

PRESS RELEASE

FOR IMMEDIATE RELEASE

CANADIAN ENERGY OUTLOOK

Infrastructure : Operationalizing the Net-Zero Transition

Montreal, July 4, 2025 – The Institut de l'énergie Trottier (IET) at Polytechnique Montréal will release a new thematic report on Wednesday, July 9, as part of the third edition of its [Canadian Energy Outlook](#), a project that describes and analyses the transformations needed to achieve Canada's carbon neutrality goals. Following two main reports – *The State of Energy and GHG Emissions in Canada* and *Pathways for a net-zero Canada* – and a first thematic report on *the Decarbonization of Off-Road Transport in Net-Zero Pathways*, this publication presents the challenges related to infrastructure.

Major transformations in our daily lives

As shown by the modelling underlying the IET's Canadian Energy Outlook, Canada's climate objectives can only be achieved through major technological changes affecting all energy sectors. These same models do not, however, describe how new energy technologies will transform our daily lives, nor how their deployment can be achieved in a realistic manner.

Achieving carbon neutrality will therefore require the widespread electrification of services, which will obviously necessitate a significant increase in electricity production, but also a profound change in the technologies that support energy services in almost all economic sectors.

Infrastructure impacted at multiple levels

This transformation will therefore require infrastructure capable of supplying electricity at the desired power and at the desired time, the development of new technologies for decarbonizing processes and, at the same time, the control of large-scale CO₂ capture and sequestration infrastructure to offset the unavoidable emissions of certain sectors.

From an operational perspective, this transformation will require the creation of new supply and service chains and the disappearance of several others that are in place today. It will involve adapting various service sectors to meet new manufacturing, usage, installation and repair needs.

Understanding the practical aspects of this transformation

To better understand the operational challenges associated with Canada's transition to a carbon-neutral economy, this report explores the nature of the sectoral transformations – buildings, transportation, energy production, CO₂ capture and sequestration (CCS), etc. – that Canadian infrastructure will need to undergo to enable us achieving carbon neutrality. Drawing on the latest technical and economic modelling results and the latest technological advances in low-carbon energy production and use, it describes specific pathways for deploying these infrastructures. It thus seeks to make the structural challenges that will accompany the energy transition in a primarily Canadian context more concrete, while integrating the international context where appropriate.

Conclusions

As this report shows, an assessment of the challenges facing various energy consumption and production sectors indicates that a sustained pace is possible, both structurally and financially, for sectors where decarbonization technologies are already well identified. Better still, the cost of carbon-neutral technologies (excluding CCS) is falling rapidly, which means that this transformation can already be achieved at zero net cost or even with benefits compared to upgrading fossil fuel-based technologies.

To remain competitive, Canada would be well served by deploying strategies, such as those outlined in this report, that will allow Canadian citizens and businesses to access existing technologies at prices similar to those seen abroad. Canada would also benefit from identifying carbon-neutral technologies that would enable it to develop valuable intellectual property. However, the rest of the world is moving quickly, so it is crucial that Canada act now.

To attend the webinar : [registration](#)

Wednesday July 9, 1pm-2pm (ET), Zoom

- 30 -

About the Institut de l'énergie Trottier (IET) de Polytechnique Montréal

The [Institut de l'énergie Trottier](#) (IET) was created in 2013 thanks to an exceptional donation from the Trottier Family Foundation to Polytechnique Montréal. Since then, it has been involved in every energy debate in the country. At the source of major collective reflections, the team mobilizes knowledge, analyzes data, popularizes issues and recommends fair and effective plans, simultaneously contributing to academic research and training. Its independence gives it the neutrality essential to the collaborative approach it advocates, facilitating work with the players most likely to advance the energy transition, while allowing it to be freely critical when relevant.

As the initial 10-year mandate came to an end, the Trottier Family Foundation decided to renew its confidence in the IET and made a new donation. Given the scope of the IET's activities and its status as a key player, its mandate was extended. The team will thus be able to continue offering science-based advice and enriching societal dialogue in order to advance the way we produce, convert, distribute and use energy.

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