

## Proposal B

### **Provide an analysis of Energy Imbalance Market mechanisms**

#### **Research question:**

Explain the technical, economic, and environmental benefits associated with Energy Imbalance Markets as operated in the U.S. Western Energy Imbalance Market and the Southwest Power Pool. Explore the differences between U.S. and Canadian energy markets.

#### **Scope of Work:**

Canadian Provinces continue to make significant investments in renewable energy generation to phase out fossil-fuel burning sources of electricity and reduce greenhouse gas emissions. However, maintaining the stability and affordability of the electricity system for consumers puts limits on the amount of renewable generation that can be safely integrated into the system. Contingency planning requirements would necessitate a significant investment in back-up capacity and increase electricity rates.

In other jurisdictions, particularly in the United States, mechanisms have been put into use to leverage the transmission system and give utilities access to another Independent System Operator's (ISO) market(s). There are several potential advantages to this system that could have ramifications for Canadian inter-provincial collaboration on electricity generation and trade.

#### **Policy Analysis**

The student will gain a better understanding of how regulatory and market innovation could accelerate Canada's transition to cleaner sources of electricity while maintaining affordability for consumers and grid reliability.

#### **Economic Analysis**

The student will gain an understanding of how the electricity grid operates, the differences between Canadian and U.S. energy markets, and how market mechanisms could facilitate further integration of large amounts of renewable electricity generation while reducing costs.

#### **Supervisors**

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