APPLIES TO ACADEMIC YEAR 2013/2014

GRA 8178 Fundamentals of Energy Management

Programme
Executive MBA 2013/2014 - Energy track

Responsible for the course
Ole Gunnar Austvik

Department
Department of Innovation and Economic Organisation

Term
According to study plan

ECTS Credits
6

Language of instruction
English

Introduction
This course is part of the Executive MBA with specialization in energy (EMBA) in cooperation. The objective of this course is to give a general introduction to and overview of the fundamentals of energy management. The course provides insight and overview of the particularities of oil and gas industry, energy markets, distribution of resource rent, energy policy and international energy affairs. Resource management in major producing countries is outlined. Energy and environmental economics and regulation is discussed both for renewable and non-renewable resources.

Learning outcome
This course serves as a basis for what shall be learned in the EMBA program with specialization in energy. Later courses will go deeper into the specifics of most of the issues.

Acquired knowledge:
Participants will acquire an understanding of economic, political and industrial conditions applicable to the energy industry, with an emphasis on the following :

Major challenges to energy markets, companies and policies
Drivers in markets for non-renewable and renewable energy sources
Energy economics, restructuring and regulation
Environmental and climate challenges to the energy industry
Resource management

Acquired skills:
Overview of the energy sector on a global level
Formation of international energy prices
Energy economics and regulation,
Market restructuring
Distribution of resource rent,
International energy affairs and geopolitics.
Resource management in petroleum producing countries
Renewable energy sources
Environmental economics and policy

Reflection:
The participants will get insight and overview of the particularities of energy sector, drivers of demand and supply, international political and economic implications, as well as environmental and climate issues.

Prerequisites
Granted admission to the EMBA programme.

Compulsory reading
Books:
Al- Kasim, Farouk. 2006. Managing Petroleum Resources - The Norwegian Model in a Broad Perspective. Oxford: Oxford Institute for Energy Studies
Kane, Gareth. 2011. The Green Executive, Corporate leadership in a low carbon economy
McKinsey & Co. 2009. Pathways to a Low Carbon Economy – Executive Summary (17 p). Executive Summary

,17 p
Randers, Jorgen. 2012. 2052 – A Global Forecast for the Next Forty Years. Chelsea Green Publishing House, Vermont. Part of 250 p
UNEP. 2011. Green Economy Report: Renewable Energy. Ch 6, 30 p
Zolotukhin, Anatoly. Edited by Anatoli Bourmistrov, Frode Mellemvik and Sergey Vasiliev. 2011. Arctic Petroleum Resources: Opportunities and Challenges.“Perspectives on Norwegian-Russian Energy Cooperation. Cappelen Damm Akademisk Publ. House. Part 1, pp. 65-77

Articles:
Al-Kasim Farouk, Tina Søreide, Aled Williams. Shrinking oil. Does weak governance and corruption reduce volumes of oil produced?, Anti- Corruption Resource Centre www.U4.no. Anti- Corruption Resource Centre www.U4.no. (Copy can be provided)
Austvik, Ole Gunnar. 2012. "Landlord and entrepreneur. The shifting roles of the state in Norwegian oil and gas policy". Governance. An International Journal of Policy, Administration, and Institutions. Vol 25, Issue 2. pp. 315-334
National Grid – balancing the overall system of electricity and gas, other publications from IEA on 2 degree scenarios and technology (to be released 10 June 2013)
Noreng, Øystein. 2011. “Norway and Russia – from Cold War to Warm Peace”. OGEL Journal. Vol 9, Issue 6. 23 p
Øystein Noreng. 2011. “Exploring the Barents Sea after the Norwegian-Russian border treaty. World Oil. 25 p

Other:
DECC overview UK (from gas to coal and renewables – with possible shale gas later)
Lerøen, Vidar. 200x. Troll for Generations. Published by the Troll licensees
Norwegian Ministry of Petroleum and Energy (MPE). 2012. Fact Sheet
UN energy for all programs. http://www.iea.org/etp/tracking/
Zolotukhin, Anatoly. 2011. “The potential in Russia’s new energy frontiers”. pp. 106-108. Paper in the official proceedings of the 20th WPC, Doha
Zolotukhin, Anatoly. “Regional & Global Solutions for Sustainable Gas Supply: Russia Perspective”. Presentation at the 10th Plenary session of the 25th International gas conference, Kuala Lumpur, Malaysia, 4-9 June 2012
Zolotukhin, V. Gavrilov. 2011. “Russian Arctic Petroleum Resources”. Oil & Gas Science and Technology – Rev. IFP Energies nouvelles. DOI: 10.2516/ogst/2011141

Recommended reading
Books:
Green European Foundation. 2012. European Union (EU) Energy Policy: From the ECSC to the Energy Roadmap 2050. Luxembourg: Heinrich Böll Schtiftung

Articles:
Bloomberg. 2013. Global Renewable Energy Market Outlook. New York
Energy Information Administration (EIA). 2012. International Energy Outlook. Washington.
International energy Agency (IEA). 2013. World Energy Outlook. Paris
International Monetary Fund (IMF). 2013. World Economic Outlook; Hopes, Realities and Risk. Washington
Organization for Economic Cooperation and Developments (OECD). 2012. Environmental Outlook to 2050: The Consequences of Inaction. Paris
Organization of petroleum Exporting Countries (OPEC). 2012. World Oil Outlook. Vienna
World Bank (WB). 2013. Global Economic Prospects: Assuring Growth Over the Medium Term. Washington
World Economic Forum (WEF). 2012. Outlook on the Global Agenda. Geneva: WEF

Course outline

Computer-based tools
It's Learning

Learning process and workload
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 on a group assignment with 1-3 participants.

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 81781 - Term paper; accounts for 100 % to pass the program GRA 8178, 6 ECTS credits

The course is a part of a full Executive Master of Business Administration Program 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
Students should be familiar with information provided on web-pages concerning energy and the environment, economic and political developments, and organizations providing them. Such information will be used by different lecturers throughout the program, and should be known on an overview level during the first module. Later modules will use more detailed information from such sources. Some reports are listed below as examples of general reports which the students should be familiarized with during the first course.