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Trust in Government and Effective Nuclear Safety Governance in Great Britain

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Nuclear power can play an important role in reducing carbon emissions and improving energy security. However, the debates over new nuclear power technologies such as Hinkley Point C reflect longstanding public concerns over safety and other considerations including newer concerns such as implications of security from China's involvement in new nuclear projects. Nevertheless, we observe one particular area affecting this debate, which has been largely neglected to date, namely the predictability of the UK government's trustworthiness in nuclear safety emergency governance (NSEG). Our quantitative study strives to close this research gap and provide insights for governments that attempt to strengthen their trustworthiness in NSEG.

Literature has suggested that certain characteristics of government trustworthiness, such as commitment and credibility, are important elements to induce trust, and trust is important to the legitimacy of the government and their management of crisis. Our study aims to uncover whether government trustworthiness in a nuclear emergency/risk governance setting as perceived by the public can be affected/predicted by the following four aspects –

1) Perceptions of risks of death/harm associated with nuclear radioactivity
2) Levels of engagement in the UK government's NSEG
3) Knowledge about nuclear technology and safety
4) Demographics and attitudinal questions regarding phasing out or retaining nuclear power in Great Britain

In our research, we surveyed 1,007 members of the public in Great Britain. Using principal component analysis, we measured their perceived government trustworthiness as reflected in the level of openness, reliability, integrity, credibility, fairness, caring, and competence. Ordinal logic regression was applied to assess the influence of the four aforementioned aspects to the trustworthiness.

The results of our study ascertain that higher risk perceptions about new nuclear power technologies are linked to reduced overall government trustworthiness, while higher engagement levels, being male and intentions to vote Conservative increase trust. Despite the attention of experts to reducing the risks of new nuclear reactors, the risk perceptions towards the old and the new nuclear technologies do not actually differ significantly. Our findings raise questions about the industry view that the new defence-in-depth nuclear technologies can reduce public fear of nuclear power.

To build public trust, the UK government must demonstrate its trustworthiness in nuclear safety governance to the public, especially along the dimensions of integrity, reliability and openness. One commonly adopted way to exhibit such qualities is through improving stakeholder engagement. Our survey results suggested that the public satisfaction could be significantly improved simply by allowing them more opportunities to speak out during emergency planning meetings, even when they do not have any voting rights on the final emergency plan. Our study also confirms that knowledge is an insignificant predictor of public trust in NSEG. This implies that strategies that spoon-feed the public with more information would not necessarily increase government trust in this area.

Our novel research methodology of determining government trustworthiness in NSEG in relation to public risk perceptions, technology knowledge, and stakeholder engagement is more broadly applicable and can be transferrable to countries where public concerns about nuclear safety and energy security are significant.

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