

**Written Submission for the Pre-Budget
Consultations in Advance of the Upcoming
Federal Budget**

By: Canadian Energy Research Institute

List of Recommendations

- **Recommendation 1:** That the government provide funding in the amount of \$ 5,000,000 annually in additional funding to the Canadian Centre for Energy Information program.
- **Recommendation 2:** That the government provide funding in the amount of \$ 20,000,000 annually to support neutral energy economics research.

Body of Submission

Recommendation 1: That the government provide funding in the amount of \$ 5,000,000 annually in additional funding to the Canadian Centre for Energy Information program.

The Canadian Centre for Energy Information (CCEI) was created in 2019 to address an information gap in Canada. In the 2019 budget, the CCEI was provided \$3 M in funding per year for five years. This level of funding is insufficient for the CCEI to successfully address the lack of energy information in Canada. Furthermore, the period of 5 years is insufficient to provide the long term value to Canadian Society. As such, it is recommended that the CCEI receive an additional \$ 5 M in funding annually (for an annual budget of \$8 M) and that this funding becomes a permanent allocation to StatsCan.

The establishment of a CCEI is an agreed vision of many stakeholders and includes input and support from various Canadian organizations, governments, regulators, businesses, universities, and other entities. It reflects opinions from numerous publications, including content from the Senate, the Council of the Federation, the Canadian Energy Research Institute for the period of 2012-2017, as well as input received during consultations, which took place in 2015-2017, attracting stakeholders from most parts of the country.

The current state of energy information in Canada is characterized by:

- Overlapping data collection
- Gaps in data collection
- Variations in methodologies, definitions, periods and quality
- Difficulty in accessing and reconciling data sets, and
- Variation in the credibility of data offering organizations (i.e. lack of trust).

The primary objective of the CCEI is to resolve these issues. This effort will take time to address comprehensively and will need to be maintained for the foreseeable future.

The world of energy is changing rapidly both on the production and demand sides. Canada, as a country experiencing domestic energy transition and trade based issues, needs to be able to follow, anticipate and manage energy system changes to remain internally prosperous and externally competitive. For this, Canadians need tools to illuminate the complexity of our energy systems. The CCEI can help to ensure that Canada can count on the energy data needed to support this effort. Canada is blessed with an abundance of energy resources. We have, however, reached a point where the development of these resources for economic growth will require difficult choices regarding the associated environmental and societal impacts. The availability of credible

and comprehensive energy information will be essential going forward if citizens, organizations and governments are to have the opportunity to make informed decisions about Canada's energy future. In Canada, there exists only limited access to this information, which has restricted the ability for Canadians to acquire and interpret data regarding energy production and use options.

The three key functions of the CCEI should include Data Management, Analysis and Reports, and Communication. StatsCan has demonstrated its ability to conduct data management over its history. However, there are limited examples of where federal government departments have provided the level of in-depth analysis of the data to assist decision-makers in government, industry, Indigenous organizations and citizens groups.

The Canadian Energy Regulator has the mandate to conduct energy analysis and research, but they like StatsCan have limited resources. As such, the ability to test the data collected for its applicability to ongoing energy choices and policies will likely not be addressed within the current funding envelope.

The CCEI is designed to meet Canadian energy information needs similar to those of the U.S. Energy Information Administration. That organization has a budget of hundreds of \$ millions. It is unlikely that Canada can deliver on even a small portion of what is provided in the U.S. with a budget of \$3 M.

Long term and adequate funding for this organization would allow for stable growth and market assurance that the CCEI is part of the energy landscape in Canada and that the organization will stand the test of time. It will provide reassurance to stakeholders that there is a data and analytical hub in Canada from which fact-based decisions can be made as governments manage our oil, gas and electricity systems to address climate change.

Recommendation 2: That the government provide funding in the amount of \$ 20,000,000 annually to support neutral energy economics research.

Levels of whole country advancement, performance and even future prosperity can arguably be linked to energy. With respect to sustainability, the national effort towards the development of low carbon economies is one that centers around the drive to limit carbon emissions, mostly from energy-related activities but also related to industrial processes, agriculture, and forestry. Due to this integral role of energy in Canada's economy, the energy framework is inherently complicated, with multiple sources of

energy, many local, regional, and national players, diversity of socio-political and regulatory systems, as well as a wide range of research and advocacy groups. In many instances, achieving synergy across energy systems is difficult.

Foundational to energy economic research in Canada is the nation's strategic intent to meet its commitments to the Paris Climate accord, to ensure a less than 2° global temperature increase by reducing our carbon dioxide emission level to net zero levels by 2050. Today in Canada, many energy research organizations and clean energy entities exist, with activities spanning a wide range of the Canadian and North American energy systems.

Long term evolution in energy balances is expected to be impacted by technological innovation, the competitive landscape and policy initiatives (such as incentivization and tax imposition), amongst other environmental and economic factors. The need, therefore, for evidence-based economic research cannot be over-emphasized as strategic decisions based on informed evaluation should enhance the basis upon which resources are allocated to various aspects of Canada's energy choices. For example, studying energy flows at the level of Provinces and Territories could potentially yield insight into viable pathways for implementing Pan-Canadian energy strategies. Recent work at the Canadian Energy Research Institute indicates that low carbon energy solutions will vary widely by province or territory, or even region. This can further be interpolated for the industrial or municipal structures revealing unanticipated complexities or bottlenecks in adopting prior defined approaches to capital allocation in the energy industry.

Currently, the federal government, provinces and territories provide funding for Clean technology development. However, there are limited funds available to understand how those technologies will impact Canada's domestic economy and its competitive trade position in different sectors.

Despite the ubiquitous contribution of the energy sector to Canada's gross domestic product, a closer look at the structure and organization of energy research in the country reveals that players engaged in this stakeholder space face underlying funding challenges.

1. Longevity and sustainability of research organizations: CERI has assessed that there is a need to foster support and develop for long term economic strategies in the energy research space. On performing a historical search of non-governmental and or public/private energy research organizations, we observed that certain institutes or enterprises that previously existed are now closed. The disappearance of energy research establishments creates information gaps for government and industry decision-makers. Sustained

economic analysis, can over time, provide an understanding of how Canada's energy systems impact the GDP, jobs and tax receipts.

2. Variable access to funding: Some challenges associated with funding are related to the setup of research in multi-nested R&D organizations, some of which have research objectives that are beyond the scope of energy. This occasionally creates internal competition for funds in such integrated research establishments. As organizational priorities evolve, funding may be reduced or, in more extreme cases, cease to be allocated to energy economic research projects.

In the competition for funding, it is also not unlikely that some small to medium-sized energy economics firms (which in many cases are non-governmental or not-for-profits) are left behind, with limited access to financial resources, compared to larger more established institutions such as universities. With some of the smaller organizations hosting specialized infrastructure and human capital, the problem of variable access to funding limits the overall ability of the energy economics research industry in Canada to harness its full potential in the pursuit of research excellence.

A \$20,000,000 federal fund could promote a well-articulated approach to energy economic research. It could include areas where collaboration is required between those that consider economic impacts and those that focus on technology innovation. It is only through understanding both these elements can value-added information be made available for stakeholders. Such a fund should also stipulate the unbiased nature of the research. It is not the prevue of the researchers to say which direction the country should take with its energy evolution. Rather that should be left to the decision-makers. Researchers show the economic consequences of various pathways to ensure well-informed decisions are made.

One example of this challenge is the issue of electrification. In the case of moving from fossil fuels in vehicles to electricity, how might that impact Canada's economy? We know that crude oil creates significant royalties for governments (over \$ 10 B per year), general tax receipts and the gasoline tax (over \$ 10 B per year). An electrified transportation sector would still maintain the tax receipts to governments – assuming the amount for capital activity in the electricity sector is similar to that of the oil sector. However, it does not generate royalties. It also would mean finding a new tax to offset the loss of the gasoline taxes to the government.

Yet much of the research regarding this issue only considers the environmental impacts.

When considering the switch from natural gas heating of homes to electric heating, technologies are researched, but there is no discussion regarding affordability. Economic research shows that heating costs for homes would likely double if consumers were

required to heat with electricity. How many people today live in energy poverty (one estimate suggests 20%)? How many more would be in that situation if home heating bills doubled? The simple answer is we do not know.

These are just two examples of where economic research that assesses the impacts on people and industry, of our energy choices is vital with any major intervention in our energy systems to reduce carbon emissions.

This \$20,000,000 fund is needed to allow for sustained assessments of Canada's potential energy pathways. Not having such information could lead to unforeseen consequences. A good example of where economic understanding was not fully considered is the set of energy policies of the Ontario government from around 2002 to today. Costs for their electricity services have gone up significantly, to the point where successive governments have transferred costs from the electricity system to taxpayers. These unsustainable costs in the order of tens of billions of dollars will be a financial challenge to that government for decades.

The troubles in Ontario represent a few mistakes and only for the electricity system. Going forward, Canada, its provinces and territories have set their challenge at net-zero emissions by 2050. These will impact oil, gas, electricity and renewable energy systems. Without a long term, sustained and neutral research, it is unlikely the country will be able to avoid some of these consequences. However, the economic research funded by this energy economics research fund will likely reduce the risk of major unintended consequences.

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