

The Business of Carbon Management – Fall 2025

Class Information (TBD)

Instructor (TBD)

Summary

The course is designed to introduce students to the significant changes to the global energy and related industries resulting from the transition to a low carbon energy world. The course will focus on the emerging business of reducing carbon emissions of the energy industry through carbon capture, use, and sequestration (CCUS). Students will be exposed to different CCUS technologies and applications and gain understanding of the economics of CCUS investments and potential impacts of government policies.

Course Learning Objectives

- Understand the current global energy system and the drivers and challenges for the global transition to a low carbon energy system
- Understand the uncertainties on the nature and pace of the transition and implications for the evolution of the CCUS industry
- Learn the details of key carbon capture technologies and industrial and power generation applications
- Become aware of key challenges required for transporting, storing, and sequestering CO₂
- Identify opportunities for using captured CO₂ as a feedstock for construction materials, sustainable fuels, chemicals, engineered materials, and agriculture
- Understand carbon accounting and lifecycle emission analysis
- Understand compliance and voluntary carbon markets
- Gain basic understanding of economics of various CCUS investments and potential impacts of government policies

Course Approach

The course will include a variety of learning activities including lectures, classroom discussion, reading assignments, guest lecturers, and individual and team projects.

Grading (TBD)

Grades will be based on a mix of biweekly quizzes, an individual student paper, and a team project.

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Class Detail

Class	Topic
1	Course Introduction and The Current Global Energy System
2	Drivers of the Current Energy Transition and Role of CCUS
3	Carbon Capture Technologies and Applications
4	Transporting, Storing, and Sequestering CO2
5	Carbon Negative Technologies (DAC, MCDR, Bio)
6	Using Captured CO2
7	Carbon Accounting and Lifecycle Emission Analysis
8	Compliance and Voluntary Carbon Markets
9	Impact of CCUS on Different Industries
10	Key CCUS Players and Potential Business Models
11	Managing Risks of CCUS Investments
12	Legal and Policy Issues for CCUS
13	No Class – Project Team Meeting to Work on Presentations
14	Presentation of Team Projects
15	No Final Exam

Guest Speakers (TBD)

Project Assignments

Projects	Topic	Description	Deliverable
Individual	Most Interesting CCUS Technology/Application	Students will research an areas of CCUS that they find most interesting	10-15 page white paper
Team	Best Business Opportunity in CCUS	Student teams will identify and build a case for the best business opportunity they see as a result of the energy transition	15 minute presentation