

# Student assistant position to extend web-based visualization of energy system scenarios

*20%-40%, Zurich, fixed-term*

There is an increasing interest in energy system scenarios to better understand the possible futures for energy supply, demand, and storage. Nexus-e is a tool to create such scenarios. It is an energy system modeling platform and has been developed as a collaborative effort by multiple ETH Zurich research groups since 2016. To make scenarios accessible to a wider public, we developed a web-based dashboard for the automated visualization of scenarios.

## Project background

The web-based dashboard has been developed and updated over the past years and is used for communicating Nexus-e results since then.

[Current Nexus-e results presented in the Webviewer](#) (requires registration)

The main objective of your work will be to extend the functionality of the webviewer. In particular, an automated scenario comparison and a simplified version of the webviewer should be developed. You will be an integral part of the Nexus-e team and learn how to use the tool to develop energy system scenarios yourself. The web-based dashboard is programmed in Python, using the Python package Dash (a package for developing web-based visualization without the need to use Java, HTML, or CSS), and has access to data stored in a MySQL database. The position is an excellent option to improve your Python skills and/or get familiar with energy systems modeling.

## Job description

- Be an integral part of the Nexus-e team to identify the need for required developments in the web-based visualization
- Understand the Nexus-e platform, the individual model's outputs, and how results are stored
- Understand the post-processing script and how the individual model's output is brought into a structured format for the web-based visualization)
- Improve the web-based visualization using Python and Dash
- Test and develop a manual for the web-based visualization

## Your profile

- You are a Master's or Bachelor's student in mechanical engineering, electrical engineering, or a relevant domain at ETH Zurich or a similar university.
- You are able to communicate well using English.
- You are able to understand and write Python code
- You are responsible and able to work independently on your tasks.
- You understand the basics of energy systems and their current transformation



Eidgenössische Technische Hochschule Zürich  
Swiss Federal Institute of Technology Zurich



## Your workplace

Energy Science Center, ETH Zurich, Sonneggstrasse 28, Zurich.

## We offer

We offer a student assistant position at ETH Zurich in a high-impact and practical project. The maximum workload during the semester is 15 hours/week, which could be extended during semester holidays. Salaries are competitive and paid according to [ETH standards](#). The expected working duration is 6 months with the option to extend to 1 year.

[Working, teaching and research at ETH Zurich](#)

## We value diversity

In line with our values, ETH Zurich encourages an inclusive culture. We promote equality of opportunity, value diversity, and nurture a working and learning environment in which the rights and dignity of all our staff and students are respected. Visit our Equal Opportunities and Diversity website to find out how we ensure a fair and open environment that allows everyone to grow and flourish.

## Contact

Are you interested? Please send your CV, a short letter of motivation (max. one page), and transcripts of previously obtained degrees (with grades) to Dr. Marius Schwarz ([mschwarz@ethz.ch](mailto:mschwarz@ethz.ch)).

We look forward to receiving your application!

Zurich, May 16, 2022