

Modul 22: Trading Energy

Studiengang/course:	M. Eng. Energie- und Umweltmanagement / M. Eng. Energy and Environmental Management
Modulbezeichnung / module name:	Trading Energy
ggf. Kürzel / abbreviation	TE
ggf. Untertitel / subtitle	-
ggf. Lehrveranstaltungen / seminar:	Trading Energy
Semester / semester:	Autumn term
Modulverantwortliche(r) / person in charge of module:	Jörn Higgen
Dozent(in) / person teaching the seminar:	Dipl.-Wi.-Ing. Jörn Higgen, Dipl.-Wi.-Ing. Marcel Ketterer, M.Eng Larissa Leienbach Dipl.-Wi.-Ing. Johannes Viehmann
Sprache / language:	Englisch
Zuordnung zum Curriculum / attribution to courses:	M. Eng. Energie- und Umweltmanagement / M. Eng. Energy and Environmental Management for 'Industrial Countries' and 'Developing Countries' Core Elective Course
Lehrform / SWS / form of seminar / teaching hours per week:	Seminar / 4 SWS / max. 20 Students
Arbeitsaufwand / student workload:	60 hours of teaching and 90 hours of student work
Kreditpunkte / credit points:	5 ECTS
Voraussetzungen / preconditions:	none

<p>Lernziele / Kompetenzen / aims of the module / competencies:</p>	<p>During the seminar students will obtain a thorough overview of the most important aspects of many the different energy markets globally and learn about the various methods used to analyse and instruments available to trade liberalized commodity markets. The lecturers will also provide insights from their professional backgrounds working at the major European utilities & energy trading houses and explain how markets are used for physical asset optimization and risk management activities. Students will also be conducting asset portfolio optimization exercises and perform their own fundamental and technical market analyses using simple spreadsheet tools as well as professional software solutions applied in the industry.</p> <p>Competencies covered:</p> <ul style="list-style-type: none"> • analytical thinking • problem solving skills • lifelong learning • specific knowledge in energy markets • specific knowledge in financial instruments • specific knowledge in fundamental and technical analysis of energy markets • economic competence • international competence • methodological competence • self organisation and teamwork skills • project organising skills • entrepreneurial thinking • conflict solving skills
<p>Inhalt / subjects covered:</p>	<p>The following topics will be covered in the module:</p> <ul style="list-style-type: none"> • Introduction to energy markets: <ul style="list-style-type: none"> ○ oil & coal ○ natural gas & LNG ○ carbon (EU ETS) ○ electricity market • How to trade energy & why <ul style="list-style-type: none"> ○ Markets & market participants ○ Instruments & products ○ Reasons for trading energy <ul style="list-style-type: none"> ■ risk management & hedging ■ portfolio optimization ■ speculation • Practical insights & exercises - trading energy <ul style="list-style-type: none"> ○ fundamental analysis ○ technical analysis ○ Market Channel Optimization ○ Optionality in energy markets & delta hedging ○ Portfolio management & trading in not fully liberalized markets

	<ul style="list-style-type: none"> ● Case Studies <ul style="list-style-type: none"> ○ applying concepts taught in the seminar on various cases related to trading energy & asset optimization ○ Discussion of case frameworks and deliverables ○ Presentation of case findings and discussion of implications & open questions
Studien- Prüfungsleistungen / form of examination:	Oral presentation (approx. 15 min.) of the methodology used and results of the different case study teams
Medienformen / media used:	Case studies as group work and lectures with beamer based presentations, case studies and interactive business games, introduction to and use of commercial software solutions from the energy trading industry
Literatur / basic literature for the module:	<p>Kleinman, George (1997): Mastering Commodity Futures and Options – The Secrets of Successful Trading. Financial Times Management, London</p> <p>Schwager, Jack D. (1995): Schwager on Futures – Technical Analysis. John Wiley and Sons, New York, N.Y.</p> <p>Schwager, Jack D. (1995): Schwager on Futures – Fundamental Analysis. John Wiley and Sons, New York, N.Y.</p> <p>Schwager, Jack D. (1996): Futures, Study Guide: Fundamental Analysis. John Wiley and Sons, New York, N.Y.</p> <p>Schwager, Jack D. (1997): Schwager on Futures – Study Guide to Accompany Technical Analysis. John Wiley and Sons, New York, N.Y.</p> <p>Mack, Iries Marie (2014): Energy Trading and Risk Management: A Practical Approach to Hedging, Trading and Portfolio Diversification (Wiley Finance)</p> <p>Burger, Markus et. al (2014): Managing Energy Risk: An Integrated View on Power and Other Energy Markets</p> <p>Hull, John (2011): Options, Futures and other derivatives</p> <p>Krishna, Vijay (2002): Auction Theory. Elsevier Science (USA).</p>