

Lay People's Knowledge and Perceptions of Energy Transition and Climate Mitigation Technologies: The case of CCS

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Introduction

Energy transition is a complex topic that touches upon many aspects of people's daily lives. However, awareness and knowledge of this topic among the general public is low (Paukovic, Brunsting, De-Best-Waldhofer, 2011). The general public is continuously bombarded with terms such as climate change, CO₂, energy production and a range of new CO₂ mitigation technologies. It is often assumed the public has a basic understanding of these terms and possible misconceptions are overlooked in communication (as shown by a media log on Carbon Capture and Storage, i.e. CCS, kept in parallel with the current study). This while the public's understanding of these issues is an important foundation of their support of any climate change mitigation effort.

The aim of this study is to a) give insight into the current levels of knowledge and possible misconceptions of lay people on CCS and topics related to this new transition technology: climate change, CO₂ and energy production b) measure the prevalence of perceptions and misconceptions on these topics in the Dutch general public and c) identify how knowledge and misconceptions about these topics affect perceived consequences of and attitude towards CCS technology.

Method

A questionnaire was designed with measures of knowledge of: CO₂ characteristic, sources and effects, electricity production fuel mix, climate change beliefs and respondent's perceived consequences and attitude of CCS. The creation of the questionnaire was based on very open in-depth interviews with 17 respondents exploring lay knowledge and beliefs about

these issues. This way all relevant thoughts lay people might have about these topics were included in the questionnaire. In addition a media log protocol was developed which supports the results found in the knowledge test. The questionnaire was subsequently tested on 7 lay respondents to assure comprehensibility. The questionnaire was administered to a random sample of 401 respondents from the Dutch general public in May 2010.

Results

The results of the study reveal insecurity and knowledge gaps about all topics included in the questionnaire. Properties, effects and sources of CO₂ are not well understood. People are insecure for example about whether CO₂ causes cancer or emits radiation and knowledge levels about natural properties of CO₂ are low. There is also a lot of insecurity about which sources emit CO₂ and how much fossil fuels and renewables are used in electricity production. The share of fossil fuels is generally underestimated. Only a minority of respondents understands the sequence from the use of fossil fuels to climate change completely. Moreover, respondents seem to confuse climate change with other environmental problems such as ozone layer depletion and air pollution.

Knowledge and beliefs about these topics are related to perceived consequences about CCS and less directly to CCS attitude. In our presentation we will discuss these results in more detail, as well as implications for communication about energy transition, climate change and CCS.

References

Paukovic, M., Brunsting, S., & De Best-Waldhofer, M. (2011). *The Dutch General Public's Opinion on CCS and Energy Transition*. CATO-2 report.