

Deadline: until filled



APPLY 22-2024

Energy and environmental data scientist

IIASA POLLUTION MANAGEMENT RESEARCH GROUP

The **Pollution Management (PM) Research Group**, within the IIASA **Energy, Climate and Environment (ECE) Program** is looking to recruit a motivated and talented researcher to work within a team analyzing feasible energy transitions and multiple benefits of environmental policy interventions.

BACKGROUND

The ECE program's vision is to provide evidence-based, scientific roadmaps for feasible systems transformations that simultaneously meet the Sustainable Development Goals (SDGs) and ambitious climate change mitigation targets. Emphasis is placed specifically on policy decisions and actions required in the short- to medium term to put the world on track to achieve long-term targets while assuring human health, wellbeing, and the reduction of social inequalities in a socially, environmentally, and economically sustainable manner.

The key modeling tool developed and used in the PM/ECE group is the Greenhouse gas – Air pollution Interactions and Synergies (**GAINS**) model, which identifies cost-effective portfolios of measures that reduce the health effects of human exposure to ambient and indoor air pollution and contribute to climate and development targets.

Recognizing the ever more important role of non-CO₂ greenhouse gasses and synergies between climate and air quality policies, the successful applicant will support the work on linking the primary ECE program models **MESSAGEix** and **GAINS** allowing for improved characterization of non-CO₂ GHG mitigation potential and air pollution in the global **MESSAGEix** applications and analysis of various **MESSAGEix** scenarios in **GAINS** model at a finer source and spatial scales.

The work will build on existing model results, e.g., **MESSAGEix**, **IEA**, other global **IAMs**, regional models' results implemented in **GAINS**, and extend/adapt them to new applications as arising in the future work of the **PM** and **IACC** groups in the **ECE** program at **IIASA**.

The purpose of the research is to inform policy efforts by providing global, regional, country- and city-specific assessments.

TASKS AND RESPONSIBILITIES

- Improve and co-develop links between **GAINS** and energy integrated assessment models, including **MESSAGEix**, **GCAM**, **AIM**, **PRIMES**, **IEA**, and others.
- In the mid- to long-term, support further development of the **GAINS** model.

- Support work on the downscaling (from regional to national, subnational, or even city scales) and quality assurance of various GAINS data improving representation of the respective input in GAINS.
- Support development of GAINS data quality checks and data analysis addressing various consistency aspects, especially for energy and industrial production, e.g., energy and pollution intensities within and across sectors and regions, including their evolution over time.

REQUIREMENTS

Educational Qualifications:

- PhD degree (or equivalent) or Master's degree (or equivalent) in energy science, technical or economic sciences, or environmental engineering.
- Background in system analysis.

Experience:

- Working with relational databases and optimization systems,
- Programming in structured languages such as Python,
- Preferred: Experience with relational (SQL-based) databases and/or optimization modeling systems (e.g., GAMS).

Skills:

- Background in energy modeling, energy system analysis, engineering, material flow analysis, or life cycle analysis,
- Familiarity with technologies for removing emissions of air pollutants from energy, industry, and transport sources,
- Experience with data processing and analysis, including maintenance and interpretation of large data sets, such as using scikit-learn for machine learning,
- Excellent interpersonal, networking, and communication skills with full proficiency in English,
- Ability to manage oneself, demonstrate initiative, and work independently while closely collaborating with the team,
- Strong writing skills to present factual, data-driven information clearly and concisely,
- Preparedness to develop new modeling approaches and critically and independently think about research,
- IIASA offers an interdisciplinary and international workplace, and the possibility to interact with researchers of different nationalities, with strong ties

APPOINTMENT TERMS

The successful candidate should be available to take up the position as soon as possible in 2024. We offer an initial fixed-term, full-time employment contract for one year, with the possibility for extension thereafter.

Eligible applicants wishing to work part-time hours may be considered.

Duties will be carried out at the IIASA premises in Laxenburg, near Vienna in Austria (up to 100 days per year home office working within Austria possible).

The successful candidate will be appointed in accordance with the [IIASA profiles for research careers](#).

WE OFFER

- The possibility to contribute to environmental sciences for sustainability and global wellbeing.
- The opportunity to deepen and improve knowledge and scientific profile.
- Career development perspectives.
- An international atmosphere and pleasant working environment in a historic market town surrounded by green areas.
- An attractive salary which is **exempt from income tax in Austria** and negotiable, based on the qualifications, skills and experience of the selected individual and *at least* EUR 39,825.00 for R1 researchers/EUR 51,894.00 for R2 research scholars (gross per annum subject to deductions for health insurance and/or social security).

IIASA salaries are:

- Not directly comparable with other employers in Austria, due to the unique legal status and privileges granted to IIASA.
- Subject to the principle of income aggregation (Progressionsvorbehalt in German).

OTHER BENEFITS

- Educational subsidies for children of school age enrolled in private schools in Austria.
- A generous annual leave entitlement.

to a world-wide network of research institutions engaged in environmental systems research. The successful candidate must be able to work in, and have respect for, an intercultural environment, and [IIASA core values](#).

- Relocation allowances and paid home leave for employees in scientific and professional categories hired from international locations.
- The possibility to work up to 100 days per year in home office (within Austria).
- Assistance for newcomers to Austria with visa, work and residency permit applications.
- Support finding accommodation in Austria.

Further details [here](#).

About IIASA

IIASA is committed to a working environment that promotes equality, diversity, tolerance and inclusion within its workforce. This is reflected in our [IIASA core values](#). We encourage qualified candidates from all religious, ethnic, and social backgrounds to apply. In the case that candidates are equally qualified, preference will be given to applicants from countries where IIASA has a [Member Organization](#).

Further Information

For further information about this opportunity please contact:

[Zbigniew Klimont](#), PM Research Group Leader

For general information about working at IIASA, please contact: recruitment@iiasa.ac.at

Applications

To apply for this opportunity, you will need to provide the following documents in English:

- A cover letter outlining your motivation for and fit to the position
- A detailed Curriculum Vitae
- The names, addresses (including e-mail), and telephone numbers of two reference givers.

Deadline for receipt of applications: until filled

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