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‘Not in my backyard’ (NIMBY) sentiments and the structure of initial local attitudes toward CO₂ storage plans

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Abstract

The viability of onshore CO₂ storage projects may be jeopardized by local opposition. This opposition is often linked to the presence of ‘not in my back yard’ (i.e., NIMBY) sentiments in the population. In this paper, we describe research that has addressed the question of whether or not NIMBY sentiments are to be anticipated when people are asked about their initial reactions to the idea of hosting a CO₂ storage facility. Furthermore, this research sheds light on the psychological structure of initial public attitudes.

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carbon capture and storage (CCS); not-in-my-backyard (NIMBY); protest; public attitudes; risk perception; trust

1. Research findings related to not-in-my-backyard (NIMBY) sentiments

The viability of onshore CO₂ storage projects may be jeopardized by local public opposition [1]. This opposition is often linked to the presence of ‘not-in-my-backyard’ (i.e., NIMBY) sentiments in the population [2]. In this paper, we describe recent research (details can be found in [3]) that has examined whether or not NIMBY sentiments are to be anticipated when people express initial reactions to the idea of hosting a CO₂ storage facility.

As discussed by Terwel and Daamen [3], the possible existence of NIMBY sentiments in a population can be examined by means of a within-subjects approach, or by means of a between-subjects approach. Huijts et al. [4] used the within-subjects approach. In their survey, they asked inhabitants of two towns that were located on top of a natural gas field how they thought about CO₂ storage in general and how they thought about CO₂ storage in the field situated in their residential area. They found that respondents

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were slightly positive about CO₂ storage in general and slightly negative about CO₂ storage in the gas field situated in their own residential area. This seems to suggest that NIMBY sentiments may play a role. However, the within-subjects approach is not perfectly well suited to determine the presence of NIMBY sentiments, partly due to the fact that asking about attitudes toward CO₂ storage in general and local CO₂ storage may introduce contrast effects in the NIMBY direction.

In order to avoid the possibility of such contrast effects, Terwel and Daamen [3] preferred a between-subjects approach. They conducted a quasi-experimental study in which respondents were informed about plans to store CO₂ in two practically depleted natural gas fields. However, in one experimental condition, respondents were informed that one of the gas fields proposed for CO₂ storage was situated in their own municipality, while in the other experimental condition it was stated that both depleted gas fields were located somewhere else. In contrast to Huijts et al. [4], Terwel and Daamen [3] did not observe support for a NIMBY hypothesis: They found that inclination to protest against the CO₂ storage plans (this measure of protest intentions is more directly indicative of potential NIMBY-ism than more common measures of public acceptance) did not differ between those who were informed about local CO₂ storage plans and those who were informed about plans for CO₂ storage somewhere else (and not in their own municipality).

Importantly, this study further shed light on the psychological structure of initial attitudes toward local vs. distant CO₂ storage. Regardless of where CO₂ storage would take place (i.e., in the own residential area or in depleted gas fields situated somewhere else), trust in the government affected how respondents judged the societal risks and benefits associated with CO₂ storage. In turn, how respondents judged the risks and benefits affected their inclination to protest against the CO₂ storage plan. However, respondents did seem to differ in the weight they attached to the risks to the safety of the local public; local safety was less of a concern among “offsite” residents than for “onsite” residents [3].

2. Conclusion

In conclusion, NIMBY sentiments may play a role, but initial reactions are not (necessarily) dominated by such sentiments. Huijts et al. [4] as well as Terwel and Daamen [3] examined the NIMBY hypothesis in what may be called the “initial proposal phase”, which is noteworthy because it might be the case that such sentiments develop (and/or disappear) in the course of a project. Therefore, an interesting direction for future research is to study how and why NIMBY sentiments develop in the course of CCS projects [3].

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