0	0	1	2	0	0	0	1	0	1	0	0	0

*With the exception of India, China, Taiwan, Korea, and Japan

Age

Unit: %

	Total [2081]	Oceania			USA & Canada			Central America, Caribbean countries [51]	South America [115]	Western Europe			Africa [132]	Middle East [41]	Eastern Europe & former Soviet Union [58]	Asia (All)						
		Oceania (Except Australia) [88]	Australia [22]		Canada [39]	USA [199]	UK [59]			Western Europe (except UK) [183]	Asian Region* [125]	India [58]				China [338]	Taiwan [95]	Korea [48]	Japan [452]			
20s	11	6	14	3	3	3	4	8	2	3	3	3	4	5	9	17	3	5	41	31	27	1
30s	20	13	14	12	10	8	11	12	23	14	15	14	22	37	12	24	23	36	41	35	48	5
40s	21	22	32	18	18	15	18	22	29	29	32	28	36	27	24	17	35	16	13	19	10	14
50s	22	23	14	26	24	33	23	47	30	28	20	30	20	15	31	19	22	22	4	9	6	32
60s	18	25	18	27	28	33	27	10	12	19	19	19	12	10	17	16	12	14	1	4	8	33
Over 70	8	13	9	14	16	8	18	0	5	7	8	7	5	7	7	7	5	7	0	2	0	15
No response	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0

*With the exception of India, China, Taiwan, Korea, and Japan

About "Number of responses" and "no response"

Number of responses counted the number of valid responses, which consisted of either single answers or when the question asked for multiple responses, selections made under the requested number of choices. When there were more responses than the number requested, the response was invalidated.

No response: Respondent did not provide a selection.

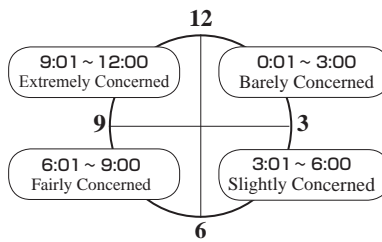
V. Questionnaire as Distributed to Respondents

1. Awareness of the Crisis Facing Human Survival - Environmental Doomsday Clock

In Table1, environmental issues to be taken into account are shown. Keeping in mind the problems that the environment faces at a global level, please select the three most pressing issues for the country or the region where you reside. Then, please rank them in the order of importance. Lastly, for each item, select a time using hours and minutes between 0:10 to 12:00, to indicate the level of crisis for that issue. For the purposes of calculating results, please select your times in units of 10 minutes. If you wish to suggest another category, please do so under item “12. Others.”

----- Example -----

Category Number	TIME
First (1.)	<input type="text" value="9"/> : <input type="text" value="30"/>
(of the first magnitude)	
Second (5.)	<input type="text" value="7"/> : <input type="text" value="40"/>
(of the second magnitude)	
Third (3.)	<input type="text" value="8"/> : <input type="text" value="20"/>
(of the third magnitude)	



----- Answer -----

Category Number	TIME
First ()	<input type="text"/> : <input type="text"/>
(of the first magnitude)	
Second ()	<input type="text"/> : <input type="text"/>
(of the second magnitude)	
Third ()	<input type="text"/> : <input type="text"/>
(of the third magnitude)	

About the calculation of the time on the Environmental Doomsday Clock

The time on the Environmental Doomsday Clock will be determined by taking the weighted average of the data. The issue ranked in first place will be weighted at 50%, second place at 30%, and third place at 20%. In the example shown, the time comes to 8:43.

Table 1. Environmental issues to be taken into account

Category	Examples of Observable Changes in the Country or the Region in which You Reside
1. Climate Change	Increase in atmospheric concentration of CO ₂ ; ocean acidification; climatic aberrations (droughts, torrential rains and flooding, severe storms, heavy snow, abnormal temperatures, drying of rivers and lakes, desertification, etc.)
2. Biodiversity	Acceleration of species extinction
3. Land Use	Expansion of cultivated land mass; destruction of forests due to erratic development; desertification caused by overgrazing; agriculture and land use without regard for the environment; urbanization
4. Pollution / Contamination	Increase in river and ocean pollution, soil contamination: eutrophication caused by excessive nitrogen and phosphorus and contamination by chemical substances; atmospheric pollution: particulates suspended in the atmosphere, soot and chemical substances
5. Water Resources	Diminution of usable fresh water resources (depletion, contamination)
6. Population	Regional and national population growth; Urban population growth unrelated to national trend
7. Food	Diminution of food supply from land and oceans
8. Lifestyles	Transformation of lifestyles away from excessive consumption of resources and energy
9. Global Warming Measures	Progress of measures for mitigation and adaption
10. Environment and Economy	Progress towards implementing an economic system to reflect environmental costs, the bearing of social costs: imposition of taxes for fossil fuels that emit CO ₂ , which cause global warming-related damages; TEEB (The Economics of Ecosystems and Biodiversity), etc. The operation of an environmentally conscious economy: the realization of a green economy, sustainable economic development, etc.
11. Environment and Society	Progress in environmental awareness at the individual and societal levels, and in environmental education; poverty eradication
12. Others*	()

* Please write in a new category in the space provided above.

2. Your Opinions on Environmental Problems

2-1. Which environmental issue do you believe is most closely related to the category of problems you selected in first place in Question 1? Please select **one** category from the 12 listed in Table 1. For those selecting “Others” (Category 12), please specify your response in the space provided below.

Environmental issue most closely related to category in first place in Question 1: ()

Others :

2-2. Please select **one** item from the Table 2 that best reflects your rationale behind your choice in Question 2-1. If you selected “Others” (Item 4), please write in your rationale.

Table 2. Rationale for Selecting the Category in Question 2-1

Item	Selection Rationale
1	It is the cause behind the first place issue in Question 1
2	It is the result of the first place issue in Question 1
3	The two categories have a strong interaction
4	Others (Please specify your rationale)

Selection Rationale: ()

Rationale for selecting “Others” (Item 4):

2-3. What type of measures do you think would be most effective in solving the two categories of environmental problems that you selected in Questions 1 and 2-1? Please select **one** category from Table 3. Furthermore, please also specify the rationale for your selection, or write a specific measure. If you would like to suggest measures in another category, “Others” (Category 5), please specify both the category and the measure in the space provided.

Table 3. Measures to Resolve Environmental Problems

Category	Examples of Specific Measures
1. Political Action	International cooperation, Measures to alleviate disparity in wealth, or other
2. Economic Measures	Economic policy that allows for sustainable development while taking the environment into consideration, or other
3. Society and Education	Education about environmental problems, Raising awareness on environmental problems, Transforming lifestyles, Practical activities like environmental protection, or other
4. Scientific Technology	The development of theories about environmental problems, The establishment of scientific guide line towards the resolution of environmental problems, The development of energy saving technology, or other
5. Others	(Please specify the category and the measure(s) in the space provided)

Category: ()

Rationale or a specific measure:

To be continued

3. Feel free to write comments on any topic related to environmental problems.

**Results of the 24th Annual
“Questionnaire on Environmental Problems and the Survival of Humankind”**

REPORT

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