

Jobbnorge ID: 244713
Deadline: 5/29/2023
Website: <http://www.ntnu.no>
Scope: Fulltime
Duration: Temporary

The Department of Industrial Economics and Technology Management is searching for a

Postdoctoral Fellow position in Energy Systems Modelling

This is NTNU

NTNU is a broad-based university with a technical-scientific profile and a focus in professional education. The university is located in three cities with headquarters in Trondheim.

At NTNU, 9,000 employees and 43,000 students work to create knowledge for a better world.

You can find more information about working at NTNU and the application process [here](#).

Video: <https://youtu.be/Xt-yHCN5QS0>

About the position

There is a temporary position available at the Department of Industrial Economics and Technology Management (IØT) as Postdoctoral Fellow for a period of 3 years. The position is resident at NTNU's campus in Trondheim, Norway. The position is connected to the Managerial Economics, Finance and Operations Research group at the Department of Industrial Economics and Technology Management and the Faculty of Economics and Management will be your employer.

[The department of Industrial Economics and Technology Management](#) is organized in six sections:

- Managerial Economics, Finance and Operations Research (BEDØK)
- Health, Safety and Environment (HMS)
- Operations Management (VIL)
- Strategy and Business Development (Stratforr)
- Experts in Teamwork (Section for EIT)
- Economics and Management (located in Gjøvik)

Background

Energy Systems Modelling is growing in relevance on providing insights and strategies to plan a carbon-neutral future. The implementation of an effective energy transition plan faces multiple challenges, spanning from the integration of the operations of multiple energy carriers (gas, heating, electricity, etc.) and sectors (e.g., transport, buildings, industry, etc.) to the appropriate modelling of different spatial and temporal resolutions. The BEDØK group at NTNU has multiple projects related to these challenges; hence the position will have the flexibility and the opportunity to focus on certain research areas when applying energy system models and optimization techniques. For example, the areas to consider or chosen are (not limited to):

- Power markets. New market designs and cross-border integration can create additional options for optimal balancing of renewables. The postdoc will have the possibility to work on models related to TSO-DSO coordination, zonal flexibility in re-dispatch, day-ahead and intraday markets, and others.
- Smart cities and distribution grids are facing a transformation due to the uptake of renewable generation (prosumers), the role of battery and electric vehicles, digitalization, and optimal utilization of distributed flexible resources. The Postdoctoral Fellow will have the possibility to work on models developed at the group focused on virtual power plants, bidding for aggregators, medium-to-low voltage grids, and others
- Energy planning and capacity expansion. The group has developed the EMPIRE model with multiple applications to European studies on the role of technologies (e.g., demand response, offshore wind, grid expansion, etc.) and the importance of power system flexibility. The Postdoctoral Fellow will have the opportunity to expand the model in research projects, master theses, and others.
- Cross energy carrier integration and the role of hydrogen. Hydrogen and sector coupling might be central to effectively manage a large share of Renewables in the energy system. Various modelling approaches have been developed in the group.
- Energy Communities, Local Electricity Markets, and P2P. Energy surplus from buildings is bringing new ideas on how to design local markets and incentivize renewable energy integration. The group has multiple high-impact publications and leads research projects in

the area.

The Postdoctoral Fellow is expected to work on European Commission projects and national projects funded by the Norwegian Research Council that are focused on one (or more) of the above research areas. Overall, these projects focus on the integration of renewable energy sources (wind and solar power), from distribution grids and neighborhoods up to national or pan-European level analyses on decarbonization strategies.

The post doc will be in the section of Managerial Economics, Finance and Operations Research and focus on techno-economic modelling and optimization related to energy-climate transitions. The position is connected to the NTNU Energy Transition Initiative (<https://www.ntnu.edu/energytransition>).

Main duties and responsibilities

- Perform energy system modelling analyses in one (or two) of the research areas noted
- Develop and engage into research activities in EU and National projects
- The position also allows for the postdoctoral fellow to carry on its own research activities and explore ideas
- Contribute to energy transition analyses and modelling activities in the group
- Joint supervision of post-graduate students

The methodologies used are based on competence from mathematical programming and optimization, energy economics as well as energy systems modelling.

Required selection criteria

- Completion of a Norwegian doctoral degree in operations research, industrial engineering with optimization profile, power system optimization or a closely related field, or corresponding foreign doctoral degree recognized as equivalent to a Norwegian doctoral degree is required. Candidates in the final stages of their PhD may also apply.
- Excellent knowledge of written and spoken English
- Strong interpersonal skills and inter-disciplinary experience
- Programming experience in a language such as Python, Julia, or similar

Factors that will contribute positively to the evaluation and that should be documented in the application:

- Publications of research in recognized international journals within the field
- Excellent communication and interpersonal skills with both technical and administrative staff
- Project management or project development experience
- Documented experience of working with international partners in Europe (or similar international collaboration or stays abroad)

The appointment is to be made in accordance with [Regulations on terms of employment for positions such as postdoctoral fellow, Ph.D Candidate, research assistant and specialist candidate](#).

Personal characteristics

We are looking for a highly motivated, quality oriented, conscientious, creative and independent scientist. She/he enjoys interdisciplinary research and is a team player. A self-driven, structured and proactive attitude will be central for this position.

In the evaluation of which candidate is best qualified, emphasis will be placed on education, experience and personal suitability, as well as motivation, in terms of the qualification requirements specified in the advertisement.

We offer

- exciting and stimulating tasks in a strong international academic environment
- an open and [inclusive work environment](#) with dedicated colleagues
- favourable terms in the [Norwegian Public Service Pension Fund](#)
- [employee benefits](#)
- attractive Norwegian social welfare scheme including family benefits, home loans, insurance and pensions in the Norwegian Public Service Pension Fund

Information about Working and living in Norway can be found [here](#).

Salary and conditions

As a Postdoctoral Fellow (code 1352) you are paid gross NOK 563 500 per annum before tax. From the salary, 2% is deducted as a contribution to the Norwegian Public Service Pension Fund.

Primary residency in Trondheim is a prerequisite.

This position is to be filled for a period of 3 years.

The engagement is to be made in accordance with the regulations in force concerning [State Employees and Civil Servants](#), and the acts relating to Control of the Export of Strategic Goods, Services and Technology. Candidates who by assessment of the application and attachment are seen to conflict with the criteria in the latter law will be prohibited from recruitment to NTNU.

NTNU is committed to following evaluation criteria for research quality according to [The San Francisco Declaration on Research Assessment - DORA](#).

The position is subject to external funding.

About the application

Applications should include:

- Motivation letter (clearly stating how the candidate meets the qualification requirements)
- A CV with information on education, publication list, previous research experience, together with authorized documentation of certificates and study records.
- Authorized documentation of certificates (academic degrees and grades).
- Publications and other relevant scientific works that the applicant would like to be considered in the evaluation must accompany the application.

Joint work will be evaluated. If it is difficult to identify the contributions from individuals in a joint piece of work, applicants should enclose a short descriptive summary of what they contributed to the work.

If, for any reason, you have taken a career break or have had an atypical career and wish to disclose this in your application, the selection committee will take this into account, recognizing that the quantity of your research may be reduced as a result.

Incomplete applications will not be considered.

An application including attachments should be sent electronically through www.jobbnorge.no.

General information

[Working at NTNU](#)

NTNU believes that inclusion and diversity is a strength. We want our faculty and staff to reflect Norway's culturally diverse population and we continuously seek to hire the best minds. This enables NTNU to increase productivity and innovation, improve decision making processes, raise employee satisfaction, compete academically with global top-ranking institutions and carry out our social responsibilities within education and research. NTNU emphasizes accessibility and encourages qualified candidates to apply regardless of gender identity, ability status, periods of unemployment or ethnic and cultural background.

NTNU is working actively to increase the number of women employed in scientific positions and has a number of [resources to promote equality](#).

The city of Trondheim is a modern European city with a rich cultural scene. Trondheim is the innovation capital of Norway with a population of 200,000. The Norwegian welfare state, including healthcare, schools, kindergartens and overall equality, is probably the best of its kind in the world. Professional subsidized day-care for children is easily available. Furthermore, Trondheim offers great opportunities for education (including international schools) and possibilities to enjoy nature, culture and family life and has low crime rates and clean air quality.

As an employee at NTNU, you must at all times adhere to the changes that the development in the subject entails and the organizational changes that are adopted.

A public list of applicants with name, age, job title and municipality of residence is prepared after the application deadline. If you want to reserve yourself from entry on the public applicant list, this must be justified. Assessment will be made in accordance with [current legislation](#). You will be notified if the reservation is not accepted.

Questions about the position can be directed to Associate Professor Pedro Crespo del Granado, +47 458 49 710 / pedro@ntnu.no, or Professor Asgeir Tomasgard, asgeir.tomasgard@ntnu.no / +47 930 58 771. If you have any questions regarding the employment process, please contact HR-konsulent Hilde Selli Egelie, hilde.s.egelian@ntnu.no.

If you think this looks interesting and in line with your qualifications, please submit your application electronically via jobbnorge.no with your CV, diplomas and certificates attached.

Application deadline: 29.05.2023

NTNU

NTNU - knowledge for a better world

The Norwegian University of Science and Technology (NTNU) creates knowledge for a better world and solutions that can change everyday life.

Department of Industrial Economics and Technology Management

We conduct research and teaching at an international level in the interface between technology/natural sciences and economics, management, and HSE (health, safety and the environment). Our goal is sustainable creation of value within technology-based areas in industry, business and the public sector in Norway. We have academic groups in Trondheim and Gjøvik. The [Department of Industrial Economics and Technology Management](#) is one of four departments in the [Faculty of Economics and Management](#).

Additional information

Place of service:

Trondheim 7491 Trondheim (Trondheim Municipality)