



Conducting research for a changing society: This is what drives us at Forschungszentrum Jülich. As a member of the Helmholtz Association, we aim to tackle the grand societal challenges of our time and conduct research into the possibilities of a digitized society, a climate-friendly energy system, and a resource-efficient economy. Work together with around 7,500 employees in one of Europe's biggest research centres and help us to shape change!

In light of the global challenge posed by climate change, there is an urgent need for innovative technologies that can replace fossil resources over the long term. North Rhine-Westphalia (NRW), a region characterized by a highly industrialized structure rooted in the coal and steel industries, now faces the pressing question of how to ensure a sustainable future following the phase-out of lignite mining. One promising solution lies in the development of a bioeconomy that relies on bio-based resources. This transition entails both the transformation of existing production methods and the establishment of new, sustainable industries. The objective of this master's thesis is to adapt an existing linear modeling approach to reflect the specific conditions and industrial landscape of NRW.

We offer you to the next possible date an exiting

Master Thesis - Linear Optimization Model for the Bioeconomy in NRW

Your Job:

As part of your work, you will support the development of sustainable strategies for the establishment of a regional bioeconomy. You will work with current methods of linear optimization and apply an existing optimization framework for the bioeconomy. Your contribution includes the analysis of economic potentials, opportunities and obstacles in this context. Your tasks will include

- Independent research and preparation of scientific literature and relevant data on the regional availability of biogenic resources
- Adaptation and application of a linear optimization model to the specific framework conditions in North Rhine-Westphalia
- Analysis and evaluation of quantitative data
- Quantitative analysis and evaluation of the data obtained to assess alternative development scenarios
- Derivation of specific recommendations for legislation to promote bio-based technologies

The job will be advertised until the position has been successfully filled. You should therefore submit your application as soon as possible. We look forward to receiving your application via our

Online-Recruitment-System!

Questions about the vacancy?

Get in touch with us by using **our contact form**.

Please note that for technical reasons we cannot accept applications via email. www.fz-juelich.de

Your Profile:

- Ongoing Master`s degree in business administration, economics or industrial engineering, or a related field; desirable with a focus on operations research
- Sound knowledge of linear optimization; experience in working with corresponding software in Python (e.g. Gurobi) an advantage
- Strong interest in topics of sustainability, resource utilization and bioeconomy
- Good written and spoken German and English skills;
- Independent, structured and analytical way of working

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 change! We support you in your work with:

- An interesting and relevant topic for your thesis with a future-oriented focus
- Ideal conditions for practical experience alongside your studies
- Interdisciplinary collaboration on projects in an international, committed and collegial team
- Qualified supervision by academic colleagues
- Independent preparation and implementation of assigned tasks
- Flexible working hours and appropriate remuneration
- The opportunity to work flexibly (in terms of location),
- Very good technical equipment for successful home office work
- A large research campus in the countryside, which offers the best opportunities for networking with colleagues and for a sporting balance alongside work

The position is for a fixed term of 6 months.

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

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.

Further information on diversity and equal opportunities: <https://go.fzj.de/equality>