
N668: The Economics of CCS Projects

Instructor(s):

Format and Duration

Classroom - 1 Day

Virtual - 2 Sessions

Summary

CCS is currently undergoing the process of “Scaling Up” with a batch of full-scale projects proving viability and deliverability globally. The “Scale Up” phase has largely been driven by Government policy and fiscal support but for “Roll Out” to occur, where outside finance / capital is persuaded to invest in CCS, the Transport & Storage industry will likely need the establishment of a “market price” for the movement and permanent storage of CO₂ in order to justify investment. At its simplest, the fully built-up cost structure for capturing and delivering molecules of CO₂ to a T&S company and paying their fees needs to be more attractive to an emitter than the cost of emitting the CO₂. This course will look at the factors likely to affect the emergence of a global “market or commodity price” for the transport and storage of CO₂.

Learning Outcomes

Participants will learn to:

1. Develop an understanding of how various Governments have approached the incentivisation of building transport and storage complexes – “the Bridging Mechanisms”.
2. Learn what key fiscal and regulatory tools will be used to create a “global” market price for the transport, injection and long-term storage of CO₂.
3. Develop an understanding of what is realistic in terms of rate of return for CO₂ storage.
4. Understand what technical constraints will impact the economics of storage.
5. Understand the difference between geological storage vs. biological storage and the economics of “permanence”.
6. Understand the importance of International Standards and Guidelines for the governance of CCS.

Training Method

This is a classroom or virtual classroom course comprising a mixture of lectures, case studies, and discussion sessions. This course includes e-learning elements that provide background content on Carbon Capture and Storage that serves to provide an introduction to the subject matter:

- EC003 Fundamentals of CCS

Who Should Attend

This course is for anyone involved in the development of CCS projects from either a non-technical or technical perspective.

Course Content

This course will cover the following topics:

- Establishing the price to emit “Carbon Price” – how big is the “Stick”?

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- Means of monetising investment in CO₂ storage today – how big is the “Carrot”?
- The importance of a government-backed Emissions Trading Scheme (‘ETS’).
- “Carbon offsetting” – ‘Eco-terrorism’ or ‘A force for good’?
- When will Voluntary Carbon Markets work?
- The use of Carbon Border Adjustment Mechanisms (‘CBAM’) to globalise the Carbon Price.
- Carbon Contracts for Difference (‘CCfD’), how will they help?
- Competition for storage – how a free-market will likely establish itself.
- What Standards and Guidelines will be needed to ‘regulate’ economic return?

The course topics will be addressed in two sessions as outlined below:

Session 1: The Economics of CCS Projects

- Module 1: Fundamentals of CCS Economics
 - Overview of CCS value chain
 - Challenges in establishing a viable business model
- Module 2: Carbon Pricing Principles – The Tools
 - Carbon taxes and Emissions Trading Schemes (ETS)
 - Role of fiscal incentives in emissions reduction
- Module 3 (Part 1): The Economics of CCS Projects
 - Market drivers for CCS adoption
 - Government incentives and public policy support (e.g., 45Q)
 - Carbon offset markets: Opportunities and risks

Session 2: The Economics of CCS Projects

- Module 3 (Part 2): The Economics of CCS Projects
 - The evolution of storage market pricing
 - Role of SRMS (Storage Resource Management System) in project evaluation
- Module 4: The Investibility of CCS Projects
 - Assessing investment risks and financial viability
 - Transition from regulated to free-market models
- Module 5: Discussion and Questions on The Economics of CCS Projects
 - Interactive discussions on financial strategies and investment frameworks
- Module 6: Wrap-up and Reflections
 - Summary of key concepts
 - Final thoughts on the future of CCS economics

The self-paced e-learning element of this course is

- Fundamentals of CCS