

Commoditisation of CO₂ Roadmap

Pathways to realising the full commercial value of CO₂

Background

Despite facing ongoing pressure to reduce CO₂ output, emissions-intensive companies are struggling to adapt their business models due to the significant financial burden typically associated with achieving meaningful CO₂ abatement. However, as part of the transition to a global low carbon economy and supported by growing investment in R&D, a number of industrial processes are beginning to emerge which utilise CO₂ as a primary feedstock. Such developments are promoting a gradual shift from recognition of CO₂ purely as a liability to a commodity with a distinct market value.

As such industries continue to emerge, detailed analysis regarding the potential economic opportunities and underpinning technology is needed to help guide public and private investment across relevant sectors, thereby enabling the full commercial value of CO₂ to be realised.

Objective

To determine the commercial value of CO₂ by assessing its potential as a feedstock across different industrial processes.

Approach

This project will consider the full scope of potential applications for CO₂ across present and future industries including (but not limited to) synthetic fuels, chemicals, carbon fibre and building materials. It will assess the maturity of the industrial processes required to enable these opportunities, the price point of CO₂ for the process to become competitive and the volumes of CO₂ needed before market saturation.

The competitiveness of CO₂ will be determined via deeper analysis of the R&D requirements supporting both mature and emerging methods of CO₂ capture and upstream processing. This will be supported with an assessment of the business models and regulatory levers required to stimulate industry development.

Deliverable

The overall deliverable will be a 60-70 page report that will be written for a commercial audience. The report will be made publicly available upon conclusion of the study.

Sponsorship

The project will be partially funded by CSIRO. In addition, CSIRO is seeking sponsorship from industry and government stakeholders. In return, the logos of sponsors will be included on the report and sponsor representatives will have the right of review before it is finalised.

Timing

The report will officially kick-off in June 2020 with a view to providing a final, designed report by December 2020.