

PEPANZ Policy Summary: Carbon Capture and Storage (CCS)

What is Carbon Capture and Storage?

- Carbon capture and storage (CCS) is the process of capturing carbon dioxide emissions from large sources such as power plants and storing them where they cannot escape into the atmosphere, usually deep underground in geological formations (often in former oil and gas reservoirs).
- Large scale CCS is a reality today and can remove as much as 90% of carbon dioxide from major projects.
- Globally there are 18 large scale CCS facilities operating with five under construction and 20 in various stages of development.¹

How effective can it be?

- The Intergovernmental Panel on Climate Change (IPCC) attaches much importance to CCS, estimating it could make up to 55% of the total carbon mitigation efforts until the year 2100.²
- CCS is not an easy process. Some of the challenges include the cost, regulatory and policy uncertainty, and the practicality of finding the right large-scale storage sites required.
- However, over time, these challenges can and will be addressed as the oil and gas industry is investing heavily into these technologies.

Could it be used in New Zealand?

- Yes. The proposed 8 Rivers project in Taranaki would use CCS in producing electricity, fertiliser and hydrogen from natural gas with zero emissions. This project could be worth billions, and potentially be the biggest ever investment into New Zealand.³

What needs to happen

- Currently there is no legal framework allowing for CCS to be used in New Zealand.
- PEPANZ recommends the Government introduce a comprehensive regulatory framework so that it can be deployed in future. This could include changes to the Resource Management Act (RMA) and Exclusive Economic Zone (EEZ).

¹ Global CCS Institute: <https://www.globalccsinstitute.com/resources/global-status-report/>

² IPCC *IPCC special report on Carbon Dioxide Capture and Storage 2005*. (Metz, B., O. Davidson, H. C. de Coninck, M. Loos, and L.A. Meyer (eds.).)

³ <https://www.stuff.co.nz/taranaki-daily-news/news/108888547/taranaki-gas-reserves-not-robust-as-billiondollar-project-looms>