Interdisciplinary project: Setting up an energy data hub

The Center for Energy Markets at TUM School of Management is looking for applications for an interdisciplinary project (IDP).

Setting up an energy data hub

Evaluator:	Prof. Dr. Sebastian Schwenen
Person in Support:	M.Sc. Magnus Schauf (magnus.schauf@tum.de)
Planned Starting Date:	ASAP
Duration:	6 month part-time or 3 month full-time
Required Skills:	Basic knowledge of a relevant programming language

Detailed Background

Current research in energy, environmental and resource economics is characterized by the liberalization of energy markets, the energy transition in response to global climate change and increasing digitization. Data are increasingly available but often either proprietary, distributed across many sources, unstructured or not in a format readily allowing for econometric analyses or simulations. Since such data not only cover research in economics but also has widespread applications in other fields such as engineering, policy or business, better access to data is important and beneficial for multiple parties.

At the Center for Energy Markets, we use this data for instance to:

- Examine power market design and the impact of subsidies and taxes
- Investigate the design of power exchanges and the financing mechanisms for renewables
- Analyze the potential of hydrogen in a future energy system
- Model technology learning in electricity generation and storage technologies
- Inform policymakers
- Allow students at TUM to write theses based on empirical analyses, utilizing rich data

The aim of this research project is to build a website serving as an energy data hub. It should contain the data in a structured format such that researchers/students can easily find and access data.

Key work packages:

- Understand topics as well as data needs and data types of energy, environmental and resource economics and management
- Work out a structure to store this data in a hub under the aspects of usability and data security
- Set up a corresponding frontend (likely a website) and a backend

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Center for Energy Markets
Prof. Dr. Sebastian Schwenen

Work environment and cooperation with the Center for Energy Markets:

In the context of our professors' and doctoral candidates' diverse set of research projects, we commit to work closely together with the IDP student(s) to constantly test the included features and give feedback on ease of use and data accessibility. Hence, the student(s) will observe how her/his/their application will provide the basis for future research within the Center for Energy Markets and TUM. The scope of the IDP also offers the potential for generating own ideas on the part of the student which we gladly take into account during the project.

Application:

We are looking forward to receiving your applications via e-mail (cem@wi.tum.de). Please shortly indicate why you are interested in this IDP and attach your CV and your current grade report.

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