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**To:** Engages-Mobilisation (WD/DEO) <wd.engages-mobilisation.deo@canada.ca>

**Subject:** UAlberta Western Canada Growth Strategy Submission

To Whom It May Concern:

Attached, please find the University of Alberta's Western Canada Growth Strategy submission.

If you have any questions or concerns, please do not hesitate to contact me at your earliest convenience.

Best regards,  
Cherene

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Towards a Western Canada Growth Strategy: University of  
Alberta's Submission to Western Economic Diversification  
Canada

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## **INTRODUCTION**

Western Canada is home to a young, diverse and skilled populous defined by a fierce entrepreneurial spirit and ambitious drive to succeed. Western Canadians have built world-class businesses, universities, colleges and institutes that advance local job creation and economic growth as well as contributing to national and international development. Recognizing that we have strong foundations and are thriving in many respects, we must now look to leverage these strengths into a more prosperous and sustainable region for our diverse population and future generations.

We have a critical opportunity to re-invest in Western Canada's long-term leadership by firmly establishing ourselves as a competitively innovative region, pushing the boundaries of knowledge and embracing, as well as driving, technological shifts for the benefit of society. Through advancing research excellence and equipping citizens with the skills necessary to thrive in a fast-paced global environment, Western Canadian universities are key to establishing our region as a national and global leader in discovery and innovation.

In response to the Government of Canada's request for input, the University of Alberta presents the following goals and strategies needed to achieve meaningful, sustainable and inclusive development as part of the forthcoming Western Canada Growth Strategy.

## **HIGHLY- SKILLED WORKFORCE**

Demographic shifts, a rapidly evolving knowledge economy and the implementation of disruptive technologies—including automation, artificial intelligence, robotics and machine learning—are revolutionizing industries, re-defining workplaces and changing how we travel, work and live.

These shifts favour a highly-skilled, highly-educated workforce. According to Organization for Economic Cooperation and Development (OECD) estimates, 38 per cent of jobs in Canada are at high risk of being automated but only 10 per cent of Canadians with post-secondary education are at high risk of losing their jobs to automation.<sup>i</sup> Further, approximately two-thirds of job openings over the next decade are expected to be in management or in positions that require post-secondary education.<sup>ii</sup>

In recognition of this, employers increasingly demand more from their workforces, requiring all graduates to possess a complex mix of technical and soft skills. Further, when searching for opportunities for relocation or investment, leading firms look for access to a diverse pool of young talent that is highly adaptable and resilient in the face of unforeseen technological shifts. With over half of Western Canadians under the age of 40 and growing rapidly, now is the time to maximize our demographic advantage by increasing regional capacity to develop and retain our young talent and leverage this into investment and development across industries. This workforce will shape our economic landscape and determine whether our region is able to stay ahead of the curve in a rapidly evolving knowledge economy and competitive labour market.

Western Canadian universities are key to increasing this capacity by producing skilled, creative and adaptable innovators and leaders of tomorrow. Graduates from our institutions ensure the continued success of western Canada's key sectors—such as agriculture, energy, health, and the arts—and establish the industries of the future. With rising demand for post-secondary education and all regions competing to attract and retain their talent, we need to leverage the strength of our institutions in order to train and retain more of this talent in Western Canada.

## **EXPERIENTIAL LEARNING**

Adapting and thriving in the face of aforementioned technological shifts necessitates a workforce that is highly educated and equipped with a diverse set of marketable and relevant skills and competencies. Work-integrated learning (WIL)—encompassing co-ops, internships, apprenticeships, applied research, field work, service learning, incubators/accelerators, bootcamps, hackathons and more—helps develop these skills by offering meaningful practice-based learning opportunities to prepare students to thrive in the working world.

WIL enables students to build connections, better understand the labour market and establish realistic expectations of the practical demands of the modern workplace in their chosen field. This eases the transition from school to the labour market and provides an advantage in finding employment after graduation. At the same time, it infuses into the educational experience early on the attitudes and abilities needed for lifelong learning. Federal programs like the Student Work Integrated Learning Program (SWILP) and Mitacs are not meeting increasing demand from a diverse and rapidly expanding student population, particularly for those in the social sciences and humanities. Not only do programs that support WIL need to be expanded to include all disciplines, but educational institutions, industry, not-for-profit organizations and government must accelerate collaborative efforts to fully integrate WIL as a fundamental component of any post-secondary program.

An increase in funding for students and employers will help expand the uptake and availability of WIL in Western Canada, creating the needed influx of fresh perspectives and knowledge of future tech into ‘traditional’ industries, including in the natural resource extraction sector. Our region would be well served to identify successful programs at western Canadian institutions—like the U of A’s Community Service Learning (CSL) program—and dedicate substantially more resources to expand the capacity of these programs to prepare and place students. Parallel to that, efforts must be made to enhance the cultures and capacities of employers in all sectors to accommodate students in WIL programs.

It is also advantageous to look for best practices at institutions that could be implemented on a larger scale. For example, in response to expressed needs of graduate students and employers, the U of A is the only post-secondary institution in Canada to prioritize professional development by making it a program requirement for all graduate students. Further, the expanded provision of experiential learning programs should focus on increasing participation of underrepresented groups in order to facilitate better employment outcomes and long-term success for our most vulnerable populations.

## **SCHOLARSHIPS AND FELLOWSHIPS**

Western Canada is home to some of the world’s most highly-skilled graduate and doctoral students and post-doctoral fellows (PDF). These individuals sustain our research enterprise, train future innovators and build regional capacity to realize solutions to complex social, cultural, environmental, and economic challenges. Providing this cohort with the proper support will attract and help retain future talent and fortify our region for success in the face of disruptive technological shifts.

Supporting these talented individual delivers benefits far beyond their university careers. Holders of advanced degrees are not only meeting market demand for critically needed skills and expertise, but are growing and changing the market by creating new types of employment. They fill labour gaps and create jobs in a variety of areas including public administration, healthcare and social assistance, culture and recreation, as well as scientific, and technical and educational services.

Despite this, Canada as a whole faces a long-standing gap in graduate degree attainment compared with OECD comparator nations. While universities across Canada and in the West are making efforts to fill this gap—with graduate and doctoral student enrollment and PDF population on the rise—the number and value of graduate, doctoral and post-doctoral granting council awards has not similarly increased to meet this need.

At the U of A for example, graduate and doctoral student enrollment and PDF population is rising and graduate applications are at an all-time high, particularly among international and First Nations, Métis and Inuit (FNMI) graduate students. Given limited funding through federal sources and universities themselves, this gap poses a threat to the retention of the young talent in Western Canada.

The rate of return on investments in these groups of highly skilled individuals is significant. A Western Canada Growth Strategy needs to include strategies for ensuring that not only are current students supported but that, as a region, we create an environment where a larger and more diverse cohort of students is further encouraged to pursue graduate and post-graduate studies in Western Canada and remain following graduation.

### **INTERNATIONAL ENGAGEMENT**

In order to sustain growth in an integrated international economy, we must embrace educational and research relationships with emerging and established economies. Deepening and expanding international collaboration opens doors to new knowledge and capital, stimulates the labour market by creating jobs and filling labour market shortages, and can foster deeper trade relations, thus creating a larger market for Western Canadian goods and services in traditional and future industries.

One of the key areas of engagement that requires improvement is the level of international experience amongst students. Study abroad programs, particularly to emerging economies, build a workforce that has a distinct competitive advantage in an integrated international economy. These experiences challenge students to expand their worldviews, gain in-demand global skills and can translate into social mobility—particularly for those students from less-advantaged backgrounds—with multiplier effects across future generations.

Canadian post-secondary students are not going abroad at the rate that others in comparator nations are, due in large part to financial limitations. However, through initiatives like Canada Learning Initiative in China (CLIC), the U of A has seen a steady rise in the number of students going abroad. In conjunction with a national outward mobility strategy, greater focus should be placed on expanding programs like these in Western Canada. With greater support for more young Canadians to pursue study and WIL opportunities in emerging economies, programs like CLIC can be leveraged into greater Western Canadian growth.

### **DIVERSIFIED AND FUTURE-READY**

A stronger region must be diversified, innovative and future-ready. In Alberta and in western Canada, much of our infrastructure and many of our educational institutions, businesses and public sector are built and sustained by resource wealth—whether directly or indirectly. Given this long-standing reliance on resource extraction, one volatile industry largely determines periods of prosperity versus decline.

Western Canadians are all too familiar with the uncertainty that comes with ‘boom and bust cycles,’ and the impediment to long-term planning this poses for households, institutions, provinces and the region as a whole. A significant component of developing a stronger, stable

economic region lies in moving away from reliance on resource extraction toward a diversified economy.

To build a sustainable economic region for future generations, we must accelerate efforts to transition away from reliance on resource extraction. While the oil and gas industry will continue to be an economic driver for the region, emphasis—particularly in rural areas—needs to be increasingly placed on other kinds of activities (e.g. eco-tourism). In this context, a strong western Canadian economy will include processes for spurring interest in non-extractive areas, such as government tax credits and encouraging public and private investment in those areas.

## **RESEARCH AND INNOVATION**

A diversified and adaptable economy cannot emerge in the absence of an integrated innovation ecosystem. Post-secondary institutions help to drive such an ecosystem, providing opportunities and resources for Western Canadians to discover, develop and translate novel ideas into the technologies, processes, products and services that enable a vibrant and thriving economy and society.

However, despite world-class institutions and an educated population, Western Canada is beginning to fall behind as other regions and nations double down on efforts to remain competitive. In 2018, Alberta, Manitoba and BC each earned D grades on the Conference Board of Canada's Innovation Report Card (with Saskatchewan receiving a D-).<sup>iii</sup>

To begin to close this gap, we must invest in future areas of growth through research and innovation. Emerging technologies—including automation of knowledge work, cloud technology, advanced robotics, autonomous vehicles, energy storage, advanced materials, advanced oil and gas recovery, renewable energy and next-generation genomics—have huge economic potential and if leveraged properly will establish Western Canada as a leader in 21<sup>st</sup> century innovation that will withstand future rapid changes in our knowledge-economy.

Taking advantage of the vast economic potential of today's technology boom requires the collaboration between post-secondary institutions and industry to accelerate the development and use of these innovations across industries. Western research-intensive universities are a central component of this endeavor, through providing partners with direct access to a wide variety of competitive advantages, including access to pools of highly-qualified talent and state-of-the-art facilities. Strengthening our universities' capacity to provide these advantages, Western Canada can become the region of choice for investors and attract new wealth in industries that extend beyond the extractive sector.

## **HIGH-QUALITY INFRASTRUCTURE**

One of the ways to support research at our post-secondary institutions as well as enhance talent recruitment and retention is through investments in cutting-edge research infrastructure. The recent Post-Secondary Institutions Strategic Investment Fund (PSI-SIF) is an excellent example of how infrastructure funding can deliver innovative outcomes. Through this funding, the U of A was able to undertake 10 projects that are already providing cutting-edge innovation and research spaces to our campus community while improving energy efficiency and sustainability of facilities. In doing so, these projects stimulate multiplier effects in research and practice that will extend well beyond the university itself.

## **FUNDAMENTAL SCIENCE**

Recognizing and understanding the strong link between investing in fundamental science and economic diversification is critical to innovation and economic growth in Western Canada. Canada's Fundamental Science Review (FSR) Report provides a pathway to strengthen the foundation of Canadian research excellence through investments in fundamental science at a national level. The continued implementation of these recommendations will assist Western Canadian universities in driving desirable economic, social, cultural and environmental change in the region. In particular, further action needs to be taken to cover the full costs of research at our research-intensive universities through greater increases in funding to the Research Support Fund.

## **ACCESSIBLE AND AFFORDABLE POST-SECONDARY EDUCATION**

In order for the region's citizenry as a whole to benefit from increased investment and job creation through industry diversification, systemic and programmatic barriers to success for our most vulnerable groups must be greatly reduced. One of the most significant actions that can be taken to improve economic participation is improving and extending access to post-secondary education across Western Canada.

## **CLOSING THE INDIGENOUS EDUCATIONAL ATTAINMENT GAP**

Western Canada is home to large, young and rapidly growing Indigenous identity populations. However, Indigenous Peoples continue to face long-standing and pronounced inequalities and roadblocks to full and meaningful participation in many economic sectors, including a persistent educational attainment gap.

Education is the single most effective means by which the persistent conditions of disadvantage can be addressed. Closing the education gap between Indigenous and non-Indigenous populations will also generate huge returns for the Western Canadian economy through increased labour productivity and tax revenue, lower unemployment, higher GDP growth and reduced strain on health and social services. Closing this gap requires a continued and coordinated effort to provide a well-funded and supportive environment for Indigenous students, staff and faculty at post-secondary institutions. These efforts must address the following barriers to full participation.

**Financial Barriers:** Financial barriers to education continue to be pervasive for Indigenous students. To begin bridging this financial gap, providing increased financial support to Indigenous students in Western Canada, (including scholarships targeted to Indigenous students pursuing graduate and post-doctoral studies) is critical.

**Non-Financial Barriers:** Indigenous students (particularly those in their first year of post-secondary study) also face formidable non-financial barriers to educational attainment, including discrimination, cultural insensitivity, limited access to culturally relevant curriculum, familial obligations, geographic separation from their communities, alienation and isolation. Access to culturally sensitive academic and personal supports and bridging programs are essential to easing the transition into post-secondary and improving retention and completion rates for these students. Greater investment into successful support services—like the Transition Year Program (TYP) at the U of A—and could greatly expand the number of students served and the quality of services offered. Furthermore, an enhanced emphasis on research collaboration with Indigenous communities can aid in overcoming substantial geographic barriers.

**Diversity of Options:** Diversification of the types of opportunities readily available for Indigenous Peoples is critical to enhancing full participation in a future-focused knowledge

economy. This includes re-thinking and expanding the types of post-secondary training that Indigenous students can and will receive that moves them beyond the ‘typical’ kinds of training programs that exist today (which are geared toward supporting resource extraction industries).

## **COLLABORATION AND COORDINATION**

To effectively implement and sustain a growth strategy that alters the functionality/direction of a regional economy, it is imperative to ensure intergovernmental communication and alignment. Variation in governance and policy implementation is inevitable, but ‘big picture’ alignment among and between federal and provincial governments is important for tangible change to occur.

## **LONG-TERM ENGAGEMENT AND CONSULTATION**

The Government of Canada is rightly developing this growth strategy through extensive consultation with myriad institutions and individuals. It will be important to continue this consultation following the development of a plan. Consistent communication and measurement of progress through an iterative and accountable process ensures proper assessment of real-life uptake and impact of the strategy.

Further, any strategy needs to be embraced by the parties that it seeks to empower. In particular, any action specifically aimed at improving the lives of Indigenous Peoples in Western Canada must recognize and respect the diversity of approaches to partnership and development among communities. In developing a growth strategy for a region made up of diverse communities, identifying and gathering intelligence on best practices will continue to be important.

## **CONCLUSION**

As the development of a Western Canada Growth Strategy continues, the U of A encourages the prioritization of diversification through innovation by embracing technological shifts and investing in research and skills development capacity at our post-secondary institutions. Embracing disruptive innovations in traditional and emerging industries and equipping our workforce with the opportunities, skills and resourcing to help drive change, is essential if our region is to remain competitive and prosperous into the future.

The U of A is thankful for the opportunity to contribute to this consultation and welcomes any further opportunity for engagement in the development and implementation of a Western Canada Growth Strategy.

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<sup>i</sup> Arntz, M., T. Gregory and U. Zierahn (2016). *The Risk of Automation for Jobs in OECD Countries: A Comparative Analysis*. OECD Social, Employment and Migration Working Papers. No. 189, OECD Publishing, Paris.

<sup>ii</sup> Brookfield Institute, *Future-Proof: Preparing Young Canadians for the Future of Work*, March 2017, p. 8. As accessed at: <https://brookfieldinstitute.ca/wp-content/uploads/FINAL-FP-report-Onlinev3.pdf> on October 29, 2018.

<sup>iii</sup> Conference Board of Canada, *How Canada Performs: Provincial and Territorial Ranking*, May 2018. As accessed at: <https://www.conferenceboard.ca/hcp/provincial/innovation.aspx>