Chair of Renewable and Sustainable Energy Systems
TUM School of Engineering and Design
Technical University of Munich

Summer semester 2025

Project Lab Renewable and Sustainable Energy Systems for Master Management & Technology – Specialization: Sustainable Energies

Notes on registration

If you are interested in participating in this project internship (PI), please proceed as follows:

1. Choose the topic for the PP that is relevant to you in the topics listed below. The topics are **reserved exclusively** for the *Master's degree program Management & Technology – Specialization: Sustainable Energies.*
2. For more information on the topics and the process, an **online meeting** will take place. You can find the date and the corresponding link in the respective topic description.
3. If you would like to apply for one or more topics, please register for the corresponding groups in TUMonline by Thursday, April 24, 2025, at the latest and please make it clear how you prioritize the topics.
4. By Monday, April 28, 2025, at the latest, we will let you know whether and, if so, with which topic you can work on the project internship.

If you have any questions of an organizational nature, please contact Dr. Kuhn (propens.ens@ed.tum.de).

If you have any questions about the content of the various topics, please contact the supervisor directly.

Organizational:

Weekly attendance times are planned for the project internship (see table).

Topics

No.	Topic	Students	Brief description	Supervisor (email)	Time slots for meetings
1	**DBU – Home Energy Lab**	4-5	Students develop didactically prepared teaching material for an interactive energy lab that illustrates the energy consumption of household appliances and the use of renewable energies. In interdisciplinary teams, they create experiment instructions, worksheets, digital learning modules and accompanying material for teachers. After a test phase with groups of pupils, the materials are optimized and made available for teaching. The aim is to raise pupils' awareness of energy consumption and energy-saving measures and to give students practical experience in educational work. **Deliverables are expected in German language.** Teams Info Meeting **Wednesday 23.04.2025 10:00 AM** Meeting link Meeting ID: 385 969 744 41 Passcode: Kz78Rw3e	Erhart, M.	Wed. 9AM-12PM

No.	Topic	Students	Brief description	Supervisor (email)	Time slots for meetings
2	**EduGrid Website**	4-5	A team of students are to develop an interactive website for the transfer of knowledge on renewable energies. The platform will share experiences from teaching projects in developing countries and provide self-developed open source experiment kits. Tasks include web design, familiarization with the workshop materials and the development of a user-friendly interface. Knowledge of web development (HTML, CSS, JavaScript or CMS) is an advantage, as is an interest in education and sustainable technology. The goal is to create an appealing, easily accessible website that supports the global exchange of teaching materials. Teams Info Meeting: **Wednesday, April 23, 2025, 10:30 AM** Meeting link Meeting ID: 384 715 979 624 Passcode: Mu3No2tz	Erhart, M.	Wed. 9AM-12PM

No.	Topic	Students	Brief description	Supervisor (email)	Time slots for meetings
3	**Transport sector in Africa**	15	Within the framework of the project internship, a number of countries in southern Africa will be examined and compared with regard to the transport of people and goods. Each student is first assigned a country. The work consists of the following steps: • Analysis of the existing transport and energy system based on the official statistics of an international organization such as the OECD and the relevant ministries of the countries • Analysis of the demographic and economic development of the country, including documentation of expected future developments, based on a) simple estimates and b) published studies • Description of the transport structure • Simple estimation of the expected volume of traffic in the coming years • Possible electrification of the transport of people and goods • Simple estimation of electrified transport in 2030, 2040 and 2050 • The regulatory framework in the country to promote new transport technologies • Creation of a simple final transport scenario for the future All results are summarized in a linked Excel spreadsheet (or a Python program, if desired). The table must be a) clear, b) easily expandable, and c) allow the creation of different scenarios.In addition to the Excel spreadsheet, the organization of the spreadsheet and the results are described in a written document. We look at all countries except Egypt, Libya, Tunisia, Algeria, Morocco and South Africa. Teams Info Meeting: **Wednesday, April 23, 2025, 16:00** Meeting link Meeting ID: 342 473 159 405 Passcode: eu2SD7A2	Hamacher, T.	Wednesday, 13:00 – 16:00