

The Role of Carbon Capture Utilisation and Storage (CCUS) in Industry Clusters in Delivering Value to the Political Economy

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Project overview

In this research, we advance the political economy valuation of CCUS, particularly around the **number and quality of jobs** (the specific focus of the ‘just transition’ clause of the Paris Agreement as a key political economy measure of prosperity in most nations).

We build on significant impact foundations from previous work to develop a solid and scientifically rigorous base for effective policy design and evaluation processes around CCUS and support development of political economy narratives for CCUS at home and abroad.

This project will involve developing methods for more in-depth consideration of the interactions and interdependences between different industries in high value clusters, and considering how this value may be impacted by the need to pay for industrial carbon capture. We take Scotland, and the Grangemouth cluster therein, as an initial applied example.

Our central aim is to move consideration of and narrative development around CCUS into the public policy domain that encompasses not only energy and climate, but also economic and social policies. Ultimately, this research may impact the planned development of CCUS Delivery and Investment Frameworks in 2019, as set out in the CCUS Action Plan.

Key objectives

1. To develop methods for enhanced value chain multiplier analyses and reporting of high impact metrics.
2. To develop key metrics from model outputs that can reliably inform the type of social cost-benefit analysis - or simpler variants such as cost-effectiveness recommended by HM Treasury in consideration of public support requirements for new economic and infrastructure development.
3. To draw on industry data to consider how the value chains emerging under 1 and 2 may be impacted by costs incurred and supply chain linkages created through potential deployment of CCUS projects.
4. To test and refine communication of key metrics and research outcomes via a range of media, including in-person interactions with key stakeholders and written output.

Research questions

The project involves two core applied research questions:

1. What level and nature of economic value via high value-added jobs is currently generated for the Scottish and UK economies as a result of specific industrial activities in the Grangemouth cluster, and what is the extent of interdependency of this value generation across different activities within this cluster?
2. How and to what extent may the sustainability and further growth of this activity and the value it delivers be impacted by the deployment of CCUS project(s) at the site?

Method

This research develops, tests and effectively communicate outcomes from a new enhanced economic multiplier approach for value chain analysis. This involves focussing on employment supported and associated wage generation for capture relevant industries.

We integrate economic multiplier analyses and key stakeholder engagement to elicit applied and policy relevant insight, and will report metrics that capture and communicate the potential societal value from enabling CCUS infrastructure support for regional industrial clusters.

We will also lay important foundations for further development of an economy-wide research programme to more fully consider the value of CCUS to the political economy.

Next steps

Throughout this project, an active programme of engagement and communication is planned, and all outputs will be available through the CEP and UKCCSRC websites. A policy brief will be released in September.

Our research and engagement activity will be conducted in consultation with key policy actors such as BEIS and wider UK stakeholders, Scottish Government, Scottish Enterprise and Crown Estates Scotland.

This research will also have impact with industry actors, who need to distinguish private and wider societal value generated through their decarbonisation actions in making cases for investment.