

Speed talk Sessions

[J02] The communicator's dilemma; how to make trade-offs between technological attributes, arguments and social norms in communicating to citizens about emerging technologies?

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Introduction

Emerging technologies can contribute substantially to societal transitions. If policy makers are to promote such technologies, they need public support to legitimize their actions (Geels et al., 2016; Wüstenhagen et al., 2007). However, emerging technologies often lack public support. Carbon Capture and Storage is an example of such an emerging technology; CCS can contribute substantially to climate protection, but public support is often lacking (Upham and Roberts, 2011). The public should be engaged in an early stage of development to enhance the chances of successful deployment, while keeping a fair the decision making process fair and inclusive (Wüstenhagen et al., 2007). In recent years a plethora of practices has been developed to include citizens in the process of developing and using technology (Raven et al., 2009; Roelofsen et al., 2011). For example, the Dutch government has recently set up an Energy Dialogue to get input into what citizens want the Dutch energy portfolio to look like in 2050.

Existing literature offers various insights into what practices communicators should use to engage citizens. First, communicators can focus on *technological attributes*. For example, by asking citizens to choose between different energy technologies (de Best-Waldhober et al., 2009). Second, communicators can explain the motivations for using an emerging technology. For example by asking citizens to choose between sets of *arguments* for and against a technology (Broecks et al., 2016). Third, they can focus on social interaction patterns between citizens and attempt to activate *social norms* or provide *credible sources of information* (Aklin and Urpelainen, 2014; Vries et al., 2013). Fourth, communicators can articulate the *decision making and implementation process*. In practice communicators will often opt for a combination of practices when developing communication materials. Yet, the effectiveness of messages can be diluted by adding too much information (de Vries et al., 2014). Communicators therefore need to make a trade-off in using these practices.

Hence, communicators need insight into which of these practices is most valuable. Yet, existing studies rarely present citizens with a combination of practices in a single communicated message. In addition, these studies often ignore heterogeneity; citizens respond to communication in different ways. There is clear evidence that citizens use a variety of approaches when processing information (Petty and Cacioppo, 1986); some citizens focus on heuristics, such as the credibility of the source, while others scrutinize the message carefully and pay attention to the details. Research into communication needs to account for these differences.

Research goal and method

We address these shortcomings by examining which elements (i.e. attributes) of a communicated message contribute most to its clarity and persuasiveness and the interest of citizens in the message. We focus on technology attributes, argument for using or not using the technology, social norms, sources of information and the decision making and implementation process for the technology. The selection of specific attributes was based on previous studies into CCS communication and three rounds of consultation with a panel of CCS experts.

We conducted an online survey among a representative sample of Dutch, adult citizens (N=1920). Respondents read six messages about CCS with systematic variations in the attributes that were presented (i.e. a conjoint experiment). For each message the respondents indicated whether it was persuasive, clear and interesting. We also measured a set of socio-demographic and psychometric factors. We accounted for heterogeneity by identifying how different groups of citizens respond to communication about CCS using a Latent Class Analysis.

Preliminary results

A preliminary analysis shows that arguments, social norms and information sources contribute most to the persuasiveness of communicated messages. The first argument that was displayed increased the persuasiveness of the message substantially. The effect was less strong for the second argument. In general, con arguments were more persuasive than pro arguments. Furthermore, adding information about the importance of climate change mitigation generally increased the persuasiveness of the message. Depending on the source of information, the information would either become more or less persuasive when a source was added. Scientists were generally perceived as more persuasive than other sources of communication (government, energy companies and environmental NGOs). Other attributes had mixed, or non-significant effects on the persuasiveness of the message.

We uncovered substantial heterogeneity in citizen's reactions to CCS messages. A preliminary latent class analysis shows three classes of citizens with a different method of information processing. Class 1 differentiates messages based on arguments and the message's length, while class 2 and 3 focus on the source and on social norms. Class 2 is more responsive than class 1 and 3 to changes in technological attributes.