

Investing in education, research and innovation to stimulate a low-carbon, thriving and prosperous Canadian economy

Brief submitted by Laval University to the House of Commons Standing Committee on Finance for the 2020 pre-budget consultations

August 2019

RECOMMENDATIONS

Recommendation 1

Strategically invest in the skills of the future to prepare the citizens of tomorrow to address key societal issues, such as the climate emergency, and to contribute to the prosperity of a low-carbon Canadian economy.

Recommendation 2

Strategically invest in post-secondary infrastructure and help universities develop major projects in cooperation with cities, municipalities and organizations in order to reduce the carbon footprint of Canadian campuses and cities.

Recommendation 3

Strategically invest in key projects that complement the university mission and that increase the impact of university research and promote international cooperation in priority science areas, such as the fight against climate change.

In its most recent report,¹ the Global Commission on the Economy and Climate states that an accelerated transformation of the economic model to a low-carbon economy is needed to address the current climate emergency. Massive investments in sustainable innovation and infrastructure are identified as relevant ways to make the desired economic transition. As hubs of innovation and knowledge, universities are becoming key players in the transition to a clean and competitive economy.

Strategic investments in post-secondary institutions are needed to ensure that Canada can transition to a thriving, low-carbon and climate-friendly economy.

Through its teaching and research mission, Laval University fosters the development of research and creative innovations that address the emerging challenges of current and future societies. The university promotes the acquisition and transfer of knowledge in areas of expertise such as climate change and sustainable finance. Laval University provides a dynamic environment to train the citizens of tomorrow.



Laval University supports the Standing Committee on Finance’s pre-budget consultations on the “Climate Emergency: The Required Transition to a Low Carbon Economy” theme. The university strongly believes that it can help boost a clean and innovative Canadian economy. In keeping with provincial jurisdiction in education and higher learning, the university proposes the following recommendations.

¹ New Climate Economy, *Unlocking the inclusive growth story of the 21st century: Accelerating climate action in urgent times*, Washington, 2018.

Strategically invest in the skills of the future to prepare the citizens of tomorrow to address key societal issues, such as the climate emergency, and to contribute to the prosperity of a low carbon Canadian economy.

In a changing global economy, university experience provides students with the skills and competencies required to actively participate in the necessary transition to a low-carbon economy in Canada.

The 2020 federal budget should include substantial investments in the development of the skills of the future, to ensure that young Canadians have the necessary tools to reach their full potential in an era of unprecedented global economic change. University experience gives students the opportunity to develop the essential and appropriate skills needed to solve complex problems.

Investments in post-secondary education and research also help strengthen the entrepreneurial skills geared toward developing Canadian entrepreneurial leaders who significantly influence the evolution of societies and the fight against climate change. Entrepreneurial activity is higher among Canadian students who hold graduate degrees.² This correlation is even stronger in Canada than in other countries such as the United States, France, Australia and the United Kingdom. This gives Canada a competitive advantage that requires investments in Canadian educational institutions that seek to foster the acquisition and transfer of entrepreneurial knowledge at the graduate level and to provide adequate support to project proponents. To that end, Canadian universities require substantial financial support to ensure that they can provide academic entrepreneurial leadership.

Tero is a start-up company that has developed a composter that transforms organic waste into fertilizer for plants and gardens. This company was created by two university students, who were able to benefit from the many support services provided by Laval University in responsible entrepreneurship. This collaborative and structured approach seeks to develop a responsible entrepreneurial culture in order to encourage students to create promising projects for society.

These types of investments enable the next generation of students and researchers to adapt to the new demands of a constantly changing world that poses some of the most complex societal challenges.

²G. Gregson et coll., *2017 GEM Canada National Report, Global Entrepreneurship Monitor*, London, 2017.

Strategically invest in post-secondary infrastructure and help universities develop major projects in cooperation with cities, municipalities and organizations in order to reduce the carbon footprint of Canadian campuses and cities.

With state-of-the-art facilities to boost research and innovation, Canadian universities can play a leading role in the transition to a low-carbon economy in the country.

Canadian universities must be able to count on federal investments in post-secondary infrastructure that reduces the carbon footprint of campuses across the country while providing the most stimulating and innovative teaching and research environments. In addition to the Post-Secondary Institutions Strategic Investment Fund, grants for the renewal of post-secondary infrastructure are needed to modernize the existing facilities according to the best practices in energy efficiency and the reduction of greenhouse gas emissions. These investments will then optimize the use of existing assets to reduce the carbon footprint of Canadian campuses and maximize the lifespan of existing Canadian post-secondary infrastructure.

In addition, several Canadian universities operate large urban campuses and participate in the development and planning of urban mobility and design in cities or municipalities. To actively participate in the development of sustainable management projects and increase the availability of service networks on university campuses, Canadian universities must also have access to federal investments. These investments will promote the implementation of infrastructure that supports the development of major sustainable projects, in cooperation with cities and municipalities.

Laval University is actively participating in the development of the City of Québec's structured transportation network project. The university will be a centre for public transit by becoming the second largest hub for the connectivity of the sustainable mobility services planned as part of the project.

To remain at the forefront of innovation and provide stimulating and attractive research and teaching environments, Canada must continue and even increase its investments in post-secondary infrastructure. Canada must support the sustainable construction of new infrastructure, but more importantly, help modernize existing facilities to reduce the carbon footprint of campuses and contribute to the development of a resilient Canadian economy.

Strategically invest in key projects that complement the university mission and that increase the impact of university research and promote international cooperation in priority science areas, such as the fight against climate change.

Ensuring sustainable and climate-resilient Canadian economic growth requires the acquisition and transfer of knowledge on the subject. As such, universities can play a major role in developing specific expertise in teaching and research areas related to climate change and the low-carbon economy. They can also help by implementing projects that complement their main mission, but that cannot be funded through their usual operating budget.

Laval University's Montmorency Forest, the largest teaching and research forest in the world, is a true area for practical instruction in silviculture, forest management, forest protection and forestry. A great deal of research is also conducted in the forest throughout the year.

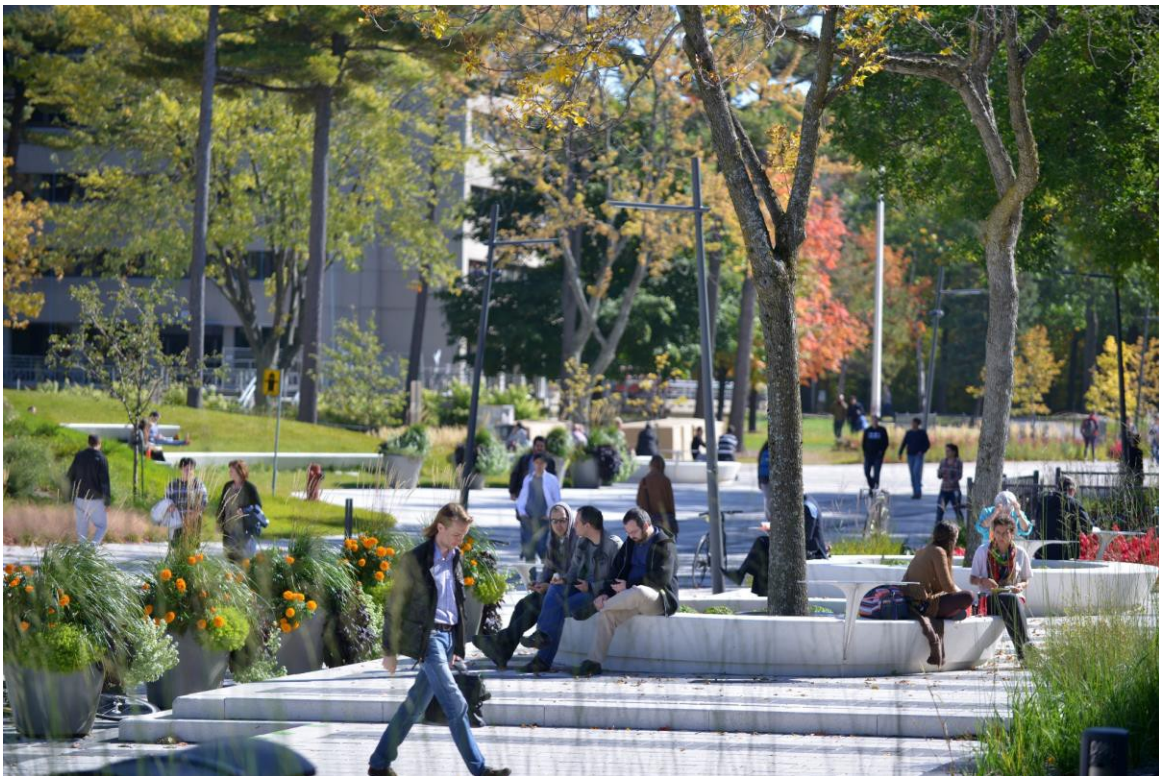
This forest gives Laval University access to significant carbon sinks that contribute to the fight against climate change. To that end, the university integrates forest carbon sequestration parameters into its management plan and invests in the development of sustainable forest management models that maintain the forest's productivity, regeneration capacity and long-term viability.



These projects, such as the development of a carbon sink, complement the university mission. They can also lead to initiatives that promote international cooperation in priority science areas, such as the fight against climate change. These collaborative efforts push the boundaries of open science and facilitate the internationalization of innovative Canadian practices. However, federal investments are needed to support this type of action, which seeks to develop a bolder and more open science culture and positions Canada as an innovative leader in the fight against climate change.

In 2020, Laval University hopes to hold its first international youth summit on climate change. The goal of the summit is to bring together students from higher education institutions on five continents to contribute to the search for concrete and innovative solutions that will help address the current and future climate situation.

Through more innovative projects that complement the university mission in the country's universities and relate to areas of expertise associated with climate change, Canada will strengthen its international competitiveness and help develop a thriving economy to better address global challenges and the current climate emergency.



Laval University's Institut Hydro-Québec en environnement, développement et société (Institut EDS) is a knowledge hub in the environment and sustainable development field. The institute is made up of nearly 100 researchers. It carries out activities to enhance, acquire and spread knowledge with a view to engaging its various stakeholders and generating tangible effects for society.



To strengthen its mission to support and develop interdisciplinary research and knowledge sharing, the Institut EDS wants to create a centre of expertise on voluntary initiatives to reduce and offset greenhouse gases. This project complements the university's research and teaching mission. It seeks to create and support a community of practice made up of research professionals and a network of small and medium-sized businesses that are involved in this type of initiative. The main objective of this centre is to establish a better correlation between the research community's needs and the community of practice's needs by improving the transfer of knowledge through the sharing of expertise and experience.

The Bank of Canada's *2019 Financial System Review* states that climate change is one of the main vulnerabilities faced by the Canadian economy. The transition to a low-carbon economy is necessary to maintain Canada's economic vitality. However, this economic transition requires many quick adjustments that can include significant investments in teaching, research and innovation.

Canada is a world leader when it comes to investing in research conducted at post-secondary institutions. To maintain this competitive advantage, the federal government should continue its commitment to developing the skills of the future and strategically invest in areas of expertise specific to Canadian universities, such as the fight against climate change, in order to support the transition to a low-carbon and prosperous economy.



UNIVERSITÉ
LAVAL

Vice-rectorat aux affaires externes,
internationale et à la santé

Pavillon des Sciences de
l'éducation
2320 Des Bibliothèques Street
Office 1634
Quebec City, Quebec G1V 0A6
Info@developpementdurable.ulaval.ca