

The Energy Transition - FINA 7397 – Fall 2019

Class Information

- Thursdays 6:00pm-9:00pm : August 22- November 21, 2019
- Location: Melcher Hall 210B
- Office Hours: 4-6pm Thursday, CBB 302K or by appointment (832-256-2229)

Instructor

Greg Bean is the Executive Director of the Gutierrez Energy Management Institute in the Bauer College of Business at the University of Houston. In this position, he is responsible for energy education, research, events and industry outreach at Bauer. Greg has thirty-eight years of experience in the oil and gas industry, management consulting, and higher education. Prior to joining Bauer, Greg was most recently Managing Director – Oil and Gas Strategy and Organization Consulting at Deloitte Consulting. He started his career at ExxonMobil. Greg has a degree in chemical engineering from Texas A&M University.

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 emphasize the drivers of the transition, uncertainty of the nature and pace of the transition and different points of view and potential scenarios. Students will assess the business opportunities and threats created by the transition.

Course Objectives

- Understand the current global energy system
- Identify the drivers and challenges for the global energy transition
- Assess the potential impacts of the energy transition on different segments of the energy industry, related-industries, and society more broadly
- Understand the uncertainties on the nature and pace of the transition and identify potential scenarios for the transition
- Identify key business opportunities and threats resulting from the transition
- Assess potential changes in energy industry structure and players.

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

Grades will be based on an equal weighting of an exam, individual student paper, and team project.

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Class Detail

Date	Topic	Notes
August 22	Course Introduction and The Current Global Energy System	
August 29	Historical Energy Transitions	
September 5	Drivers and Challenges of the Current Energy Transition	
September 12	Evolution of Energy Sources	
September 19	Evolution of Energy Use – Overview and Transportation	Guest Speaker
September 26	Evolution of Energy Use – Other Sectors	
October 3	The Future of Electricity – De-carbonization	
October 10	The Future of Electricity – Decentralization & Digitalization	Guest Speaker
October 17	Review and Exam	
October 24	New Fuels and Energy Carriers	
October 31	Energy Transition Scenarios	Guest Speaker
November 7	Impacts on Industries and Society	
November 14	Potential Changes in Energy Industry Structure and Players	Guest Speaker
November 21	No Class – Project Team Meetings to Finalize Presentations	
Final Exam	Presentation of Team Projects	

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Project Assignments

Projects	Topic	Description	Deliverable
Individual	Most Likely Scenario for the Energy Transition	Students will define their most likely scenario for how the energy transition will evolve in the next thirty years	10-15 page white paper
Team	Best Business Opportunity from the Energy Transition	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