



APPLIES TO ACADEMIC YEAR 2013/2014

GRA 8184 Renewable Energy Technology and Business

Programme

Executive Master of Management in Energy (EMME)

Responsible for the course

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Department

Department of Innovation and Economic Organisation

Term

According to study plan

ECTS Credits

6

Language of instruction

English

Introduction

This module is part of the Executive Master of Management in Energy in cooperation with BI Norwegian Business School and IFP School.

Learning outcome

This course examines the technology and business trends associated with renewable energy technologies. We will examine successful and failed approaches for the commercialization of new energy resources with a particular focus on the US and California settings. Emphasis is placed on understanding the fundamental issues in commercialization of a broad range of new energy resources.

Acquired knowledge:

Participants will acquire an understanding of the risks and opportunities associated with established and emerging technologies for energy efficiency, renewable energy generation, renewable resource depletion, demand-response systems, and the uneven distribution of renewable resources.

Acquired skills:

The course will better enable students to assess the business case for a renewable energy resource-based project.

Reflection:

The participants will develop the ability to critically reflect on the transition from a fossil hydrocarbon based energy complex to a hybrid renewable-fossil business environment.

Prerequisites

Granted admission to the Executive Master of Management in Energy Management programme.

Compulsory reading

Books:

Muller, Richard A.. 2012. Energy for Future Presidents: The Science Behind the Headlines. W.W. Norton and Company

Articles:

To be announced

Recommended reading

Course outline

Renewability and Sustainability
Fundamentals / Taking the Long View
Advanced Solutions for Renewable Energy
Shale Resources
Solar Thermal Power
Carbon Capture

Innovation and Public Policy
Geothermal Power
Investing in Energy
Business Models (via corporate visits)

Note: Due to scheduling, "Renewable Energy Technology and Business" and "Renewable Energy Policy and Regulations" will be delivered in a blended, rather than sequential, format.

Computer-based tools

It's Learning
Word-processing software for the assignment
E-mail
Box.net learning management system

Learning process and workload

Sessions include lectures, seminars, group work, and corporate visits.

1 ECTS credit corresponds to a workload of 26-30 hours.

Attendance to all sessions in the course is compulsory. If you have to miss part(s) of the course you must ask in advance for leave of absence. More than 20% absence in a course will require retaking the entire course. It's the student's own responsibility to obtain any information provided in class that is not included on the course homepage/ It's learning or other course materials

Examination

The course evaluation will be based on:

30% Class participation. Your creative and constructive involvement in class discussion is an essential component of class.

70% Individual assignment: Maximum 4,000-word paper (plus any appendices)

This is a course with continuous assessment (several exam elements) and one final exam code. Each exam element will be graded using points on a scale (e.g. 0-100). The elements will be weighted together according to the information in the course description in order to calculate the final letter grade for the course.

Specific information regarding student evaluation beyond the information given in the course description will be provided in class. This information may be relevant for requirements for term papers or other hand-ins, and/or where class participation can be one of several elements of the overall evaluation

Examination code(s)

GRA 81841 - Continuous assessment; accounts for 100 % to pass the course GRA 8184, 6 ECTS credits

The course is a part of the Executive Master of Management in Energy (EMME) and all evaluations must be passed to obtain a certificate for the degree.

Examination support materials

Re-sit examination

Re-takes are only possible at the next time a course will be held. When course evaluation consists of class participation or continuous assessment, the whole course must be re-evaluated when a student wants to retake a exam. Retake examinations entail an extra examination fee.

Additional information

As part of this course, you will work individually to develop a commercialization plan for an energy resource that is not based on conventional hydrocarbons. The resource you select for your commercialization plan may be literally renewable (e.g., wind power), figuratively renewable (e.g., large scale hydroelectric power), or a fossil resource that may be considered a bridge to a low carbon or de-carbonized future (e.g., natural gas or other fossil methane resources).

Project milestones are:

- 10 ~ 21 March Office hours with Faculty Director to discuss options for your commercialization plan
- 21 March Preliminary commercialization plan concept due to instructor by email (Maximum 100 word outline)
- 28 March Project boundary conditions due to instructor by email (i.e., what will be covered in your commercialization plan, and what will be excluded)
- 25 April Commercialization plan due, PDF format only, no later than 17:00 California time

The goal of this assignment is to develop skills for bringing a new energy resource to market. Students are expected to synthesize strategy from the class readings, cases, guests and discussions. The student must analyze what is needed to

successfully bring a new energy resource to market as a sustainable business. An important part of the process is identifying successes and failures in similar businesses and detailing the lessons of those experiences. The business opportunity described in your plan should be comprehensive enough to serve as a vehicle for raising capital and as a roadmap to launch and grow a company. Your strategic vision should be detailed.

You are encouraged to begin work on this assignment immediately, and to meet with the Faculty Director regularly during the course to verify that your work meets the requirements of the assignment.

FAQs

- a. Utilize the tools we discuss in class.
- b. Combine objective data, your synthesis of those data, and your own views.
- c. Use both primary and secondary sources for your research.
- d. Cite the sources of your data.
- e. You may organize your paper however you wish, but be sure to emphasize analysis and interpretation of the market and the opportunity, and place less emphasis on background data about the market landscape. A reasonable weighting is 25% on background and 75% on analysis and recommendations.
- f. If you want to review your work prior to submitting it, please schedule a date to do so well in advance.