pre353 - Photovoltaics: Economics, Policy and Environment

<table>
<thead>
<tr>
<th>Module label</th>
<th>Photovoltaics: Economics, Policy and Environment</th>
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<tr>
<td>Module code</td>
<td>pre353</td>
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<tr>
<td>Credit points</td>
<td>5.0 KP</td>
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<tr>
<td>Workload</td>
<td>150 h</td>
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<tr>
<td>Used in course of study</td>
<td>Master's Programme European Master in Renewable Energy (EUREC) &gt; Mastermodule</td>
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<td>Contact person</td>
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Skills to be acquired in this module
- Critically analyse the international policies relating to photovoltaics and other energy technologies focusing on the strategic, environmental and economic implications of these policies
- Perform an economic and/or environmental analysis of a photovoltaic system.

Module contents

1. Economic Analysis
   - Economic theory - net present value, effect of interest rates, definition of capital and recurrent costs
   - Production economics - definition of production costs, economies of scale, projected manufacturing costs
   - Subsidies and tariff issues - effect of electricity supply costs on system viability
   - Financing mechanisms - review of international financing mechanisms for purchase and operation of systems

2. Policy Issues
   - Market development and projections
   - Review and appraisal of government policies and market development schemes
   - Security of supply
   - Climate change issues
   - Energy for development - role of photovoltaics

3. Environmental Impact Assessment
   - Process definition for module production
   - Hazard assessment
   - EC environmental directives
   - Embodied energy calculations
   - Energy payback times and ratios
   - Calculation of associated CO2 and other emissions

Reader’s advisory
Proceedings of European Photovoltaic Solar Energy Conferences
Proceedings of IEEE Photovoltaic Specialist Conferences
IEEEXplore database
Environmental data sources
Government literature (including European Commission and international) on renewable energy promotion
IEA Photovoltaic Power Systems Programme reports

Links

Language of instruction | English
Duration (semesters)    | 1 Semester
Module frequency        | jährlich
Module capacity         | unlimited
Module level            | MM (Mastermodul)
Modulart                | Pflicht
Lern-/Lehrform / Type of program | Lectures, seminars
Vorkenntnisse / Previous knowledge

Examination
Final exam of module
Time of examination
At the end of the semester
Type of examination
Written report (essay, approximately 3,000 words) and Presentation (10 minutes)

Course type
Seminar

SWS
Frequency
Workload attendance
0 h