

ENERGY MODELLING CENTRE

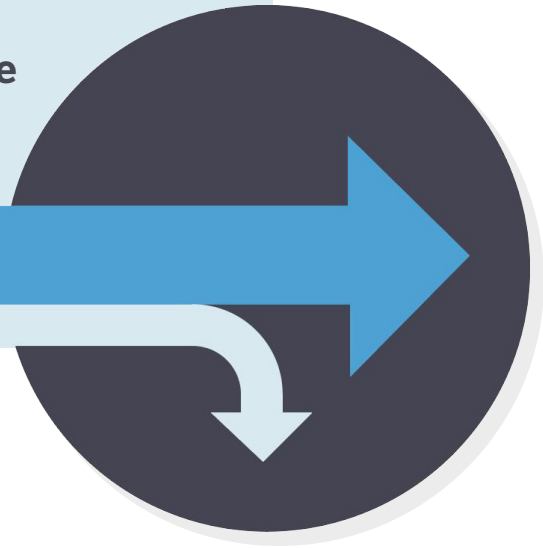
LONG-TERM PLAN PROPOSAL

Energy Modelling Initiative

Bringing the Tools to Support Canada's Energy Transition

Initiative de modélisation énergétique

Outiller le Canada pour réussir la transition



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EXECUTIVE SUMMARY

Energy modelling is crucial to designing and implementing policy, prioritizing investment decisions and planning services. In many other countries, the community of energy modellers has been effectively structured and mobilized to contribute to critical national initiatives. Canada, however, lacks a coordinated, structured and effective ecosystem, leaving the community scattered and unable to fully support the needs of stakeholders and policy makers.

The energy modelling ecosystem in Canada consists of three major categories of actors: data providers (including federal government organizations, industries and utilities), modellers (housed in various levels of government, utilities, academic organizations and consulting enterprises) and model users (encompassing governments, utilities, industries, researchers and NGOs). While the federal government has put significant resources into structuring data providers through the newly founded Canadian Centre for Energy Information (CCEI) and model users through the Canadian Institute for Climate Choices (CICC), **there remains a significant gap at the core of this ecosystem – the country’s energy modelling capacity.**

Supported by Natural Resources Canada, the Energy Modelling Initiative (EMI) is aimed at developing a long-

term structuring proposal for modelling capacity through the convening of Canadian energy modelling expertise in order to bring together stakeholders in regional workshops across Canada to identify this community’s needs and challenges, as well as through a national forum on developing a long-term work plan. The EMI’s convening activities also facilitated surveying the community and its ecosystem, building a first national inventory of Canadian energy modellers and laying the groundwork for critical interactions and new collaborations among a broad range of stakeholders.

The conclusion of these several rounds of consultations with the advisory board, event participants and the broader community is clear: **although Canada can count on a rich and diverse energy modelling capacity, there is a need for a structure able to offer long-term support for specific energy models, to ensure a timely and relevant response to policy makers and, overall, to facilitate communications between Canadian energy modellers and governments, utilities and other stakeholders.** To respond to this need, the EMI has drafted a proposal for a governance framework for a long-term Energy Modelling Centre to foster the creation of a strong Canadian energy modelling response capacity, able to support the needs of policy makers, industry and analysts.

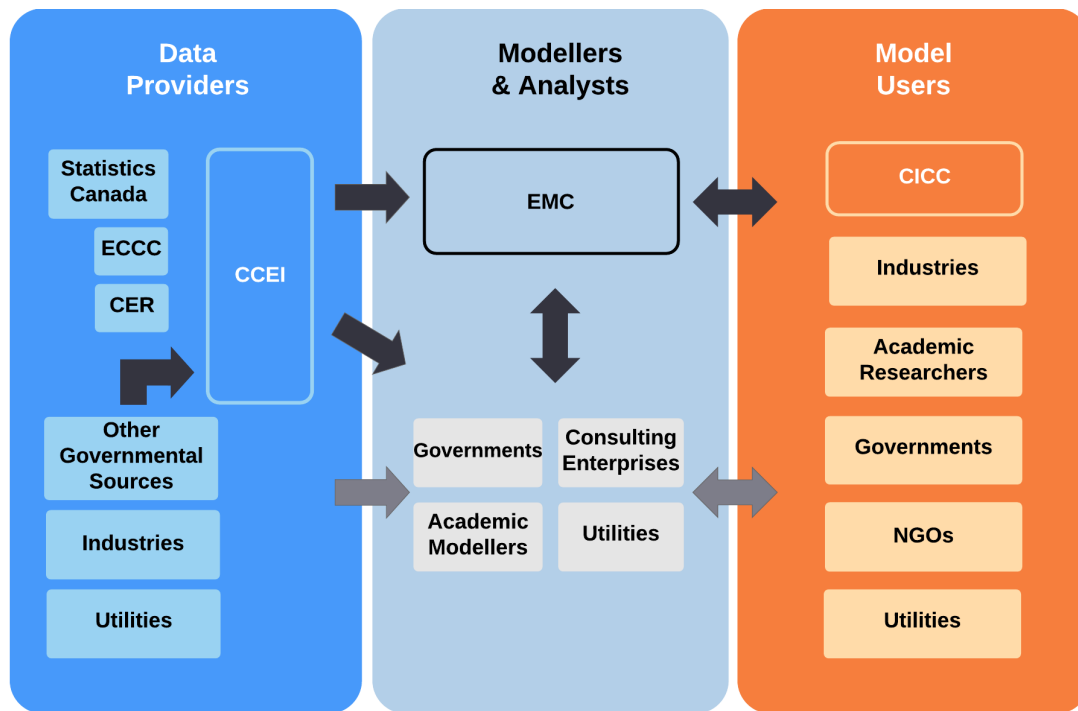


Figure S.1 – The place for EMC in the ecosystem

The proposed Energy Modelling Centre aims to play a central role in **evidence-based decision making on energy in the transition to a low-carbon global economy by producing independent, non-partisan and timely analysis.** As such, its mission will be to enable and streamline resources for efficient and timely modelling services, convene the network of energy modellers and stakeholders and create a platform to share modelling, training and inventory materials. To maximise its impact and avoid duplication of efforts, the EMC will work closely with the Canadian energy modelling ecosystem, complementing the work of CCEI and CICC and ensuring the achievement of desired outcomes while avoiding duplication of investments and efforts.

The following activities and deliverable will be at the core of EMC mission:

- For **supporting evidence-based decision making**, the EMC will facilitate access to modelling services across Canada, co-develop and implement a selection process for applied models, maintain documentation and training material and produce studies and reports.
- For **convening stakeholders**, the EMC will regularly organize regional and thematic workshop and an annual national forum to respond to timely and urgent challenges and emerging initiatives.
- For **creating a platform**, and online inventory of stakeholders, models and

projects along with a range of selected models will be maintained and updated. **Collaborations** with the CCEI will allow the platform to leverage their output while other collaborations such as with CER and CICC will lead to the establishment of reference scenarios to coordinate and focus modelling collaborations towards effective solutions.

After detailed analysis, the optimal organizational structure for the EMC is suggested to be a university based, multisite organization anchored across several provinces and a broad range of organizational stakeholders through its

diverse range of leadership and staff appointments. The structure will consist of multiple regional centres led by regional scientific directors (a local faculty member), who assemble as the Scientific committee that guides the EMC. Each center will employ staff for coordination, operations, liaison and technical support. However, the EMC is led by the executive director who acts as the coordinator-in-chief, working with the regional centres, the Scientific committee, the advisory council and support staff. The executive director reports to the board of directors consisting of representatives from universities, policy makers and the private sector.

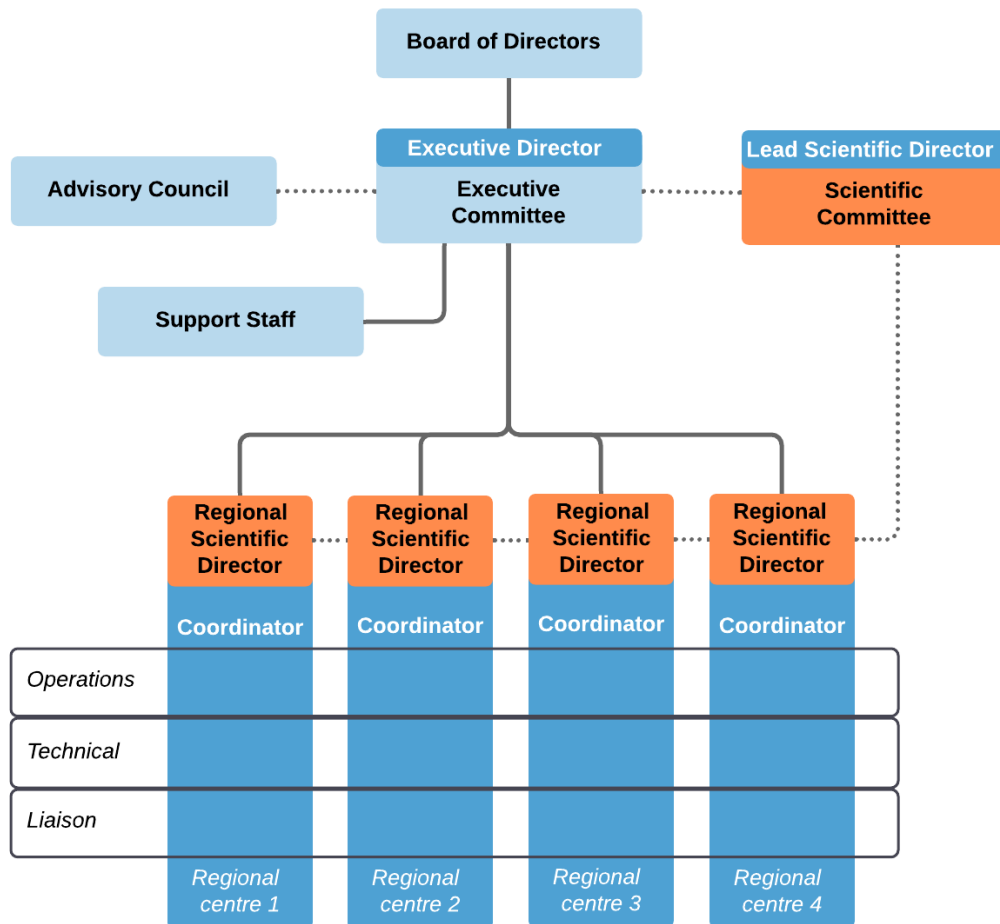


Figure S.2 – EMC Organizational chart

It is estimated that a staff of about 15 people will be required to meet minimum expectations, amounting to **an annual budget of about \$2 M**, which is expected to be secured by a commitment from the federal government. Nonetheless, the EMC is expected to attract external funding and revenues to grow its operations further. With this structure, the EMC can be launched rapidly, producing results in its first year and reaching its full capacity in the third.

International examples such as in the UK, Sweden, Switzerland, California and New York, show that energy modelling is an essential instrument for testing policies, planning transformative changes, and finding and presenting the acceptable options to the public that would foster trust in the political leadership. As such and given the investment of the federal government in related efforts, we highly recommend that the EMC be added as the key connecting element to mobilize the existing ecosystem to deliver expertise and support for effective and efficient decision making, particularly to policy makers and investors.