IEA Internship Opportunity – 2025

The International Energy Agency (IEA) is an intergovernmental organization committed to advancing security of energy supply, economic growth and environmental sustainability through energy policy co-operation. The IEA operates as an autonomous body within the framework of the Organisation for Economic Co-operation and Development (OECD).

Under the Energy Markets and Security (EMS) Directorate, the Renewable Integration and Secure Electricity (RISE) Unit addresses a wide range of power sector transformation challenges globally. The unit conducts quantitative analysis and provides strategic advice to policymakers on best-practice policies, regulatory frameworks, and market designs to support the development of reliable, affordable, and sustainable electricity systems. Key areas of work include power sector reform, grid modernization, electricity market design, system security and resilience, integration of variable energy sources, digitalisation, demand-side flexibility, and energy storage.

Description of the role

The RISE Unit is seeking to enhance its existing electricity market models based on PLEXOS, as well as explore different open-source modelling frameworks. For this, we are seeking an intern with a strong programming background to assist with the development of existing and new Python-based tools to support our power system modelling and analysis. A range of topics and tasks can be envisaged depending on the skill set and interest of the applicant, for example:

- Development of tools to produce key model inputs such as renewable production (wind, solar and hydro) and demand profiles
- Development and enhancement of programming-based analytical tools for exploring trends and producing informative visualisations around key topics of renewable integration and electricity security
- Enhancement of storage and memory management for processing and analysis of large datasets
- Researching available data and implementing additions to the code to enhance data sources whether shared or project-specific

In addition, depending on the skillset of the candidate and the needs of the project(s), several secondary tasks could be envisaged. These include the following:

- Research on innovative measures that contribute towards power system flexibility and security, as well as related data processing to support the analysis (e.g., electric vehicle charging, load regression analysis, renewables phase assessment)
- Power system model improvements and benchmarks:
    - Researching open-source power system models for benchmarking against our existing modelling environment in PLEXOS
    - Converting existing models to selected open-source power system modelling platform(s) for application across a broader range of projects
    - Developing database infrastructure to support our modelling activities

- The applicant could also support with more general RISE policy analysis on integration of renewables and secure electricity as relevant, e.g.:
    - Support the development of an overview of electricity markets at the retail and wholesale levels
    - Support policy analysis of electricity markets and integration of renewables
    - Draft sections of reports, articles and/or commentaries

The intern will have the opportunity to further develop their skills and build on their knowledge and experience while working in an international environment tackling global energy issues. Please note that applicants do not need to be proficient in all the tasks listed above; they represent only the possible dimensions of an internship. The final work program will be determined based on the qualifications and abilities of the intern.

Qualifications

The ideal candidate is currently enrolled in an undergraduate, master's or PhD programme in renewable energy engineering, computer science, or other relevant disciplines, and would possess the following qualities:

- Experience in quantitative analysis of power systems, in topics such as power-system modelling, renewable generation, and price forecasting
- Knowledge and experience in Python code development while knowledge of R and Julia would also be an asset
- Knowledge and experience with SQL would be an advantage
- Knowledge of and experience carrying out geospatial analyses would be an advantage
- Excellent knowledge of written and spoken English; working knowledge of other languages would be an advantage
- Good problem-solving skills, as well as resourcefulness and initiative to seek out ways to improve code and analyses

Application

The internship is expected to start in fall 2025 over a period of, preferably, six months.

🗓️ Apply Now! Students are invited to submit their applications via the OECD internship programme online application platform https://jobs.smartrecruiters.com/OECD/744000045124505-internship-programme by 30 April 2025.
➡️ Please select "*Energy*" when filling one of your 3 areas of interest.
➡️ When filling your candidacy in the recruitment platform in the 'Message to hiring manager' section please indicate in the introduction: "*Interest in IEA/RISE Internship*."
➡️ Please also send your CV to jack.gregory@iea.org with "*Modelling Intern Application*" in the subject line.
ℹ️ To learn more, please check our internship page https://www.iea.org/about/internships and/or contact RISE Lead Modeller Jack Gregory (jack.gregory@iea.org).

Selected candidates will undergo a screening exam prior to an online interview. Final decisions on the role are expected after the interview stage.

To qualify for an internship at the IEA, it is necessary to be enrolled at an educational or research institution at the time of—and for the full duration of—the internship. Only candidates with a citizenship from an OECD member country can be considered. Internships at the IEA do not involve travel cost or salary remuneration or medical or social contributions; however, a small contribution to living costs is provided.