The energy transition is one of the greatest challenges of our time, and it is currently characterized by an unparalleled high dynamism in the adaptation of political objectives as well as in the research, further development, and implementation of contributory techniques. At the Institute for Energy and Climate Research - Technoeconomic Systems Analysis (IEK-3), we use integrated computer models to research which techniques significantly contribute to the implementation of a cost-effective and climate-friendly energy system. Become part of our international research team and take a look into the future of our energy supply with us. With your work, you not only help to develop well-founded perspectives for sustainable energy technologies but also contribute to the further development of methods for integrating techno-economic knowledge into simulation and optimization models for different levels of consideration.

We are offering a

**PhD Position – Development of Regional Decarbonization and Adaptation Plans**

**Your Job:**
We offer a challenging and innovative PhD position within the international EU project LOCALISED. You will play a key role in the development of regionally adapted plans for the European energy transition. Your research will focus on the creation and implementation of regional plans, individually tailored for all European regions. In particular, in this dissertation, you will work on refining the ETHOS.MIDAS model developed in the last two years. You will identify and quantify new measures for decarbonization and adaptation to climate change. You will refine the existing model and expand it to include new dimensions such as social justice or health. And you will perform calculations and validations for all European regions at the NUTS-3 level. The planned work is predominantly in the field of energy engineering, optimization, climate change, and climate change adaptation. Software development, particularly in
Python will constitute a significant portion of your work. Upon completion of the dissertation, you will have a detailed understanding of the entire European economic area, the decarbonization strategies of the member states, and the challenges of climate change. This expertise ideally prepares you for careers, for example, in policy consulting, climate management, or energy system modeling.

Your tasks include in detail:

• Comprehensive research on the European economic area
• Identification and quantification of measures for decarbonization and adaptation to climate change
• Adaptation and expansion of the ETHOS.MIDAS model
• Validation of model results
• Development of a public API
• Close collaboration with leading international research partners within the EU project

Your Profile:

• Masters degree or comparable degree in mechanical engineering, electrical engineering, environmental engineering, physics or a related field of studies.
• Independent, analytical, and conscientious way of working
• An interest in system analysis
• Knowledge about modeling is an advantage.
• Knowledge about programming, preferably Python
• Strong teamwork skills and the ability to work cooperatively
• Fluent speaking and writing skills in English

Our Offer:

We work on the very latest issues that impact our society and are offering you the chance to actively help in shaping the energy supply of tomorrow! We support you in your fast-track PhD program in less than three years with:

• Comprehensive training courses and individual opportunities for personal and professional further development
• Extensive company health management
• Ideal conditions for balancing work and private life, as well as a family-friendly corporate policy
• Flexible working hours, the option of slightly reduced working hours, and 30 days of annual leave
• A large research campus with green spaces, offering the best possible means for networking with colleagues and pursuing sports alongside work
• Targeted services for international employees, e.g. through our International Advisory Service

In addition to exciting tasks and a collaborative working atmosphere at Jülich, we have a lot more to offer: https://go.fzj.de/benefits

The position is for a fixed term of 3 years. The salary is in line with pay group 13 (75 %) of the Collective Agreement for the Public Service (TVöD-Bund). In addition, an annual special payment is granted (“Christmas payment”), which amounts to 60 % of the monthly salary. Further information on doctoral degrees at Forschungszentrum Jülich including our other locations is available at https://www.fz-juelich.de/en/careers/phd

We welcome applications from people with diverse backgrounds, e.g. in terms of age, gender, disability, sexual orientation / identity, and social, ethnic and religious origin. A diverse and inclusive working environment with equal opportunities in which everyone can realize their potential is important to us.