



16th International Conference on Greenhouse Gas Control Technologies **GHGT-16**

23-27th October 2022, Lyon, France

Engaging effectively with public(s) in the realization of CCS projects

Niall P. Dunphy^{a,b,c,*}, Paola Velasco-Herrejón^{a,b}, Breffní Lennon^{a,b}, A. Luke Smith^{a,b,c}

^aCleaner Production Promotion Unit, Environmental Research Institute, University College Cork, Lee Road, Cork T23 XE10, Ireland

^bSchool of Engineering and Architecture, University College Cork, College Road, Cork T12 K8AF, Ireland

^cMaREI, the SFI Research Centre for Energy, Climate and Marine, University College Cork, Ringaskiddy, Co. Cork P43 C573, Ireland

Abstract

Achieving climate neutrality of the EU's economy and society is a central goal of the European Green Deal. The decarbonization of our societies involves, amongst other things, the adoption of many new technologies and the construction of associated infrastructure. Carbon capture and storage (CCS) for instance is widely seen as a key component for climate change mitigation. It has been identified as a key technology in the EU's move towards a circular economy [1] and given supportive regulatory context is considered a cost-effective component of a portfolio of greenhouse gas mitigation measures [2]. However, while CCS is seen as offering potential environmental and economic benefits, there has been high-profile public opposition, especially in relation to specific developments [3].

The deployment of novel infrastructure required for this decarbonization, including but not limited to that associated with carbon capture and storage, can only be successfully realized through social acceptance. This means acceptance by the public generally (of the technology), but also, and critically acceptance by the communities set to host such infrastructure. There is growing concern for example that public opposition to infrastructure related to renewable energy is threatening the envisaged decarbonization [4]. Social opposition to large scale infrastructure will always be a potential issue, and communication between prospective host communities and proposed projects is therefore of the utmost importance. Whilst the primary focus of the planning and implementation phases of CCS projects might be on the technical and geological aspects, there is increasing acknowledgement that social acceptance has a crucial role to play in the development and realization of such projects [5]. It is noteworthy for instance that the significant public opposition to the Barendrecht CCS project, which contributed to the project being cancelled, is seen in part at least, as a 'public engagement failure' [6].

The social acceptability (and by extension, public acceptance) of strategic infrastructure development — including deployment of novel technologies such as carbon capture and storage — can be greatly facilitated and encouraged by engaging with the public in meaningful and constructive ways, especially through appropriately designed education and public engagement programs. This paper examines what constitutes effective means of engaging with the public on such issues. It draws from critical reviews of education and public engagement (EPE) programs undertaken in the context of two research projects: REALISE, focused on carbon capture and storage [7, 8] and SafeWAVE, which is concerned with marine renewable energies [9].

* Corresponding author. Tel.: +353 21 490 1969, E-mail address: n.dunphy@ucc.ie

Key examples of EPE – identified through a combination of literature search and via partners’ networks – were characterized through desk research coupled with the use of targeted informants. A summary of this analysis is presented, including the nature of the project, its approach to public engagement, challenges faced, and particular successes. Building on this developed knowledge, a framework for EPE focused on contributing to greater social acceptability for CCS is being developed collaboratively with community stakeholders. The paper will detail the co-design process, describing how an intersectional approach (considering *e.g.*, gender, economic privilege, and life stage) was adopted in the development. Finally, initial results from testing of key components of the EPE framework will be reported and discussed.

Acknowledgements:

The REALISE project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 884266; The SafeWAVE project co-funded by the European Maritime and Fisheries Fund (EMFF) programme of the European Union under grant agreement No 101000175.

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Keywords: decarbonization; civil society; public acceptance; acceptability; engagement; education; epe
