Entry requirements

Skills to be acquired in this module

After the completion of this module the students will:
- have a critical understanding of political decision making processes, lobby groups and administrative hurdles in realisation of energy policy
- have a good understanding of factors other than technical influencing future energy scenarios depending on regional and national conditions
- have a good understanding of the structure of the global energy system
- be able to critically interpret energy statistics and to identify different stages of energy conversion
- be familiar with all available energy resources and their future role in the global energy system
- be able to give a presentation on an individual country (or region), focusing on renewable energy
- be able to critically follow scientific discussions in the physical background and impacts of global climate change
- understand basic economic concepts
- understand the organization of a market economy
- know the relevance of competition and monopoly
- understand the role of regulation for energy markets
- be able to undertake a desk-top research on a complex topic
- know about several other countries' and regions' situation
- to perform team research
- be able to present in front of an audience and to moderate a discussion

Module contents

Energy Systems
- basic terminology on energy units
- definition and discussion of various forms of energy
- overview of energy resources and reserves
- the global energy situation (energy consumption, energy balances, noncommercial uses of energy)
- energy scenarios (methodologies, main results for possible energy futures)
- techno-economic methods and aspects of energy use (energy and exergy analyses, life cycle analysis, external costs, etc.)
- human-made greenhouse effect

Energy Economics
- the ten principles of economics
- the role of costs for decision making
- markets, competition, monopoly
- regulation and environmental policy
- investment decision, finance and risk management

Country Report
- analysis and presentation of an individual country or region
- geographic, climatic, historic, economic and political situation
- focus on (renewable) energy matters
- team research and presentation, followed by a discussion (moderated by team)

Reader's advisory

Blok, Kornelis, 2007: Introduction to Energy Analysis, Techne Press, Amsterdam
Boyle, Godfrey, Everett, Bob & Ramage, Janet, 2004: Energy Systems and Sustainability, Oxford University Press
World Energy Assessment Overview: 2004 Update: Energy and the Challenge of Sustainability; 

Country Reports from previous years

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**Examination Time of examination**

| Final exam of module | Energy Systems: At the end of lecture period (end of January) | Energy Economics: After end of lectures (mid-December) | Country report: During Semester | Energy Systems (40%): Written exam (1.5 hours) | Energy Economics (25%): Written exam (0.5 hours) | Country report (35%): Written report 15 – 20 pages & Presentation (20 min plus 10 min discussion) |

**Course type**

- Seminar

**SWS**

- Frequency

- Workload attendance: 0 h