



The Chair of Energy Systems and Energy Economics at the Faculty of Mechanical Engineering is looking for a

research associate / PhD Position (m,f,x) for 3 years with 39,83 hours per week, TVL E13

The Chair of Energy Systems and Energy Economics pursues the goal of improving decision-making in shaping the global transformation of energy systems through a solid knowledge base. To this end, we provide robust orientation knowledge for the design of a future energy system based on sustainability by means of scientifically sound methods of energy system and decision analysis. We identify alternative options for action and evaluate these taking into account economic, technical, environmental and socio-economic impacts. In our research, we pursue the principles of technology neutrality, academic excellence and policy-relevance.

Consumers and citizens will play an important role in the transition to net zero carbon energy through technology adoption and flexible energy use. Nonetheless, technical, economic, and societal challenges currently hinder the residential energy transition. In this position, you will combine residential energy system modelling and multi-objective optimisation methods. In particular, you will develop a “Residential Energy System Pareto Navigator” that enables decision makers to explore and assess alternative residential energy system designs under consideration of economic, environmental and comfort-related preferences. By publishing the results of your work in leading international peer-reviewed journals and presentations at national and international conferences, you will represent the Chair of Energy Systems and Energy Economics on a national and international level. The preparation of a PhD thesis is explicitly supported and desired. The position offers freedom to unfold your creativity and jointly develop and realise your own research ideas within the broader scope of the network. You are part of a dynamic, interdisciplinary team. As part of the team, you will support developing research proposals for the acquisition of third-party funding and thus help shape future research priorities. We foresee up to three secondments for this position. Subject to confirmation, these could be to University College Dublin (UCD), the German Energy Agency (dena) and the Swiss Federal Laboratories for Materials Science and Technology. In addition, the doctoral network aims to provide extensive training in research

extent:	full-time
duration:	temporary
beginning:	as soon as possible
application deadline:	28.10.2024

and transferable skills, centred around annual workshops in Dublin (IE), Dübendorf (CH), Copenhagen (DK) and Bochum (DE). Moreover, the supervision of Bachelor's and Master's theses that align with your research interests is explicitly supported. This position is one of 15 positions funded under the Marie Skłodowska-Curie Actions Doctoral Network on "Consumer Energy Demand Flexibility in Electricity Use" (CoDeF). More information on the CoDeF network can be found here (<https://sites.google.com/view/mscadncodef/home>).

Your tasks:

- Combination of residential energy system modelling and multi-objective optimisation methods
- Development of a "Residential Energy System Pareto Navigator"
- Publishing the results
- Preparation of a PhD thesis

Your profile:

- A university degree (Master's degree or diploma) with honours in a mathematical-scientific field (e.g. mathematics, physics, informatics) or in an engineering or economic field with a strong quantitative modelling component (e.g. environmental engineering, industrial engineering, quantitative economics and management)
- Strong structured and analytical way of thinking, proven ability to work on your own initiative as well as in a team
- Excellent communication, presentation and writing skills
- Very good command of written and spoken English
- Interest in interdisciplinary, energy economic and energy policy issues
- Skills in operations research and programming (e.g. Python, Julia, GAMS) as well as experience in the field of energy economics modelling and analysis are an advantage
- In line with Marie Skłodowska-Curie Action requirements, you must not have lived in Germany for more than 12 of the last 36 months. This is an exclusion criterion for this position. However, you may be eligible for another position within the doctoral network (<https://sites.google.com/view/mscadncodef/home?authuser=0>).

Our offerings:

- Support from and cooperation with competent colleagues
- Team-orientated cooperation in a committed, international and appreciative team
- Options for flexible working
- A job in the centre of the lively Ruhr metropolitan region with its diverse cultural offerings

Additional information:

At the request of the applicant (m,f,x), the staff council may be involved in selection interviews. <https://www.wpr.ruhr-uni-bochum.de/>

The Ruhr-Universität Bochum is one of Germany's leading research universities, addressing the whole range of academic disciplines. A highly dynamic setting enables researchers and students to work across the traditional boundaries of academic subjects and faculties. To create knowledge networks within and beyond the university is RUB's declared aim.

The Ruhr-Universität Bochum stands for diversity and equal opportunities. For this reason, we favour a working environment composed of heterogeneous teams, and seek to promote the careers of individuals who are underrepresented in our respective professional areas. The Ruhr-Universität Bochum expressly requests job applications from women. In areas in which they are underrepresented they will be given preference in the case of equivalent qualifications with male candidates. Applications from individuals with disabilities are most welcome.

If the position is funded by third-party funds the employee has no teaching obligation.

At the request of the applicant (m/f/x), the position can also be taken up on a part-time basis.

German language courses are offered by the University Language Center (ZfA) in the field of German as a Foreign Language (DaF).
<https://www.daf.ruhr-uni-bochum.de/sbgk/index.html.en>

You can find information about TVL at: <https://oeffentlicher-dienst.info/>

Contact details for your application:

Prof. Dr. Valentin Bertsch, Phone: +49234 32 26357
Manuela Kötter, Phone: +49234 32 26406

Travel expenses for interviews cannot be refunded.

For information on the collection of personal data in the application process see: <https://www.ruhr-uni-bochum.de/en/information-collection-personal-data-application-process>.

We are looking forward to receiving your **application with the specification ANR: 3863 until 28/10/2024**, send by e-mail to the following address: job@ee.rub.de

Please get in touch with the contact person named above if you would like to use an alternative application channel.



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<https://uni.ruhr-uni-bochum.de/de/stellenangebote>