Review Article

From contracts to culture: Exploring how to leverage local, sustainable food purchasing by institutions for food systems change

Jennifer Reynolds\textsuperscript{a} and Beth Hunter\textsuperscript{b}

\textsuperscript{a}Food Secure Canada
\textsuperscript{b}J.W. McConnell Family Foundation

Abstract

In recent years, certain hospitals, schools, and campuses across Canada have shown that they can transform their practices to serve more local and sustainable food. These changes have often been led by visionary champions, and in some cases aided by supportive public policies or programs. Yet the presence of these isolated success stories has so far not proven sufficient to tip a critical mass of institutions towards sustainability. There is great potential in leveraging institutional foodservices, with an estimated $8.5 billion market sales in Canada in 2016 (fsStrategy, 2016), to shift systems towards greater sustainability. In 2014, Food Secure Canada and the McConnell Foundation launched an action-research project and embarked on a learning journey to explore two key questions: how can food service operations and procurement practices be changed to increase local, sustainable institutional procurement; and how can this work be scaled. In 2014–2016, eight institutional food projects across Canada came together as a national Learning Group. Drawing from their experiences working in different contexts and scales, our action research project identified program and policy innovations to leverage systems change. This article explores how institutions currently buy food, and reveals the systemic barriers to increasing local, sustainable food procurement. We share lessons learned about the interplay of menus, food service operations, contracts, institutional demand, and food culture that helped to overcome these barriers. We identify enabling, peer-based learning and support as particularly relevant in a national context for the scaling out, up, and deep of local, sustainable food procurement.

Keywords: Institutional food procurement; sustainable food
Introduction

In recent years, certain hospitals, schools, and campuses across Canada have shown that they can transform their practices to serve healthy, local, and sustainable food. These changes have often been led by visionary champions, and in some cases aided by supportive public policies or programs. Yet the presence of these isolated success stories has so far not proven sufficient to tip a critical mass of institutions towards sustainability.

In 2014 Food Secure Canada and the McConnell Foundation joined forces to address the question of local, sustainable food purchasing by institutions. Food Secure Canada is a pan-Canadian alliance of organizations and individuals working together to advance food security and food sovereignty through three interlocking goals: zero hunger, healthy and safe food, and sustainable food systems. The McConnell Foundation engages Canadians in building a more innovative, inclusive, sustainable, and resilient society. It works to address complex social, environmental, and economic challenges through innovative approaches and solutions, and collaboration with the community, private, and public sectors. Together, we organized an action-research project and embarked on a learning journey to explore two key questions: how food service operations and procurement practices can be changed to help shift systems towards greater sustainability, and how this work can be scaled. The Foundation supported eight Institutional Food Fund projects through grants that totaled $450,000 over two years (2014-2016), and project leads participated in a Learning Group, which engaged with many stakeholders throughout the supply chain and food system.

This article identifies barriers to change in the larger systems these institutions are a part of and explores lessons learned about changing food services and procurement practices within the participating institutions. Shifting institutions’ significant food spending towards ingredients that are locally and sustainably produced will have wide-reaching impacts both inside and outside of facilities. This food systems work is embedded in the emerging concepts of anchor institutions (Birch, Perry, & Taylor, 2013), whereby hospitals, universities, and schools can strategically leverage their purchasing power to generate greater health and wealth in communities and more fully achieve their missions.

The Learning group

The Institutional Food Fund projects worked with a range of institutions—health care facilities, schools, campuses, and an event centre—to increase the sourcing of more local, sustainable food using different strategies and approaches. Project leaders came together as a Learning Group with two in-person meetings, as well as regular videoconferences, online exchanges, and updates on projects via mentoring calls and written progress reports.

Each project was required to track changes in local, sustainable food spending and a prototype tool was developed so projects were not tied to one strict definition of local or sustainable in their reporting, but instead were able to use a continuum to define local (ranging from their surrounding region to the wider province) and a range of criteria to identify sustainability. Some of the challenges associated with defining and tracking local and sustainable are discussed below in more detail.
Over the two years, for those projects able to track their spending, the Learning Group projects collectively sourced $3.1 million of local or sustainable foods (with a small percentage being both local and sustainable), defined using the agreed-upon range of criteria. Almost all projects were able to increase local and/or sustainable food spending for institutions from baseline, with most achieving a 20 to 25 percent range of total food spending on local or sustainable food. Le Réseau des cafétérias communautaires, a unique food service model in the Learning Group, directed 60 percent of their annual food spending towards local suppliers. Full details of the projects can be found in the report *Purchasing Power: 10 Lessons on Getting More Local, Sustainable and Delicious Food in Schools, Hospitals and Campuses* (Reynolds & Hunter, 2017).

We discovered, however, that significant challenges exist for people—eaters, food service managers, senior leaders, non-profit organizations, and producers—seeking to shift institutional purchasing that stem primarily from the complexity of food services, procurement, and supply chains. Few actors have a complete view of the system, and often much of the information about the food that institutions purchase is hidden behind contractual arrangements that do not allow disclosure of food purchasing data or existing systems that do not audit what local foods are available. Nonetheless, a key finding was that institutions do, in fact, have a great deal of latitude to leverage their demand in the marketplace to shift supply chains towards greater sustainability but are often unclear on the specific ways they can begin to do this.

Several reports authored by non-profit organizations and provincial governments provide information, analysis, and tools about institutional food systems (see Conseil des Industries Bioalimentaires de l’Île de Montréal, 2015; Food Matters Manitoba, 2016; Knight & Chopra, 2011; MAPAQ, 2013) but little exists in peer-reviewed literature about how institutions actually make decisions about buying food, and all of the components and feedback loops in these systems. This article aims to contribute to addressing this gap by sharing what we have learned from our action-research around the interplay of menus, food service operations, and institutional food culture to effect change.

How do institutions buy food?

Institutional foodservice market sales in Canada in 2016 were estimated at $8.5 billion (fsStrategy, 2016). Health care food service spending is just over half of this total, with the rest being spent by institutions such as campuses and schools. Institutional food services can either be self-operated or contracted out to a food service management company (some institutions use both models) and this significantly determines how institutions buy food. While a national breakdown of self-operated vs contracted institutional food services is not publically available, research by the Québec Ministère de l’Agriculture, des Pêcheries et de l’Alimentation (MAPAQ) provides a provincial snapshot in 2012 of self-operated vs contracted food services in various institutional settings. Correctional services (both provincial and federal) and health care facilities had the highest percentages of self-operated food services (79 percent and 77 percent respectively), in comparison with educational
institutions that had only 28 percent of food sales being generated by self-operated food services (MAPAQ, 2013, p. 10).

Self-operated food services are managed by institutionally staffed positions. Contracted food services are managed by a food service management company, often using a variety of arrangements that blend staffing and management positions between the company and the institution. The three major multinational food service management companies in Canada are Compass (parent company of Chartwells for education and Morrison for health care), Sodexo, and Aramark. Smaller independent contract caterers also operate in many institutions across Canada.

Contracted food services typically seek to consolidate their supply-chain volumes among their preferred vendors, so their institutional clients often cannot simply choose their own suppliers. In contrast, self-operated food services generally have the latitude to tender bids for suppliers. Much depends on the scale of food services, with small feeding programs like school snack programs typically shopping at grocery stores and larger institutions like campuses typically purchasing food through broadline distributors (which purchase large volumes of food that are held in inventory, offering a broad line of products).

The health care sector is unique in that it primarily uses Group Purchasing Organizations (GPO) to pool buying power for all types of products, from medical supplies to equipment and food. Institutions commit to purchasing volumes as members of a GPO, which then aggregates these volumes and negotiates supplier contracts. Most food categories are purchased via the GPO, but typically fresh produce is not included and is purchased “off contract”. Ontario and Québec each have regional public sector GPOs: MEALSource in southwest Ontario, and three GPOs cover the province of Québec (Sigma Santé, GACEQ, GAQOuest). Health authorities and facilities in other provinces and territories predominately participate in national GPO HealthPro.

Figure 1 provides a generic outline of the institutional food supply chain and purchasing pathways for both contracted and self-operated food services across a range of institutional settings: healthcare, campus, and schools. Institutions that manage their own food services can have more latitude with food purchasing, but in practice they frequently purchase food through global supply chains via GPOs or broadline distributors. As discussed later in this paper, often there are significant barriers to institutional food services accessing local and/or sustainable foods from their existing suppliers and establishing new supplier relationships requires additional work they often do not have the resources to carry out.

Decision-making about food is typically distributed amongst a number of institutional staff roles. Reviewing a menu planning cycle can help to visualize it: dietitians create menus from which food volumes are forecasted; procurement officers negotiate contracts for food suppliers; inventory, ordering, and budgeting is done by an executive chef, or, in health care, by a food and nutrition manager; and reports on food service spending are prepared for upper management who forecast budgets available for the coming year.
Systemic barriers to local, sustainable food procurement

Our action-research project revealed four systemic barriers for institutions when they try to procure local, sustainable food, which are discussed below: the lack of a shared definition of local across the supply chain; how many dimensions of sustainability are not reflected in third-party certifications; the structure of broadline supply chains and institutional food purchasing practices; food service menus and institutional culture.

1. Lack of a shared definition of local

To implement local food procurement, and track the results, the definition of local food is obviously important. The legal definition of “local,” outlined in the Local Food Claims Interim Policy of the Canadian Food Inspection Agency (CFIA), is food produced in the province or territory in which it is sold, or sold across provincial borders within 50 km of the originating province or territory. However the CFIA provincially bound definition of local food is challenging because not all individuals, institutions, retailers and distributors share this definition and instead identify many different facets to “local”, with many defining local along a continuum. For example, this can start with a preference for food produced in their...
community, then when this is not possible, move up to ever-larger geographical areas—a county, a region (e.g., Niagara), a province, or even the whole country.

To add to this complexity, distributors’ existing systems often have difficulty providing transparency on—and traceability for—local foods and do not share the same definitions amongst themselves or with the institutions purchasing from them. In some regions, this is starting to change, but it is far from mainstream.

Defining local processed food is full of nuances as well. Does the main ingredient need to be local or all of the ingredients? Should the processing location contribute towards a local definition? Does the company need to be “locally” owned? Several Canadian provinces have local food definitions that provide specific criteria both for a minimum percentage of food ingredients that are provincially produced in addition to processing within the province, namely British Columbia, Québec, and Ontario. Alberta and Manitoba define local more broadly as food that is grown, raised, produced or processed in their respective provinces.

Another complicating factor in defining “local” food is that many of the reasons why people seek out local food—such as freshness, taste, supporting small producers or seeking to know more about how their food is produced—are not included in a strictly geographic definition of local food.

2. Many dimensions of sustainability—social, economic and environmental—are not reflected in third-party certifications

In supply chains, sustainability is usually identified by third-party certifications and label claims. Third-party certifications provide independent verification that certain standards have been met, for example, Certified Organic, Certified Humane Raised and Handled, or Fair Trade Certified. Food label claims are regulated by the Canadian Food Inspection Agency (CFIA, 2014) with specific criteria for production claims such as “Raised without antibiotics” or “Grain-fed. No Animal By-Products”.

However, many aspects of sustainability do not fit easily onto a label, with many small farmers and fishers generating positive sustainability impacts from their practices related to their regional context. Many university and college campuses are beginning to evaluate the sustainability of the food they source using multiple criteria, including production practices, where food is produced, and the nature of ownership. Two existing schemes for assessment are Sustainability Tracking, Assessment & Rating System (STARS) and the Real Food Calculator.

3. The structure of broadline supply chains and institutional food purchasing practices

The structure of broadline supply chains and institutional food purchasing practices themselves can pose a number of barriers to the procurement of local, sustainable food. For example, as already mentioned, distributors often cannot identify local food products in their listings and/or provide traceability because their inventory and ordering systems are designed to consolidate purchases for a product category from a number of suppliers. Additionally, broadline distributor requirements for suppliers such as required sales volumes, discounts,
food safety traceability, and insurance often preclude smaller local food suppliers from selling to them.

On the institutional side, practices such as requiring regulations that are not scale appropriate for smaller local food suppliers (e.g., federal meat inspection) have also become embedded. Procurement practices such as the use of “bundled” contracts are often also barriers, requiring bidders to supply many products at volumes beyond what one producer can provide. Additionally, contracts are typically awarded based on lowest cost without any consideration for other qualities such as freshness, product quality, or food miles.

In seeking to align efforts of institutions to implement more values-based procurement for food, Klein’s (2015) research explored the tensions that emerge when looking to engage with existing supply chains “deeply rooted in industrial and commercial norms, in other words, price competition, economic efficiencies, and forces of standardizations through adherence to technical and quality standards” (p. 635). This raises fundamental questions about scaling institutional procurement of local and sustainable food, which potentially cannot be reconciled via sourcing from broadline supply chains “without losing the robustness of the original values and goals [of seeking to source local, sustainable food] that brought them into being” (p. 635).

4. Food service menus and institutional culture

Often the first systemic barrier for institutions that seek to start buying local food involves navigating complex supply chains, creating alignment amongst existing systems for food service menus and ordering, and encountering an institutional culture that seeks to maintain the status quo and does not see sustainable food efforts as linked to its mission.

For example, many food service operations rely on processed ingredients that can be a major barrier to purchasing local, sustainable ingredients predominantly available only in whole, unprocessed form. Institutions typically use cycle menus, by which the menu changes every day for a time (generally two weeks to a month) and then repeats itself. While this standardizes purchasing, it also limits flexibility. Food service operations have usually been optimized around the “one stop shopping” that broadline distributors can provide (e.g., 24-hour order times, etc.) and often lack space to store food, which limits the potential for weekly food orders that are more convenient for smaller suppliers.

Change makers also confront a significant barrier of institutional culture and hierarchies that help maintain the status quo; many people have to be engaged to affect change. Food is not seen as being linked to the institutional mission (for example of health or education) and those leading change in their institutions are often not well networked, particularly in health care, to other innovators.

Lessons learned

This section presents lessons learned about changing institutional food purchasing and food services, stemming from the experiences of the eight Learning Group projects. These lessons
range from changes that are more immediate and concrete to those that are more fundamental and require time.

1. **Identify local food in existing supply chains**

A low-hanging fruit for institutions is to identify local food already available in their supply chains. By doing so institutions can establish baselines of current local food spending and identify local products that could easily be substituted into existing menus without changes to other systems (for ordering, payments, etc.) already in place. However, as simple as it sounds, this approach is not without its challenges. This information is often unavailable from distributors, and institutions, as early adopters, may need to invest resources to do their own identification of local foods. One Learning Group project demonstrated the efficiency of combining efforts with other institutions to do this work.

2. **Pool institutional demand to bring in new suppliers**

Even though some local and sustainable foods exist in current broadline supply chains, new suppliers of local food will be needed to meet growing demand. Groups of institutions can pool their purchasing power to pull in new suppliers that are ready to scale into broadline supply chains. Or they can develop direct purchasing relationships. However, to develop value chains for local, sustainable food systems, institutional demand is an important but insufficient factor on its own to generate all of the resources local producers need to scale up. Support is needed to establish new systems for scale-appropriate aggregation, distribution, marketing, processing, and food safety traceability. Food hub projects working to scale local food supply are active in many regions of Canada but more investment in this area is required.

3. **Level the playing field by rewriting “the rules” of food procurement**

Institutions can help to level the playing field by changing their bid tendering processes, which often create significant barriers that prevent small producers from bidding. For example, requiring federal meat inspection has become the default standard for institutional purchasers because broadline distributors require it in order to facilitate shipping products across provincial borders. Institutions could simply accept provincial meat inspection, which is equivalent in terms of food safety, and broaden the base of suppliers they could purchase from. Institutions can also change how they assess bids, as demonstrated with a case study of MEALSource, which changed how a meat protein bid was assessed, from cost per serving to cost per gram of protein. They found it a more useful measure of product quality for their health care purchasers and awarded the bid to a local, sustainable beef producer (Lapalme, 2015). “Grow to order” contracts are another tactic institutions could use to commit to future purchases that enable producers to scale up, potentially using the contracts to obtain financing for their businesses.
4. **Leverage food service management contracts**

Food service management contracts have an important bearing on how much of a decision-making role an institution may be able to play during the life of the contract around food purchasing. Clarifying local, sustainable benchmarks in contracts and how institutions can help to identify and select new suppliers can be very impactful. As with any relationship, it is critical to establish in contracts clear processes for ongoing two-way channels of communication.

5. **Track food spending**

Tracking changes in food spending helps to engage institutional stakeholders (eaters, food service teams, other institutional staff, leadership, boards of directors) by sharing how foodservices are making progress. Having the capacity to demonstrate impact to institutional stakeholders, funders, and policy makers is key to encouraging greater buy-in and resources to meet short- and long-term goals. Ensuring access to purchasing information (e.g., volumes or aggregated spending for product categories) is also an important issue for institutions to address in their future contracts with food service management companies. Other industry practices such as off-invoice rebates used by food service management companies often do not provide adequate transparency for public spending and require further examination.

6. **Redesign menus**

Menus are critical in supply chain innovation in that they can create new alignment between supply and demand. Sharing institutional food needs—types of products, preferred level of processing, required product performance in recipes, needs for portion and pack sizes—can help identify opportunities for producers. Conversely, institutions can also adapt their recipes to increase their use of local food, for example, instead of specifying a vegetable side, menus could call for seasonal vegetables, which would give foodservices the flexibility to use the best seasonal produce available and the additional benefit of often lower in-season pricing.

7. **Cook from scratch**

Many institutional food service operations seek to reduce labour costs by relying on processed ingredients and meals. As most local sustainable foods are predominantly available as whole, unprocessed foods, a lack of adequate kitchen facilities and/or budgets for labour is often an initial barrier to local food sourcing. Food service models that shift to a focus on cooking from scratch can stay on budget by balancing their increased labour costs with lower food costs from sourcing seasonal, whole ingredients. A case study of Diversity Food Services at the University of Winnipeg describes their cooking-from-scratch model, with 32 percent of revenues going towards food costs, 34 percent towards labour and the remaining 34 percent towards profit and other expenses (Food Matters Manitoba & Diversity Food Services, 2015). Diversity Food Services developed a seasonal menu to adapt to the
availability and pricing of local, sustainable, and seasonal ingredients. As prices tend to ebb and flow, being slightly higher in winter and lower in summer, institutions can process and freeze fruits and vegetables when they are in season and available at their lowest prices and thus have them available for an extended period of time.

Cooking from scratch also provides better control over ingredients such as sugar, fat, and salt, and facilitates the development of menus that are culturally appropriate. Currently the “health” of menus is related to servings of food groups in Canada’s Food Guide and not evaluated in terms of fresh whole ingredients vs. processed foods. However, the reduction of highly processed foods is increasingly being looked at as an important measure of healthy diets.

8. Build a food culture that leads to change people will believe in

“Culture eats strategy for breakfast”, it is famously said. It is essential to engage and get buy-in not only from food services staff, but also from the eaters, leadership, and community of an institution in order to facilitate change along hierarchical decision-making chains, and to transform embedded practices. Celebrating small wins, validating hard work and building new partnerships can help to break down silos, develop buy-in, and garner more resources for change. Developing a food culture that prioritizes local, delicious, sustainable food systems facilitates institutions’ ongoing investment in the hard work of change and ensures it will continue even if initial champions move on, or reorganizations occur. New norms, practices, and policies need to be embedded.

A vital first step to changing procurement practices is to engage with food services staff about their concerns and the challenges they encounter when asked to increase the use of local, sustainable food, often without any additional resources to develop the new systems required to do so. Farm visits, skills development, and food education for food services staff can increase buy-in and knowledge about local, seasonal food and its many benefits for health, environment, and local economies. Initiatives should be designed with flexibility and oversight in mind: flexibility to allow for institutions and staff to start where they are at, and oversight that involves overarching goals and accountability so that the responsibility to act does not fall on one individual alone.

Conclusion

Although institutional food procurement systems are complex and difficult to change, the initial impacts from this work and the potential for more change have been inspirational. Institutional demand for local, healthy, delicious, sustainable food remains relatively untapped, and harnessing its power will create significant systems-wide change. This paper concludes with some thoughts about opportunities to support scaling local, sustainable food procurement in schools, hospitals, and campuses across Canada.

In some ways, the institutional procurement projects described here represent the seeding stage: a scattering of projects working in different contexts to create isolated change.
Policies, support, incentives, and learning opportunities are needed to embed shifts into mainstream procurement practices towards local, sustainable food purchasing. The concept of Scaling Out, Scaling Up, Scaling Deep: Advancing Systemic Social Innovation and the Learning Processes to Support It (Ridell & Moore, 2015) describes the different strategies for change needed.

Scaling Out - Impacting greater numbers

Scaling out is a strategy of “replicating or spreading programs geographically and to greater numbers” (Ridell & Moore, 2015, p. 4). Scaling out by leveraging the purchasing power of many institutions is an effective way to pull local, sustainable food into existing supply chains and to develop new value chains. However, this work must be done with awareness of a significant existing tension, with the predominant supply chain systems for institutions being large-scale broadline distribution and the predominant supply chain for local and sustainable food being small-scale distribution. Institutions and smaller producers face similar challenges of time, resources, and limited awareness of each other’s needs and resources to establishing new relationships. Both institutions and smaller suppliers need support to resolve issues related to aggregation, distribution, light processing, and food safety traceability requirements, often referred to as “rebuilding the middle”. In particular, direct purchasing relationships between producers and institutions offer a promising area for innovation.

To scale out changes in food services, institutions also need useful information about how others have changed their models and purchasing so they can adapt it to their own contexts. Creating opportunities for peer-based learning and networks can support those who are leading change in their institutions, as they are often not well connected, and was found to be invaluable to participants in the Learning Group.

Scaling Up - Impacting laws and policy

Transforming institutional food services and procurement will require more than change in individual or even groups of institutions, as they will inevitably confront structural barriers to the change they want to make. Policy change must therefore be carried out at a number of levels and sectors. Such change will require collaboration between institutions, governments, and supply chains. Policies and strategies must account for a number of food service variables, including the size of the institution, who is being fed and how often, available kitchen infrastructure, staff cooking skills, decision-making over menus, revenue models, management (self-operated or contracted), and institutional goals.

Sectoral (e.g., school district and health authorities), provincial, and federal leadership is needed to establish institutional procurement policies such as:

- Set benchmarks for increasing local, sustainable food spending.
- Develop procurement policies that ‘level the playing field’ and encourage small businesses to bid on more public-sector contracts.
• Establish criteria for sustainability in procurement of food and food services. A potentially good practice is offered by the Department for Environment, Food and Rural Affairs (DEFRA) in the UK, which developed a Balanced Scorecard for Public Food Procurement (Department for Environment, Food and Rural Affairs, 2014).

• Establish quality standards for institutional food (currently regulated with a patchwork of policies so institutions often default to meeting requirements for food groups and servings outlined in Canada’s Food Guide).

• Resource food services adequately to deliver fresh, local, delicious, healthy meals.

• Install policies that acknowledge the complexity of this work and provide a framework within which individual institutions can start where they are at and take action on their potentially different place-based values.

The current window for national food policy mandated for development by the Minister of Agriculture and Agri-Food Canada (Trudeau, 2015) provides an excellent opportunity for scaling up. Local, sustainable institutional procurement bridges the national policy themes of health, food security, environment, and sustainable growth of agriculture and food sector.

*Scaling Deep—Impacting cultural roots*

“Based on the recognition that culture plays a powerful role in shifting problem domains, and change must be deeply rooted in people, relationships, communities and cultures” (Ridell & Moore, 2015, p.4), scaling deep is a strategy to change norms and beliefs. Learning Group members identified the importance of engaging, celebrating success, and communicating results with all institutional stakeholders. Demonstrating the impacts of changes to food services is particularly vital, as they are often not seen as central to institutional strategic priorities. Initiatives also need to engage eaters and gain their support.

A significant trend was observed that while institutions themselves remain relatively stable, the management structures overseen by governments are in an almost perpetual state of restructuring, particularly in health care. Four of the eight projects in the Learning Group were impacted by major institutional reorganizations that made it difficult to advance in their work as planned. Momentum and continuity were affected when individuals with whom relationships were developed left or were reassigned, and when food services were left (again) with having to do more with less. If there were a culture shift to prioritize and resource food services adequately, it would help to establish the shift to local, sustainable food purchasing in the long term.

*Final thoughts*

This article has shared lessons learned about changing food services and procurement practices by institutions to increase their spending on local, sustainable food. Projects observed the importance of shifting the current narrow institutional understanding of “best
value” as buying food based only on lowest price to a broader understanding of value that includes where food was sourced from, how it was grown, and how it is served to students, patients, families, and staff where they go to learn, heal, and work every day. Institutional demand is a key leverage point to create local, sustainable value chains—using tools from contracts to culture change. With climate change, growing rates of diet-related disease, and economic challenges facing the agricultural sector, we cannot afford any longer to overlook the opportunity to leverage the food purchasing power of schools, hospitals, and campuses to stimulate innovation and long-term growth of the Canadian economy, benefit our health, protect the environment, and generate high value for society.

References


