***Public Attitudes towards nuclear power and climate change: uk-japan comparison after ten years of fukushima nuclear accident***

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## Overview

This paper explores public attitudes towards nuclear power and climate change in the UK and Japan based on web based online survey conducted in 2020, 10 years after Fukushima nuclear accident. Both countries have set ambitious decarbonization goal, and retain the nuclear power as an option to reduce CO2 emission in the power sector. Yet, the public attitudes toward nuclear power has been different even before the Fukushima nuclear accident. We identify the difference in attitudes toward utilization of nuclear power between the two countries as well as the differences in perceptions of the related issues, including climate change and government regulation. We also examine the changes from their attitudes revealed by earlier studies, such as Poortinga et al. (2013) and Poortinga et al. (2014).

## Methods

We conducted a web based online survey for people aged 20 years and older in the UK and Japan during November 24 – December 2 in 2020, and collected 2,060 and 3,092 adults weighted the sample to make it representative of the UK and Japan, respectively. We included some of the same questions that were asked in the earlier studies, and compared the results. We analyzed the public attuitudes toward nuclear power between the two countries and investigate the differences in their perception of the potential benefits or contributions of nuclear power to energy and environmental policy as well as the risks of nuclear power and climate change.

## Results

About a half of respondents in the UK indicate their support for constructing nuclear power plant if it would help to tackling climate change (conditional acceptance), and it is 30% higher than in Japan, as shown in Figure 1. Such a difference also exists in terms of supporting new nuclear power as a way to increase energy security. These results are largely unchanged from those of earlier studies since 2005. The proportion of respondents who think that (without any conditions) they should increase the number of nuclear power stations, and those who think they should continue using the existing nuclear power stations, and replace them with new ones when they reach the end of their life is also in sum total about 20% in Japan. The proportion of respondents who agree with the statement that their country needs a mix of energy source including nuclear and renewable energy sources to ensure a reliable supply of electricity is also higher in the UK (62%) as compared to Japan (46%), but the difference between the two countries is smaller as compared to the results of the conditional support for new nuclear power plants.



**Figure 1: Agreement with the statement “I am willing to accept the buidlin go fnew nuclear power stations if it would helpf to tackle climate change” (% strongly/tend to agree)**

Note: Data up to 2015 are taken from other survey conducted by different research groups in the UK and Japan.

A larger proportion of respondents are concerned about climate change both in the UK and Japan (r=0.98), as shown in Figure 2. Yet, a much smaller proportion of respondents agree with the statement that nuclear power generation will help combat climate change (about 30% in the UK and 20% in Japan). With respect to change needed to their general lifestyle and consumption habits to stop the effects of climate change happening, the proportion of respondents, who think that they need to rely on technological development of cleaner energy sources rather than changing their behaviour is higher in Japan than in the UK. The proportion of respondents who gives priority to protecting the environment over the economic growth is higher in the UK than in Japan. In addition, those who think “it is my responsibility to help do something about climate change” is higher in the UK.



**Figure 2: Concern about Climate Change**

The proportions of respondents who are concerned about risks of various aspects of nuclear power plants are generally higher in Japan than in the UK. Those who feel confident that their government adequatey regulates nuclear power is higher in UK as compared to Japan, as was identified by earlier studies. In the UK, the level of confidence in the ability of government to regulate nuclear power is perceived as higher than the ability of to tackle other policy issues (climate change and COVID-19), while in Japan it is generally lower not only in nuclear power regulation but also in other areas. In Japan, the proportion of the respondents who think that nuclear power generation has become safer by taking measures based on the lessons learned from the Fukushima Dai-ichi nuclear accident is lower than in the UK.

## Conclusions

We confirmed that, as indicated by earlier studies, people in Japan have been more reluctant to support building nuclear power plants even if they can contribute to tackling climate change and energy security. The level of concerns about climate change among the Japanese people is not necessarily lower than those of the UK; however, the level of trust in government regulation of nuclear power among the Japanese people is lower than those of the UK. Although both the UK and Japan have an option to rely on nuclear power to achieve the net zero (carbon neutral) target, the results of our survey suggested that the issues need to be addressed to utilize nuclear power in the long term would be different in the UK and Japan.

## References

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