

For Immediate Release

September 6, 2023

The Asahi Glass Foundation Announces the Results of the 32nd Annual “Questionnaire on Environmental Problems and the Survival of Humankind”

- ◆ The time on the Environmental Doomsday Clock has turned back for three consecutive years since 2021, striking 9:31 in 2023.
- ◆ Looking at the time on the Clock around the world, the Clock went back more than 10 minutes compared to last year in South America, Western Europe, and the Middle East; but it moved forward more than 20 minutes in Mexico, Central America & the Caribbean, and Eastern Europe & former Soviet Union.
- ◆ "Climate Change" has been the top environmental issue since 2011 that the respondents worldwide have had on their minds in determining the time on the Clock.
- ◆ With regard to transitioning to a decarbonized society, the results showed an equal lack of progress in “Policies and Legal System” and “Social Infrastructure (Funds, Human Resources, Technologies, and Facilities)” compared with “Public Awareness.”
- ◆ Regarding the world’s problems, “13. Climate Action” was the most selected as the goal that respondents are most concerned about, followed by “1. No Poverty,” and “16. Peace, Justice and Strong Institutions.”

The Asahi Glass Foundation (Chairman: Takuya Shimamura) has conducted an annual survey with environmental experts from around the world since 1992. This year, we sent the questionnaire to 202 countries around the world, and received responses from 1,805 people in 130 countries. Below are the main points from this year’s questionnaire results. Further details are available in the report of the “32nd Annual Questionnaire on Environmental Problems and the Survival of Humankind,” or online at the Foundation’s web site, starting at 11 a.m. September 6, 2023.

I. Level of the Crisis Facing Human Survival - The Environmental Doomsday Clock

I-1 The Time on the Environmental Doomsday Clock

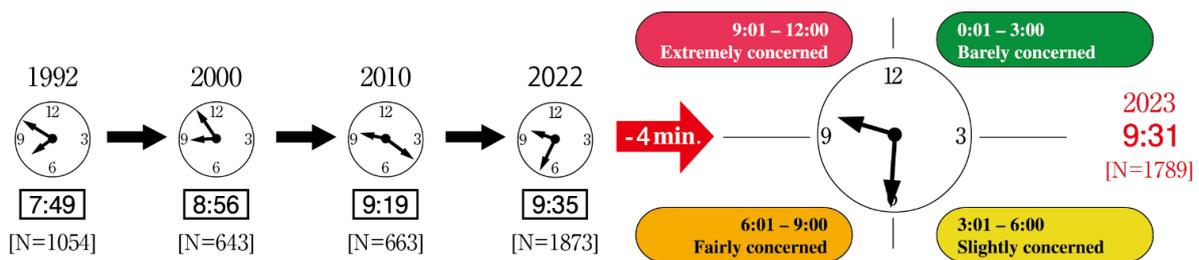


Fig. 1 Change in the Time on the Environmental Doomsday Clock Since 1992

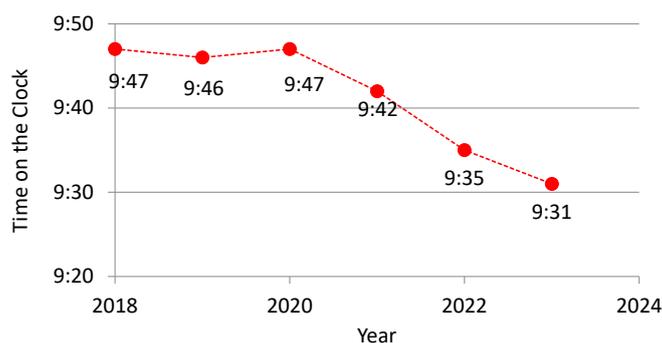


Fig. 2 Change in the Time on the Environmental Doomsday Clock over Six Years



■ represents regions where the time retreated further from midnight than last year
 ■ represents regions where the time became closer to midnight than last year

Fig. 3 Regional Times on the Environmental Doomsday Clock

• The time on the Environmental Doomsday Clock for the world had been moving forward since 2011. However, it has turned back for three consecutive years, striking 9:31 in 2023. (Fig. 1, 2)

Regions with significant changes in the time on the Clock compared to last year (Fig. 3)

- In South America the time is 9:22, which is 21 minutes earlier than last year.
- In Eastern Europe & former Soviet Union the time is 10:01, which is 24 minutes later than last year.

Table 1. Change in the Time on the Environmental Doomsday Clock (World)

Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Time	-	7:49	8:19	8:47	8:49	9:13	9:04	9:05	9:08	8:56
Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Time	9:08	9:05	9:15	9:08	9:05	9:17	9:31	9:33	9:22	9:19
Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Time	9:01	9:23	9:19	9:23	9:27	9:31	9:33	9:47	9:46	9:47
Year	2021	2022	2023							
Time	9:42	9:35	9:31							

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

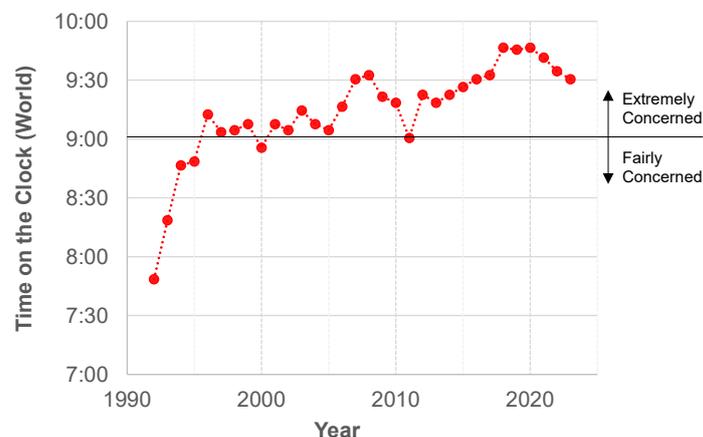


Fig. 4 Change in the Time on the Environmental Doomsday Clock since 1992

- Regarding the change in the Time on the Environmental Doomsday Clock, since 1996, the time on the clock has consistently remained in the 9 o'clock range, in the “Extremely Concerned” quadrant, with the exception of the year 2000. (Tab. 1, Fig. 4)

I-2 Change in the Time on the Environmental Doomsday Clock by Generation (2014 - 2023)

- The survey respondents aged 60 and over tended to report more advanced times on the Clock than other age groups.
- This year, the time reported by respondents in their 40s and 50s moved forward by five minutes. As a result, the difference in the time between those in their 20s & 30s and the older age groups (40s and above) has become pronounced. (Fig. 5-1)

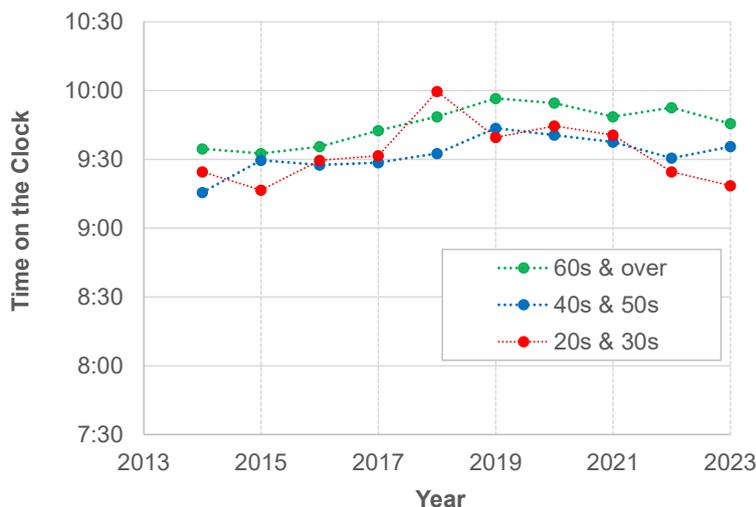


Fig. 5-1 Change in the Time on the Environmental Doomsday Clock by Generation

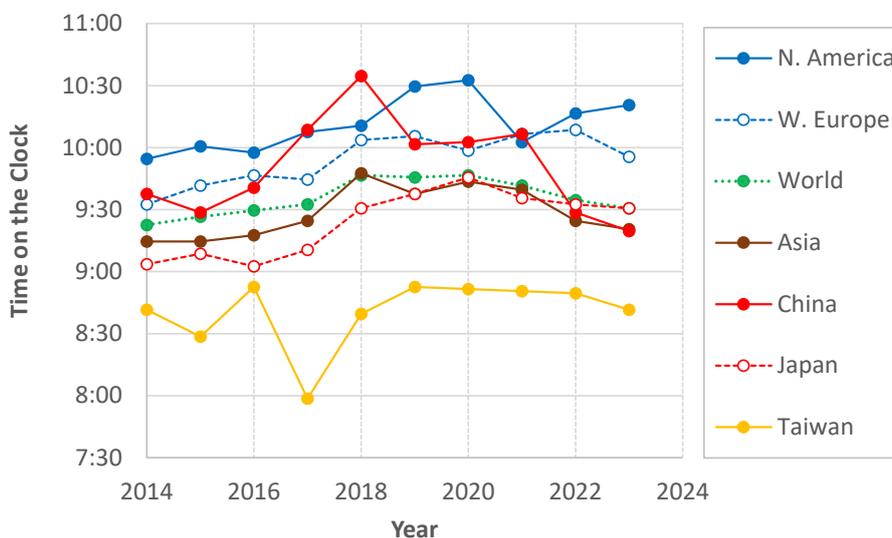


Fig. 5-2 Change in the Time on the Environment Doomsday Clock Since 2013

- There is a high number of survey respondents from China and those in their 20s and 30s, who account for nearly 90% of the total number of respondents from China, seem to consider that environmental issues in China have improved due to the environmental measures being taken by the Chinese government. (Fig. 5-2)

II. “Environmental Issues to be Taken into Account” in Determining the Time on the Clock

In determining the time on the Environmental Doomsday Clock, the questionnaire asked respondents to select, from the following nine categories of environmental problems, the three most pressing issues for the country or region where they reside, and rank them in order of importance. (See the Questionnaire Report for further details.)

Nine Environmental Issues to be Taken into Account:

1. Climate Change, 2. Biosphere Integrity (Biodiversity), 3. Land-system Change (Land Use),
4. Biochemical Flows (Pollution/Contamination), 5. Water Resources, 6. Population, 7. Food,
8. Lifestyle (Consumption Habits), 9. Society, Economy and Environment, Policies, Measures

II-1 Weighted Average Selection Percentage of the Nine Environmental Issues

- As in the last year, “Climate Change” (30%) was the most often selected category among the “environmental issues to be taken into account,” which are used to calculate the time on the worldwide Environmental Doomsday Clock. This was followed by “Biosphere Integrity (Biodiversity)” (13%). The percentage of each issue has changed little for over six years. (Fig. 6)

II-2 Weighted Average Time on the Environmental Doomsday Clock of the Nine Environmental Issues

- When arranging the “environmental issues to be taken into account” for the entire world in order of descending time on the Clock, “Biosphere Integrity (Biodiversity)” (9:59) and “Climate Change” (9:33) were all closer to midnight than the world’s average time of 9:31.

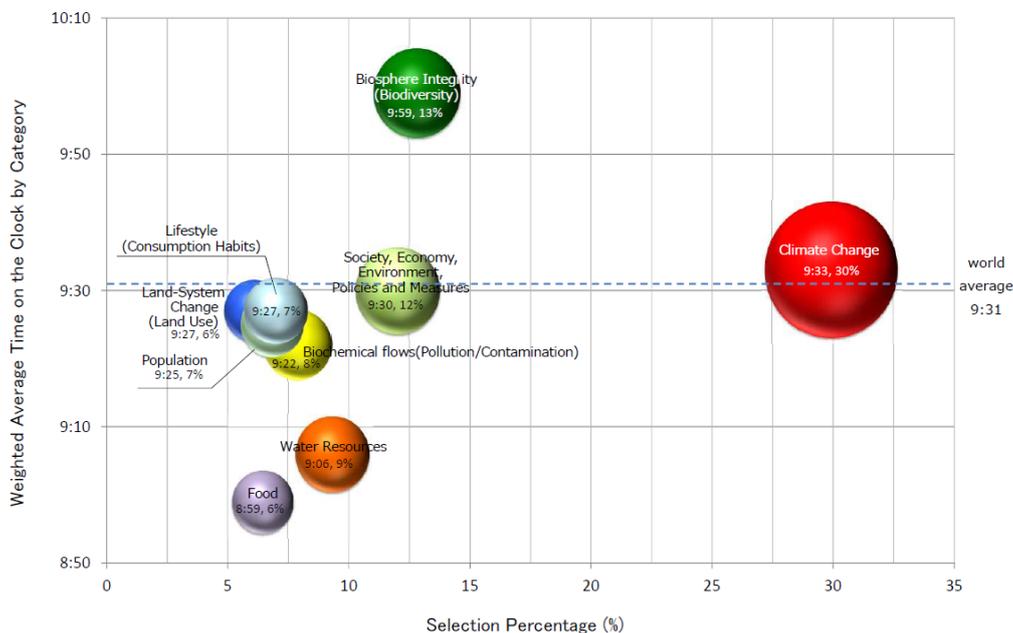


Fig. 6 Distribution of the Environmental Issues, Showing Selection Percentage of Respondent's 3 Most Pressing Issues and the Time on the Clock

<The details regarding regional distribution of “Environmental Issues to be Taken into Account” are described in section III-1-2-5 of the Report.>

III. Signs of Improvement in the Approach to Environmental Issues: Comparison with the Situation Prior to 2015, When the Paris Agreement and SDGs Were Adopted

Signs of improvement were investigated from the three perspectives, (1) Public Awareness, (2) Policies and Legal System, and (3) Social Infrastructure (Funds, Human Resources, Technologies, and Facilities). We asked, from a list of “Environmental Issues to be Taken into Account,” the respondent’s opinion on whether there have been signs of improvement in the approach to global environmental issues with respect to a decarbonized society and where they saw signs of improvement.

We calculated the average score by quantifying the answers on whether there had been any improvements and giving a score of -2 for the answer “Not improved at all,” -1 for the answer “Somewhat not improved,” 0 for the answer “Cannot say either way,” +1 for the answer “Somewhat improved,” and +2 for the answer “Definitely improved.”

III-1 Progress in a Transition to a Decarbonized Society

- Overall, with regard to transitioning to a decarbonized society, the results showed an equal lack of progress in “Policies and Legal System” and “Social Infrastructure (Funds, Human Resources, Technologies, and Facilities)” compared with “Public Awareness.” (Fig. 7, based on Tab. 8 in Report)

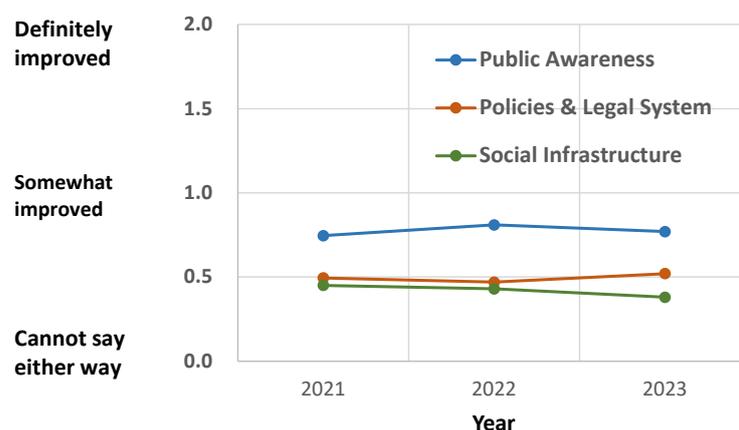


Fig. 7 Progress in a Transition to a Decarbonized Society: Change in Average Scores from 3 Perspectives

<Progress in a Transition to a Decarbonized Society: The details are shown on page 27 of the Report.>

III-2 Categories Showing Signs of Improvement

- The category most frequently selected for showing signs of improvement was “Climate Change” at 27.0%, followed by “Society, Economy and Environment, Policies, Measures” at 16.3%, and “Lifestyle (Consumption Habits)” at 12.7%. (Table 2, Fig. 8)
- Concerning efforts against “Climate Change, the respondents see more improvements in “Public Awareness (1.28)” than in “Policies and Legal System (0.75) and “Social Infrastructure (0.71).” The score of each issue has changed little since last year. (Table 2)

Table 2. Signs of Improvement: Selection Percentage and Average Score in Signs of Improvement (2023)

Signs of Improvement Selected Category	Selection Percentage (%)	Public Awareness	Policies and Legal System	Social Infrastructure
Climate Change	27.0	1.28	0.75	0.71
Society, Economy and Environment, Policies, Measures	16.3	1.03	0.99	0.76
Lifestyle (Consumption Habits)	12.7	1.11	0.62	0.70
No Sign of Improvement	16.6	-	-	-

<Signs of improvement in the approach to environmental issues: The details are shown on pages 26-29 of the Report.>

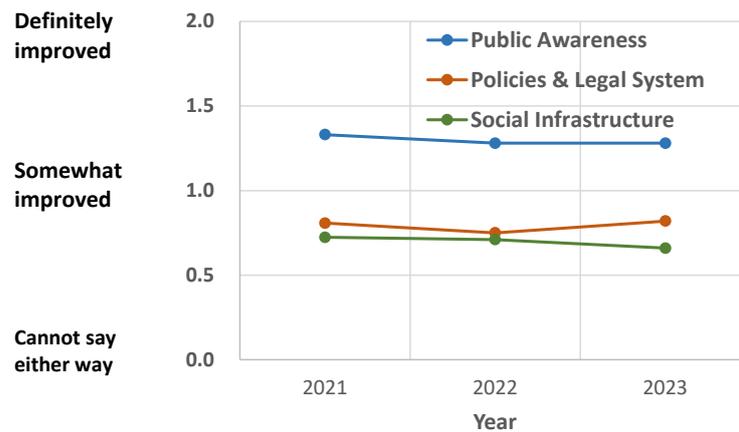


Fig. 8 Signs of Improvement (Climate Change): Change in Average Scores from 3 Perspectives

<Signs of Improvement (Climate Change): The details are shown on page 28 of the Report.>

IV Awareness and Realization of the 17 sustainable development goals (SDGs)

Regarding the 17 sustainable development goals (SDGs), we asked the respondents to choose and rank three goals (out of the 17 SDGs) in which respondents are most interested, in their daily lives and three goals that respondents are most concerned about, regarding the world’s problems. Responses were analyzed by the 1st-3rd summation method, and the results are shown in Tables 9-1 and 9-2. More detailed data is available in the 2023 annual report of the survey.

Table 9-1 Five Goals (out of the 17 SDGs) in Which Respondents Are Most Interested, in Their Daily Lives

1st	13. Climate Action
2nd	3. Good Health and Well-being
3rd	7. Affordable and Clean Energy
3rd	15 Life on Land
5th	11. Sustainable Cities and Communities

Table 9-2 Five Goals (out of the 17 SDGs) That Respondents Are Most Concerned About, Regarding the World’s Problems

1st	13. Climate Action
2nd	1. No Poverty
3rd	16. Peace, Justice and Strong Institutions
4t	2. Zero Hungers
5th	6. Clean Water and Sanitation

- In respondents’ world view, “13. Climate Action,” “3. Good Health and Well-being,” and “7. Affordable and Clean Energy,” and “15 Life on Land” were selected in many countries as the goals in which they are most interested, in their daily lives. The choices for goals 3 and 7 may reflect the feelings of respondents who wish for daily health after going through the COVID-19 pandemic and are frustrated by the recent rise in energy prices.
- In most countries and regions, “13. Climate Action” was most frequently selected as the world problem that respondents are most concerned about, followed by “1. No Poverty,” and “16. Peace, Justice and Strong Institutions.” It is clear that many people around the world are concerned about climate change as the world problem and have it at the forefront of their minds in their daily lives.

Table 10-1 Five Goals (out of the 17 SDGs) That Will Have the Highest Level of Realization in 2030

1st	6. Clean Water and Sanitation
2nd	4. Quality Education
3rd	2. Zero Hungers
4t	9. Industry, Innovation and Infrastructure
5th	3. Good Health and Well-being

Table 10-1 Five Goals (out of the 17 SDGs) That Will Have the Lowest Level of Realization in 2030

1st	1. No Poverty
2nd	13. Climate Action
3rd	10. Reduced Inequalities
4t	5. Gender Equality
5th	16. Peace, Justice and Strong Institutions

Regarding realization of the 17 sustainable development goals (SDGs) in 2030, we asked the respondents to choose and rank three goals (out of the 17 SDGs) that will have the highest/lowest level of realization in 2030, in terms of the realization level in the respondents’ own country/region. Responses were analyzed by the 1st-3rd summation method, and the results are shown in Tables 10-1 and 10-2. More detailed data is available in the 2023 annual report of the survey.

- In many countries and regions, “6. Clean Water and Sanitation,” “4. Quality Education, and “2. Zero Hunger“ were selected, on average, as goals that will have the highest level of realization in 2030.
- In the respondents’ own country or region, “1. No Poverty,” “13. Climate Action,” and “10. Reduced Inequalities” were most commonly selected as goals that will have the lowest level of realization in 2030. These are common major challenges worldwide.
- The number of respondents who think it is difficult to achieve “5. Gender Equality” in their own countries by 2030 is particularly high in Japan, China, and Korea.

This survey includes a section where respondents are invited to provide their opinions and write about the environmental realities they face in their region of the world, as well as offer suggestions for improvement. Within the many responses we received from various countries, the respondents provided meaningful opinions and comments. As in previous years, we will post a selection of opinions and comments on the Asahi Glass Foundation website at 11 a.m. on September 6, 2023. Please read through the candid opinions of environmental experts.
<https://www.af-info.or.jp/questionnaire/result.html>

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Appendix 1

● Regarding the “Questionnaire on Environmental Problems and the Survival of Humankind”

Since 1992, the Asahi Glass Foundation has conducted a survey every year with experts around the world who are knowledgeable and are involved in environmental issues. The respondents are environmental experts who work or who have worked for governments, universities, research institutions, NGOs, corporations, and mass media. These experts are queried about various endeavors to counter environmental problems. The questionnaire is produced in six languages (English, Chinese, French, Korean, Spanish, and Japanese) and is sent out in April every year, and returned by June. After the responses are compiled and analyzed, the survey results are published in September. This year, we received responses returned from 130 countries. The highest respondent percentage by organization in descending order is, universities and research institutions, corporations, NGOs/NPOs, central governments, local governments, and mass media. (Fig.8, Table 3)

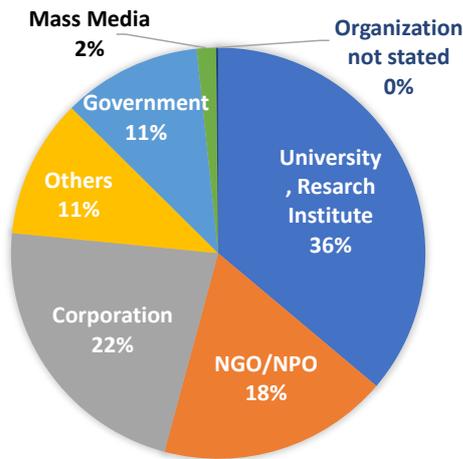


Fig. 8 Breakdown of Respondents by Organization

Table 3. Number of Countries Surveyed

Region	Number of Countries
Africa	31
Asia	23
Mexico, Central America, The Caribbean	12
Eastern Europe & former Soviet Union	17
Western Europe	19
Middle East	9
North America	2
Oceania	5
South America	12
Total	130

● Facts about This Year's Questionnaire

Survey period: April to June 2023

Respondents:

Environmental experts who work or who have worked for national or local governments, NGOs, NPOs, universities, research institutions, corporations, and mass media, worldwide (listed on the Asahi Glass Foundation database).

Number of questionnaires mailed: 29,729

Number of questionnaires returned: 1,805

Response rate: 6.1%

Table 4. Number of Respondents Surveyed

Region	Number of Respondents	%
Africa	76	4.2
Asia	1180	65.4
Mexico, Central America, The Caribbean	47	2.6
Eastern Europe & former Soviet Union	30	1.7
Western Europe	187	10.4
Middle East	19	1.1
North America	139	7.7
Oceania	44	2.4
South America	83	4.6
Total	1805	100.0

Appendix 2

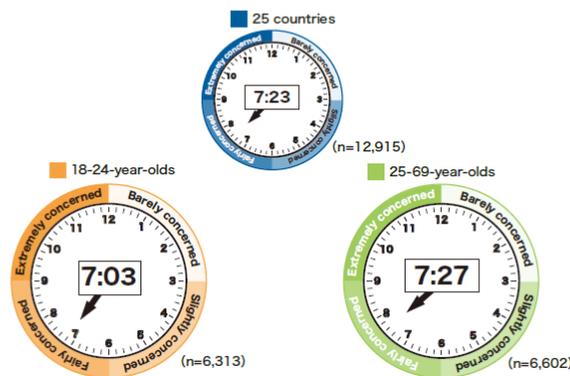
● 2023 Survey on the Awareness of Environmental Issues Among the General Public in Japan and 24 other countries

The Asahi Glass Foundation, chaired by Takuya Shimamura, conducted an online survey of 13,500 people in Japan and 24 other countries in total, with 6,589 participants aged 18-24, and 6,911 participants aged 25-69. Its goal was to assess awareness and action regarding environmental issues. The survey was supervised by Professor Norichika Kanie of Keio University. Its main findings were as follows:

- Overall, participants rated "Climate Change" as the most pressing environmental issue in the country or region where they reside and expressed concern over extreme weather conditions.
- The average time given by global environmental experts was two hours ahead of the general public, at 9:31, "extremely concerned."
- The time on the Environmental Doomsday Clock of the world moved back by 2 minutes. By country, in Japan, China, Italy, and Germany, the time moved back by more than 20 minutes, while in South Korea, the UK, and France, the time moved forward by more than 20 minutes.

The results of the 2023 Survey on the Awareness of Environmental Issues Among the General Public in Japan and 24 other countries are available on our website: https://www.af-info.or.jp/en/ed_clock/wdsense_result.html

Environmental crisis awareness shown on the Environmental Doomsday Clock



Countries with above-average crisis awareness

Country	Average Time
South Korea	8:21
South Africa	8:08
Brazil	8:06
UK	8:05
Mexico	8:03
Nigeria	7:57
France	7:39
Spain	7:39
Italy	7:37
USA	7:27

Countries with below-average crisis awareness

Country	Average Time
Sweden	6:07
Norway	6:15
China	6:41
Japan	6:42
UAE	6:57
Australia	7:10
Poland	7:11
India	7:12
Germany	7:12
Canada	7:18

(Sample size: 12,915)

*The results have been weighted to account for differences in sample sizes, and the age distribution of each country's population.