Tara Hamilton

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ENERGY AND ENVIRONMENTAL ECONOMICS, INC. Calgary, AB
Managing Consultant

Tara Hamilton works primarily with the Integrated System Planning team with a key focus on rate design and the development of avoided costs for the evaluation of distributed resources. Tara has been deeply involved in the CPUC Avoided Cost Calculator updates as both a project manager and technical lead where she focusses on improving consistency of the evaluation of supply side and demand side technologies, while recognizing the unique value that distributed energy resources (DERs) can provide to the system. Tara has also worked on a range of rate design work spanning transmission and distribution tariffs, residential rates for behind-the-meter (BTM) solar and electrification, and tariffs for green hydrogen customers.

Prior to joining E3, Tara worked on energy management systems and policy for the integration of electric vehicles in both consulting and research roles. 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). During her master's, Tara also worked on optimizing hydropower operations for projects in both Switzerland and the United States.

Select E3 projects include:

California Public Utilities Commission (CPUC) Avoided Cost Calculator (ACC) (2021-Present). Managing the development of the 2024 CPUC ACC. This builds on prior analysis work for the 2024 ACC Staff Proposal and 2022 ACC which aimed to improve the accuracy and consistency of generation capacity and greenhouse gas (GHG) emission avoided costs and the alignment of the ACC with other planning proceedings. The ACC is a public tool that calculates the avoided cost of distributed energy resources (DERs) across multiple value streams, including energy, generation capacity, GHG, and transmission and distribution (T&D) capacity.

Nova Scotia Power Incorporated (NSPI) Hydrogen Tariff Development (2023-Present). Supporting NSPI to develop a tariff for green hydrogen customers. Multiple companies plan to produce green hydrogen and ammonia in Nova Scotia, with production powered by wind and solar, which presents unique opportunities and risks for NSPI, including their very large size on a small system, clean energy requirements, and the ability to operate flexibility. E3 is working with NSPI to develop a tariff that can facilitate low-cost development of new hydrogen facilities while also providing low-risk benefits to existing system customers.

California Public Utilities Commission (CPUC) Income-Graduated Fixed Charge (2021-2024). Led the development of a public tool that allows stakeholders to create an income-graduated fixed charge rate design proposal and evaluate the bill impacts on different customers across the state. This work contributed to supporting the CPUC to make major updates to default residential electric rates for

California's large investor-owned utilities. Assembly Bill 205 (2022) required the CPUC to establish income-graduated fixed charges in default residential rates, authorized no later than 2024.

FortisAlberta Performance-Based Ratemaking Proceeding (2021-2022). Supported Founding Partner Ren Orans in the development of expert testimony to argue for the modernization of Alberta's Performance-Based Ratemaking framework to allow utilities to make prudent investments to support the energy transition and mitigate impacts of climate change while minimizing the regulatory burden. Reviewed PBR frameworks across North America to highlight how different mechanisms could contribute to these goals.

Maine Governor's Energy Office Energy Storage Market Assessment (2021-2022). Evaluated opportunities and challenges faced by the State of Maine in achieving its energy storage goals. Developed an energy storage dispatch and cost benefit model to support this assessment, designed to analyze the cost effectiveness of different energy storage configurations from the perspective of asset owners, ratepayers, and society.

California Public Utilities Commission (CPUC) Net Energy Metering Successor Tariff (2021-2022). 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. Provided additional analysis to support the CPUC in the development and refinement of their proposed tariffs.

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.

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.
- 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