



MASc and PhD graduate student positions in Electrified Transport and Energy Systems

**Institute for Integrated Energy Systems (IESVic), University of Victoria,
Starting Date: Summer / Fall 2018**

Positions are available in the area of Integrated Energy Systems Modeling of electrified transportation. The core of the project is part of the Transportation Futures project funded by the Pacific Institute for Climate Solutions (PICS) to investigate low carbon pathways for transportation, in concert with additional projects with industrial and government/crown corporation partners and transit authorities. The research encompasses a broad range of transportation options from e-bicycles and buses, to personal, delivery and heavy-duty vehicles adopting a range of drivetrain options including renewable natural gas, hybrid, fuel cell and pure-battery electric options. A key aspect of the work is on the grid-integration and management of the vehicles with renewable generation, planning for fleet acquisition and operations, and exploring the impacts of shared and autonomous fleets on transportation electrification technical options and policy. New battery cell testing equipment will be used to characterize cell performance to further develop battery performance and degradation models to assess lifetime under variable duty cycles.

Depending on the background of the selected candidates, the research may include a combination of: agent-based shared/autonomous EV fleet model development; fleet utilization analysis for low-carbon drivetrain option suitability; grid integration of EVs through demand response with large scale and distributed renewable generation; quantification of environmental benefits; technical and cost implications, including life-cycle impacts and co-benefits relating to health. The work will be carried out in the stimulating multi-disciplinary environment of the [Institute for Integrated Energy Systems](#) (IESVic) at the University of Victoria, in Victoria, BC.

Academic and/or work experience in a relevant field and a demonstrated track record of research is highly desirable. Commensurate with level, applicants should have a background in transportation, energy systems modeling and analysis and skills in implementing computational models and simulations.

Experience in some of the following areas will be an asset:

- electricity systems modeling;
- optimization and control; renewable energy;
- energy markets;
- techno-economic analysis;
- sensitivity analysis and uncertainty quantification;
- analysis of batteries and other energy storage systems.

The positions all involve collaboration with researchers at other institutions and industrial partners. Therefore, good oral and written communication skills in English are essential.

Interested candidates should email a detailed curriculum vitae, a description of research experience and interests, and names and contact information of at least two professional references to:

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