Tara Katamay-Smith

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ENERGY AND ENVIRONMENTAL ECONOMICS, INC. Calgary, AB
Consultant

Tara Katamay-Smith joined E3 in 2021, where she works primarily with the distributed energy resources (DER) and asset valuation, analyzing the value of energy storage, electric vehicles, flexible loads, and distributed generation and the role they play in enabling a low-carbon energy system. Based in Calgary, Tara also applies her modelling and analysis expertise to a range of Canadian projects from asset valuation to resource planning. In her previous role, Tara worked with municipal governments on strategies to reduce carbon emissions, particularly transportation electrification. Prior to that, she worked with the University of British Columbia (UBC) on the development of an energy management system for electric vehicle (EV) charging in order to lower infrastructure and energy costs. This extended the work of her thesis on the optimal control of EV charging, which she completed as part of the Master's of Energy Science and Technology program at the Swiss Federal Institute of Technology (ETH Zurich). Tara has also worked on optimizing hydropower operations for projects in both Switzerland and the United States.

Select E3 projects include:

California Public Utilities Commission (CPUC) Net Energy Metering Successor Tariff (2021). Worked on the development of a customer bill model to provide transparent analysis of numerous public proposals for the Net Energy Metering (NEM) Successor Tariff. The customer bill model evaluated simple payback period, first-year cost-shift, and select CPUC Standard Practice Manual (SPM) cost tests for representative customers within three utilities, including both solar and solar + battery systems and 2023 and 2030 installation years.

Transmission Rate Design Analysis, AltaLink (2021). Conducted rate design and regulatory analysis for existing and proposed wholesale transmission tariffs in Alberta, including models to evaluated current and future marginal costs and cost shift of behind-the-fence (BTF) generation.

Confidential Energy-Storage Asset Owner (2021). Utilized E3's RESTORE model to analyse the value of different revenue streams and contracts for the client's behind-the-meter (BTM) storage assets in California, both in the near term and looking ahead to 2030.

California Public Utilities Commission (CPUC) Transportation Electrification Studies (2021). Research and analysis of transportation electrification in California and potential impacts on generation, transmission, and distribution planning.

AES ENGINEERING LTD Vancouver, BC
Electrical Designer / Electric Mobility & Low Carbon Strategies Analyst 2020 - 2021

- Consulted local governments on transportation electrification policy, including performing costing studies of EV Ready infrastructure, analyzing access to home charging, and synthesizing research on electrification of heavy-duty trucks. Resulting EV Ready requirement

recommendations for new developments considered by committees in multiple cities
- Created clear, concise reports and presentations, employing compelling graphics and maps to ensure the implications of technical analyses were understood by a broader audience
- Performed electrical design of EV charging systems, including load calculations, detailed electrical design, cost estimates, and coordination with utilities

UNIVERSITY OF BRITISH COLUMBIA Vancouver, BC
Research Engineer, Energy Innovation Laboratory 2019 - 2020

- Developed supervisory control software in Python and MySQL to optimize electric vehicle (EV) charging on the UBC Vancouver campus in real-time to reduce electricity demand charges by up to 20% and fulfill demand response requests.
- Facilitated stakeholder engagement to identify current EV charging challenges and directed research and development efforts to overcome these challenges.

CKW Lucerne, Switzerland
Intern, Energy Economics 2018 - 2019

- Wrote and implemented production scheduling software to optimize hydroelectric system operations based on electricity market prices, inflow forecasts, and water levels in order to maximize customer profit and reduce manual labor by up to 14 hours per week.
- Collaborated with the hydro system operator, electricity market analysts, controls specialists, and IT to define requirements, design and validate control system, and ensure ongoing customer satisfaction.

WESTPORT FUEL SYSTEMS Vancouver, BC
Intern, Energy Economics 2015 - 2017

- Designed and developed automated hardware-in-loop (HIL) test system for verification and validation of engine control unit (ECU) software to support the launch of production software.
- Participated in the development and implementation of internal software development process standards in order to comply with SPICE Level 2 requirements.
- Tested software on heavy-duty trucks, HIL system, and manual test bench, analyzed data, and created reports detailing recommended software and calibrations updates.

TRIUMF Vancouver, BC
ATLAS Muons Upgrade Assistant 2014

- Modeled muon detection in Thin Gap Chambers (TGC) using finite element

PACIFIC INSIGHT ELECTRONICS CORPORATION Nelson, BC
Mechanical and Testing Co-op Student 2013

- Designed testing units for vehicle control modules (VCMs), including drawing test architecture in Visio, specifying wire harness configuration, and selecting, assembling, and soldering components

AUTOMOTIVE FUEL CELL COOPERATION Burnaby, BC
Mechanical and Testing Co-op Student 2012

- Used scanning electron microscopes (SEM) to image hydrogen fuel cell components and performed analysis with energy dispersive spectroscopy (EDS) and image analysis techniques.

Education

Swiss Federal Institute of Technology (ETH) Zürich, Switzerland
Master of Energy Science and Technology 2019

University of British Columbia Vancouver, BC
Bachelor of Applied Science, Integrated Engineering (Mechanical/Electrical) with Distinction and Co-operative Education Program 2015

Citizenship

Canada