

FIN 6335: Energy Finance

Course Information

FIN 6335 Spring 2015
Lecture hours: Fri 10:00am-12:45pm
Location: JSOM 12.202

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Office: JSOM 14.314

Office hours: Wednesdays 2:00pm-4:00pm
and by appointment

Prerequisites: FIN 6301

Course description: This course focuses on the issues associated with investing in and financing energy projects as well as managing energy risks. Case studies are drawn from the oil, natural gas, electricity and renewables sectors.

Course objectives: To be specified.

Textbooks:

1. John D. Finnerty, *Project Financing: Asset-Based Financial Engineering*, 3rd Edition, John Wiley & Sons, Hoboken, NJ 2013. ISBN: 1118394100

The following texts may be helpful in improving understanding of specific concepts covered in class.

2. *Energy Finance and Economics: Analysis and Valuation, Risk Management, and the Future of Energy*, Edited by Betty J. Simkins and Russel E. Simkins, John Wiley & Sons, Hoboken, NJ 2013. ISBN: 978-1-118-01712-8
3. *The Wall Street Journal*
4. *The Economist*

Grade breakdown:

Project 1-----	30%
Research report-----	25%
Project 2-----	30%
Class participation -----	15%

Project due dates (tentative)

Research report: February 20, 2015
Project 1: March 27, 2015
Project 2: May 1, 2015

Note: there will be no class on March 20, 2015 (spring break).

Course outline

1. Introduction to energy financing
 - a. Historical perspective on energy project funding
 - b. What distinguishes energy projects
 - c. What distinguishes project financing from corporate finance
2. Structuring a project financing plan
 - a. Selecting an appropriate project structure
 - b. Finding sources of capital
 - c. Structuring security arrangements
 - d. Negotiating supply agreements and off-take contracts
 - e. Supplemental credit and bridge financing
 - f. Insuring against risks
 - i. Hedging exercise
 - ii. Case study: Texas wind power
3. Financial statement analysis
 - a. Oil and gas accounting
4. Discounted cash flow analysis
 - a. Projecting cash flows
 - i. Oil and gas price formation: benchmarks, reserves, supply and demand, inventories, trading locations, geopolitical risk
 - ii. Electricity price formation: locational pricing, supply-demand balancing, basis (congestion/curtailment costs, liquidity risk), intermittency risk
 - b. Preparing financial statements
 - c. Evaluating debt capacity
 - d. Estimating cost of capital
 - e. Sensitivity analysis
5. Financing conventional and renewable energy projects
 - a. Environmental analysis
 - b. Contracts, independent engineer certifications, and resource validation
 - c. Sources of financing (construction debt, permanent debt, bridge financing, vendor financing, sponsor equity, tax equity, EB-5, etc.)
6. Financial risk management for energy projects
 - a. Options and futures, swaps, etc.
 - b. Hedging exercise
 - c. Real options analysis
 - d. Economic diversification and political hedging
 - i. Case study: SouthGobi Resources
 - e. Managing price, regulatory, environmental, transmission, equipment, and other risks

UT Dallas Syllabus Policies and Procedures:

All students enrolled in the course are expected to abide by the academic standards set forth by the University. Details of academic standards and other University policies and procedures can be found at <http://go.utdallas.edu/syllabus-policies>.

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.