# **Postdoctoral Position in Power and Energy Systems Planning, Large-scale Network Optimization**

**A post-doctoral position in operations research / large-scale network optimization / power and energy systems planning is open in the Alternative Pathways for the Energy Transition (APEX) laboratory at Carleton University.**

**The Position**

The postdoctoral researcher will contribute to the development of several network optimization models of the Canadian energy system. These models will support decisions on where to deploy Negative Emissions Technologies (NETs, like [direct air capture of CO2 (DAC)](https://www.nature.com/articles/s41467-020-20437-0) and carbon capture, utilization and storage (CCUS)) to minimize grid energy requirements and maximize renewable energy use. In addition to model development, the post-doctoral researcher will be expected to maintain high-quality scholarly output in peer-reviewed scientific journals.

The overall goal of this research is to [guide successful near-term deployment](https://iopscience.iop.org/article/10.1088/1748-9326/abd19e/meta) of these technologies, which form a cornerstone of the [Canadian government’s 2030 Emissions Reductions Plan](https://www.canada.ca/en/services/environment/weather/climatechange/climate-plan/climate-plan-overview/emissions-reduction-2030.html). This research is part of a six-year grant supported by Environment and Climate Change Canada (ECCC). As such, the postdoctoral researcher will have the opportunity to brief ECCC and other government and industry stakeholders on the results of the research and modeling efforts.

**Qualifications**

We are looking for a candidate with a PhD in operations research, industrial engineering, energy systems engineering, electrical engineering, engineering and public policy or related fields.

In particular, the following requirements apply:

* Strong interest in operations research and use of **data and optimization models** for modeling problems in energy systems and planning
* Strong **optimization modeling skills**
* Proven experience with algebraic modeling languages, such as Pyomo, GAMS or AMPL
* Proven experience with Python coding
* Proven ability to independently conduct research
* Proven ability to work individually as well as part of a team
* Excellent communication and writing skills

**Summary**

* Contract Type: Fixed Term Contract 2 years
* Work Hours: Full Time 37.5 Hours per Week
* Foreseen **starting date: September 2022** (negotiable)
* Location: Ottawa, ON, Canada

**How to apply**

Applications should be include:

* A **motivation letter** with a description of research interests and plans for the coming two years (2 pages max)
* An **academic CV** including publications, conference presentations, etc.
* **Copy of a publication** with the applicant as lead author
* The **name of two references**, their current position and relationship to the applicant.

To ensure full consideration, candidates should apply by **June 15, 2022**although the position will remain open until filled**. To submit your application,** orfor more information concerning this position, please email **Dr. Kristen R. Schell** ([kristenschell@cunet.carleton.ca](mailto:kristenschell@cunet.carleton.ca)).

All qualified candidates are encouraged to apply; however, Canadians and permanent residents will be given priority. We appreciate all applicants' interest, though only those selected for further consideration will be contacted.

**About Carleton University**

Carleton University is a dynamic and innovative research and teaching institution with a national and international reputation as a leader in collaborative teaching and learning, research and governance. With over 31,000 students in more than 100 programs of study, we encourage creative risk-taking, discovery, and the generation of transformative knowledge. We are proud to be one of the most accessible campuses in North America.

Carleton’s location in Ottawa, Ontario provides many opportunities for scholarship and research with numerous and diverse groups and institutions. Canada’s capital has a population of over one million and reflects the country’s bilingual and multicultural character. To learn more about our university and the City of Ottawa, please visit www.carleton.ca/about.

We are strongly committed to equity, diversity, and inclusion in the hiring process. Carleton University is committed to fostering diversity within its community as a source of excellence, cultural enrichment and social strength. We welcome those who would contribute to the further diversification of our university including, but not limited to women, visible minorities, First Nations, Inuit and Métis peoples, persons with disabilities, and persons of any sexual orientation, gender identity, or expression.

If you are selected for an interview, we ask you to reach out as soon as possible to discuss any accommodation requirements so appropriate arrangements can be made.