



What role for CCS in delivering Just Transitions? An evaluation of the North Sea region.

Floris Swennenhuis¹, Leslie Mabon², Marko Maver³, Heleen de Coninck¹

¹Department of Environmental Science, Radboud University

²School of Applied Social Studies, Robert Gordon University

³Bellona Europa

Abstract

This paper assesses the role of carbon dioxide capture and storage (CCS) technologies in addressing climate change and sustainability challenges in cities and regions heavily reliant on carbon-intensive industries for employment and as an economic base. Cities and regions are increasingly seen as sites for solutions to contemporary environmental issues, as evidenced by the IPCC commissioning a Special Report on Cities and Climate Change, and the creation of Sustainable Development Goal 11 specifically to address sustainable cities and communities. Yet this notion of ‘sustainable’ cities and regions may be problematic for areas that remain dependent on fossil fuel extraction (e.g. coal, oil, and gas) and high-emitting industries (e.g. steelworks and petrochemicals) for not only employment and economic benefit, but also identity and sense of being. Trade unions, national- and regional governments and academics are hence showing increasing interest in understanding what ‘just transitions’ mean at the city and regional level. When understood in this way, the aim of a just transition at the regional level is to ensure locations – and the workers within them - traditionally dependent on carbon-intensive activities are not left behind in the move to clean energy and a sustainable economy.

However, CCS has thus far received only limited attention within just transitions thinking. The purpose of this paper is therefore to consider how, if at all, stakeholders and citizens at the regional level understand CCS as being a technology that could help them transition to a more economically, socially and environmentally sustainable future. Means to do so would include the re-use of existing infrastructure, the possibility to draw on existing technical knowledge within the region for subsea activity, and the potential to reduce emissions from industries such as steel while keeping them in business.

In this work, three areas bordering the North Sea with high-emitting industries and the potential for CCS activity are assessed: (a) Aberdeen and north-east Scotland, United Kingdom; (b) the Rijnmond and Rotterdam harbour area in the Netherlands; and (c) an emission-intensive area of Norway. Data is collected through in-depth interviews with key stakeholders at each location, focus groups with citizens in north-east Scotland, and stakeholder workshops in Scotland, the Netherlands and Norway. Content analysis on the interviews will be done in order to identify overarching themes and draw out similarities/differences between the three regions.

The results will be used to provide insights on translation of national- and regional-level discourses on fossil fuel transitions and CCS hubs into a series of implications for daily living, of a type

understandable to non-technical stakeholders. To do so, this paper, based on the data, develops a series of qualitative scenarios for how CCS may affect North Sea regions with emphasis on effects on daily life (e.g. job prospects, infrastructure investment, development of new industries).

Finally, we will draw comparisons between Aberdeenshire, Rotterdam and the Norwegian region to develop a broader understanding of how CCS may fit into regional fossil fuel transitions.

We caution it is crucial to develop policy which ensures that CCS becomes part of a just regional transition rather than merely a way of prolonging carbon-intensive activity – that is, CCS deployment has to be part of a pathway to alternative and/or low-carbon employment and economic development. We also suggest there is a need to reflect on potential slippages between ‘low-emission’, ‘low-carbon’, and ‘sustainable’ development pathways, and to consider how the perceived value of CCS to a just transition may differ depending on whether the short-term goal is decarbonization or sustainability. Nevertheless, whilst the drive for CCS deployment is likely to come at the national and international level, we suggest municipal and regional government actors have a vital role in pushing CCS to deployment through actions such as facilitation of stakeholder cooperation; alignment of CCS with regional development trajectories; and trust-building in risk communication. Therefore, we will provide policy advice on how to best approach policies to address climate change and promote CCS from a just transition perspective.

This work is conducted as part of the ACT ACORN Project, which aims to work towards delivering a low-cost carbon capture and storage (CCS) system in the North Sea by 2023.

Keywords: ACORN Project; carbon dioxide capture and storage; Just Transition; regional policy; stakeholder understanding, regional development.