Effects of Lay Understanding of CO2 on Attitudes of Carbon Capture and Storage in Japan, The Netherlands and Australia

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Introduction

Recent developments in the Netherlands have once again underlined how the public is and should be an important stakeholder in the implementation of new CO_2 mitigation technologies. In the case of Carbon Capture and Storage (CCS) on-shore project plans in the Netherlands were dismissed by the authorities because of a lack of public support. Investigation of one of these project plans has shown a poor understanding of experts of the public's information needs, with some communication efforts described as too simplistic and other as overly technical (Brunsting et al, 2010). One cause might be a misunderstanding of what people know already about properties of CO_2 itself.

Recent research has shown the general public has on average vague notions of CO_2, with people sometimes misperceiving the possible effects of CO_2 (Itaoka et al 2008; Wallquist et al. 2009). However, these studies revealed differences in specific perceptions of CO_2 between the Japanese and the Swiss public. This raises the question whether different cultural and geological contexts create varying levels of understanding and perceptions of CO_2. The current study is therefore conducted in three countries differing in cultural and geological contexts, including The Netherlands, Japan and Australia.

This research aims to give insight into the following questions: what does the general public know about CO_2, its properties, effects and uses? How does the knowledge and perception of CO_2 differ across The Netherlands, Japan and Australia and is this related to differences in culture and education levels? And finally, how does this understanding interact with different types of information about CO_2 to affect understanding and perceptions of CCS?

Method

A survey has been developed on the basis of extensive qualitative research which measures people's knowledge of CO_2, attitudes of CO_2 and CCS, perceptions of CO_2 behaviour in CO_2 storage and of possible consequences of CCS, and its likely acceptance of CCS. Through an experimental design respondents are provided with three different types of information: information about the characteristics of CO_2, about occurrences and accidents involving CO_2 and about properties and behaviour of CO_2 in CCS. The effects of the interaction between initial understanding of CO_2 and these different types of information on subsequent perceptions of CO_2 storage and CCS are measured. The surveys were administered to representative samples of the three countries' general publics in March and April 2011. Comparison with the extensive test before the Japan crisis enables measurement of its effects on public perceptions of CCS.

Results

Statistical analysis and reporting will be finalized by the end of June 2011.

References

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