

Prof. Dr.-Ing. Peter Treffinger, University of Applied Sciences

PhD Position within the cooperative graduate school “Small scale renewable energy systems” (abbr. KleE) at the University of Freiburg (www.klee.uni-freiburg.de) and in collaboration with the University of Applied Sciences, Offenburg and the Fraunhofer Institutes ISE and IPM, Freiburg.

The position will be located at the University of Applied Sciences, Offenburg (www.hs-offenburg.de).

Economic requirements on technologies on component and system level for decentralized small-scale energy systems based on renewable energy

An increasing share of renewable energies requires action on different levels. However, finally decisions taken by the energy are crucial. From the user's view point there are manifold criteria when deciding about an energy system and associated with a primary energy to be applied, e.g. environmental impact, economics, and security of supply. Nowadays private users prefer often low operating cost in combination with low carbon dioxide emissions. However, still the capital for the necessary investment is a limit. The understanding of evaluation and decision processes is therefore a prerequisite when forcing „Small scale renewable energy systems“, whereby criteria like security of supply, comfort, risk of energy shortages or outages are important. Additionally, the macroeconomic and political frame has to be taken into account.

The primary objective of the PhD position is to gain an understanding for decision processes with respect to “Small scale renewable energy systems” and to identify thereby promising energy conversion systems applying mainly renewable primary energy. A crucial part of the work is therefore the formulation and validation of an objective function covering multiple criteria.

Representative examples of energy systems in different sectors shall be defined in close collaboration within the graduate school as base for the study. The investigation requires than tools expanding traditional value analysis with respect to criteria mentioned above. For example must the match between availability of renewable primary energy and the user demand considered, which implies also system model of the respective energy system.

The techno-economic analysis shall also consider technical progress.

In summary, the work shall yield to an understanding of mechanisms or measures, which could facilitate the dissemination of “Small scale renewable energy systems”.

Qualifications, Competencies & Experiences

Applicants should hold an above average Master degree in engineering and/or economics, preferably engineering combined with economics eager to work in the field of techno-economic analyses in the energy sector.

The following competences are appreciated:

- Knowledge and experiences in energy conversion and energy systems
- Competencies in system analysis in energy sector (e.g. optimization methods)
- Strong inter-personal skills and desire to contribute to an interdisciplinary research
- college
- The ability to work both individually and in close cooperation within the graduate school

How you apply:

Applications will only be accepted electronically **until the 1st of May 2011**. If interested, please submit your application to:

Mr. Dipl.-Biol. Stefan Adler

Zentrum für Erneuerbare Energien (ZEE) - Centre for Renewable Energy

Albert-Ludwigs-Universität Freiburg/ University of Freiburg

Tel. ++49-(0)761-203-8598/8599

E-Mail: stefan.adler@zee.uni-freiburg.de

Homepage: www.zee.uni-freiburg.de

Required application documents:

<http://www.klee.uni-freiburg.de/bewerben> (English)

For further information regarding the graduate school please visit www.klee.uni-freiburg.de.

Information regarding the position can also be provided by Prof. Dr.-Ing. Peter Treffinger, University of Applied Sciences Offenburg (peter.treffinger@hs-offenburg.de).