

## Case Study Period Energy Management

### Lecturers:

Coordinated by Dr. Frans Coenen, Dr. Thomas Hoppe. Involved lecturers are selected based on the project content

### Course description:

#### • Course objectives

The objectives of the Case Study are (i) to integrate and apply the knowledge and skills that students have acquired in the preceding period to an actual situation; (ii) to develop further their skills in terms of research and consultancy project formulation and proposal writing; and (iii) to develop their skills in terms of team work.

#### • Subject

The case study period takes Energy Management (policies and practice) at the organisational, national or regional level as its focus.

#### • Content / topics

The case study period develops the concepts and skills acquired during the preceding courses in particular the Energy Management, Policy and Technologies as well as drawing on other courses. The case study period involves either identifying or responding to a given problem by advising about or designing a solution for the situation based on data gathering through various means such as a literature search, document analysis and interviews, and providing an analyse of the situation and identifying various options. The case period is divided into three parts: energy audit (building on the audit in the Energy Management, Policy and Technologies course); a workshop on proposal writing for a consultancy assignment (currently a proposal suitable for CDM funding) ) – the workshop is preceded by a short on-line Blackboard course on climate change (this course counts towards to case study mark); and research proposal writing (building on the course Academic Research Skills: Methodology, effective writing & Research Proposal).

#### • Course learning objectives

The objectives of the Case Study Energy Management are to enable the student on successful completion of the course to be able to:

- Integrate and apply the knowledge and insights that have been gained during the course work period in an actual situation.
- Apply the acquired social, communication and research skills in an actual situation
- Reflect on the applicability and usefulness of the acquired knowledge and skills for her/his career and country of origin.
- Lead a project through the stages of conceptualisation, proposal writing and implementation
- Work in an English language in a multi-disciplinary, multicultural team and under time pressure.
- Solve multidisciplinary and complex problems in an academic way
- Write a comprehensive proposal (academic or consultancy), and adhering to the academic routines for referencing
- Act as researcher/consultant in a research/consultancy team

### Course materials:

The course materials vary according to the specific projects the students work on. Part of the project involves a literature study. Students are taught how to do a literature study. Some basic starting materials (e.g. papers, books, lecture material) are provided; others should be gathered by the students themselves. Further, the course materials of preceding courses serve as an input.

### Instructional working methods:

The case study period is divided into three components: research techniques, climate change and energy auditing. The approach used here is a mixture of lectures (UT and guest lecturers), individual and group assignments, role plays and visits. Outputs are presented in the form of both written and oral reports. During the Case study period, there are progress meetings with the lecturers on a regular basis. Also, where appropriate, results are presented to the organisations that have provided the project topics / questions.

### Assessment:

The supervisors will assess the course work taking into account the quality of the outputs of the case period. Three pieces of work are assessed: research proposal, energy management report and consultancy proposal. The former is individual work and the latter two are group work. Both oral and written work is assessed. The work of the students will be graded on a scale 0 to 10. To pass the case study period, the student needs to score six or higher for each of the three pieces of work; the overall mark is an average of the three.

### Relationships with other courses:

The Case Study has strong relations with the other courses taught in the case work period, as is reflected in the course objectives.

Further, the Case Study serves as a preparation for the individual Research Project. The skills acquired or enlarged during the case study project, for example in making and implementing a work plan, data gathering techniques, reporting etc., are valuable for use during the Research project.

### Relation of course with final attainment targets:

#### • Primary relationship

*The final attainment targets 1 to 4 are related to this course. However, due to the nature of the course the level to which they are addressed varies.*

- Graduates have knowledge of and insight in the relevant key concepts and theories of policy studies and law and can describe and categorise relevant policy instruments, describe the legal basis of common policy instruments used in environmental and energy management and are able to assess their usefulness and feasibility in various contexts. (1)
- Graduates have basic knowledge of and insight in a variety of clean(er) and treatment technologies relevant for environmental and energy management, and tools that can be used for assessing the options for improving the environmental and energy impacts of products and production processes. They are able to make basic calculations for some of these tools and to make judgements about what technological solutions are appropriate for specific situations. (2)
- Graduates have knowledge of and insight in relevant key terms and concepts of organisational theory, operations management and financial analysis. They are able to apply these to analyse (energy and

environmental projects in) an organisation, define needs for change and advise about implementation. (3)

- Graduates have knowledge of and insight in the relevant key concepts, theories and tools, strategies and management systems for corporate environmental and energy management, including CSR. Graduates are able to analyse an existing situation and design solutions for (a specific issue in) environmental or energy management. (4)
- Graduates understand the concept of sustainable development and the relationships between resource utilization, production processes, societal processes and environmental pressure and are able to apply combinations of concepts and theories in environmental and energy management to the situation in the home country or other specific real life situations. (5)
- Graduates are able to integrate knowledge from various disciplines and to understand interrelationships in sustainable development processes, and are capable of formulating an action programme, policy, project or recommendations for environmental or energy management issues in their context based on this integrated knowledge. (6)
- Graduates have academic and research skills like critically reflecting on literature, designing a research proposal and executing and reporting on an (applied) research project. (7)
- Graduates are able to make a relevant contribution as an individual or as a member of a multi-disciplinary team to analysing and solving complex environmental or energy problems in an organisation or region. They are able to function in an international team, with English as the language of communication. (10)
- Graduates are able to give a structured written and oral presentation in English about individual or team work. They also adhere to existing academic traditions, such as providing proper credits and references. (12)
- Graduates are able to reflect on matters and issues in the domain, are able to form an opinion and to contribute to both scientific and practitioners' discussions and e.g. to critically reflect on the role of technology in the process towards sustainable development. (13)
- **Secondary relationship**
  - Graduates are able to independently access relevant scientific literature to obtain additional knowledge and apply this to the problem at hand. (8)
  - Graduates have knowledge of the principles of relevant professional skills, like communication, management and consulting skills, and have some basic experiences in applying these. (14)
- **Tertiary relationship**
  - Graduates take the responsibility for the continuous development of their own knowledge and skills. (9)
  - Graduates are able and willing to recognise the ethical aspects related to their activities. (11)