UNIVERSITY OF ALBERTA
SUSTAINABLE FOOD SYSTEM OPPORTUNITY ASSESSMENT

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The Energy Management and Sustainable Operations unit at the University of Alberta has prepared this report with research, development, and production support from
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"The modern state university has sprung from a demand on the part of the people themselves.... The people demand that knowledge shall not be the concern of scholars alone. The uplifting of the whole people shall be its final goal. This should never be forgotten."

-- Henry Marshall Tory, the University of Alberta’s First President

“Sustainability at the human, social and global levels is one of the most important ideas of the 21st century....All universities have an important role in problem-solving to bequeath a sustainable world to future generations.”

-- Sapporo Sustainability Declaration, Signed by President Indira Samarasekera on July 1, 2008

“No institutions in modern society are better equipped to catalyze the necessary transition to a sustainable world than colleges and universities. They have access to the leaders of tomorrow and the leaders of today. What they do matters to the wider public.”

-- David Orr, professor and author, Oberlin College, from The Last Refuge
As part of the University of Alberta’s continuous efforts to advance sustainability, Energy Management and Sustainable Operations (EMSO), in consultation with the Office of Sustainability (OS), initiated a Sustainable Food System Opportunity Assessment (SFSAO). Food systems are an important element of sustainability and opportunities for enhanced food system sustainability exist within post-secondary institutions as well as specifically within the University of Alberta, City of Edmonton and Province of Alberta. Recent increases in awareness of food systems is coupled with concerns raised around the environmental, economic, and social sustainability of conventional food systems in North America and beyond.

Impacts relating to increasing demand for food, natural resource scarcity, environmental degradation, economic considerations, food security and community health have become part of the broader discussion. Communities from all over the world are now searching for and implementing methods of ensuring the sustainability and resiliency of their food systems in the face of a changing climate and growing world population. Despite these challenges, many opportunities for innovation, health, and community wealth associated with sustainable food systems are increasingly being understood, piloted and refined.

Food system challenges and opportunities create a leadership opportunity for post-secondary institutions. This assessment explores the many aspects of food systems and identifies opportunities for the university to get involved. The purpose of this assessment is to determine if a Campus Food System Initiative is feasible for the University of Alberta.

**Background.** As part of the University of Alberta’s continual efforts to advance sustainability, Energy Management and Sustainable Operations (EMSO), in consultation with the Office of Sustainability, initiated a food system assessment in 2011. The primary objective of this assessment was to explore potential opportunities for lessening the university’s environmental footprint through the development of an overall Campus Food System Initiative (CFSI), which addresses how food is grown, procured, transported, consumed and disposed of as waste on its five campuses. As an initial step toward developing a CFSI, this assessment examines what the university is currently undertaking in the area of campus food systems, presents examples from North America including post-secondary institutions in Western Canada, summarizes feedback from a broad group of university stakeholders and offers options around how to further develop quick win projects and an overarching strategy.

**Assessment Process and Scope:** The process to develop the Sustainable Food System Opportunity Assessment involved research, engagement, and early direction setting. The assessment involved five primary activities:

1. Conducting background research on sustainable food systems;
2. Engaging a range of university stakeholders in the identification of UAlberta food system opportunities;
3. Identifying sustainable food initiatives at other post-secondary institutions.
4. Scanning current food system activities at UAlberta.
5. Developing strategic directions and ideas to form the basis for the next phase of work to develop an overall strategy.

Each of these activities included all five university campuses (North Campus, South Campus, Enterprise Square, Campus Saint-Jean, and Augustana Campus) and considered the linkages of a sustainable food system to facilities and operations, teaching and research, and outreach and engagement.

**Project Rationale:** There are four key reasons to support creation of a Campus Food System Initiative:

1. Support UAlberta institutional priorities
2. Increase sustainability performance and ratings
3. Build on successful existing initiatives and programs
4. Build and strengthen linkages with partners

There are many complex and interrelated regional, provincial, national and global challenges for sustainable food systems in terms of environment, economy, and society. This creates a strong impetus for leadership in places of higher learning to develop new ideas, approaches, and professional skills to engage with these challenges.

**Stakeholder Engagement.** After synthesizing the findings of the background research and initiatives at other post-secondary institutions, University of Alberta stakeholders were interviewed to begin identifying the spectrum of barriers and opportunities for food system activities. Stakeholders also explored the value of creating a sustainable food system strategy. Fourteen groups were engaged, including 40 individuals from academic and administrative departments as well as students and two outside stakeholder groups (Alberta Agriculture and the City of Edmonton). Five key findings emerged in stakeholder interviews:

1. There is significant interest in, and energy behind, pursuing and engaging in a sustainable food system strategy for the University of Alberta.
2. In order to maximize opportunities for sustainable food systems, there is a need for a coordinated and planned approach.
3. The strategy must be tailored for the specific needs and assets of UAlberta, and should contribute to existing university objectives and priority areas.
4. Further research, assessment, and engagement are needed to fully develop a strategy.
5. The university is well positioned to play a leadership role in the ongoing advancement of sustainable food systems.

Overall, the stakeholder engagement process demonstrated that the eventual development of a sustainable food system strategy for the University of Alberta is feasible, well supported, and appropriate. The majority of stakeholders interviewed expressed significant enthusiasm for developing a systematic approach to food as a part of the university’s overall campus sustainability efforts.

**Post-Secondary Initiatives in Sustainable Food Systems.** Universities across the continent and beyond are taking action on food systems. Their experiences engaging this subject matter provide insight into how the University of Alberta could use food as a lens for addressing objectives relating to sustainability and other high-level institutional priorities. In line with this expectation, a discovery exercise was
undertaken to illustrate a sample of best practices from other institutions. The examples identify best practices across facilities and operations, academic programs, and outreach and engagement. In many cases the sustainable food system projects adopted at other institutions integrate all of these elements.

Examples of sustainable food initiatives that fall under facilities and operations include: sustainable food procurement efforts, measuring the GHG footprint of campus food systems, developing dining services sustainability plans, growing food on campus (whether it be through some plots in residence areas or a campus farm), composting organic waste and hosting a campus farmers’ market.

In the area of academic programs, institutions have: created centers for food policy studies, research institutes focused on sustainable food systems, applied human nutrition programs and centers for studies in food security.

A wide range of programs link food with outreach and engagement opportunities like: an urban aboriginal community garden, urban gardening programs that provide produce to people in need, and student-run cafes.

**Scan of current UAlberta activities.** This assessment unveiled a diversity of exciting food-related initiatives already underway at UAlberta. These take the form of everything from community gardens to sustainable food dinners and healthy food cooking classes, to procurement guidelines, to food waste reduction, to an international food research hub. Though there are certainly many examples of initiatives, they are not integrated across the university nor are they comprehensive in scope. This scan reinforced the readiness for continued work on sustainable food at the university, highlighted the diversity of areas into which food initiatives can fit, pointed to early leaders on campus, and showed the opportunity to demonstrate leadership by implementing a coordinated Campus Food System Initiative.

**Findings, Assessment, and Recommendations.** Overall, support for developing and implementing a campus food system initiative at the University of Alberta is strong and there exists a relatively large universe of possibilities for food system initiatives. Many interviewees stressed that work in this area provides an important opportunity for demonstrating leadership as an institution, and that many sustainable food system opportunities are in alignment with the institutional priorities of the University of Alberta. The proliferation of sustainable food system initiatives at comparative institutions highlights the strategic value a multidisciplinary and universal issue like food may lend to innovative operations, teaching, learning, research and outreach and engagement programs.
Based on the findings of this assessment, we recommend the University of Alberta proceed with the development of a Campus Food System Initiative (CFSI) tailored to the University of Alberta.

**Campus Food System Initiative Phases:** Seven overlapping phases are proposed below to guide the university forward on the CFSI.

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**Potential Strategic Directions:** Research into other post-secondary institutions and engagement with stakeholders generated fourteen general categories of what post-secondary institutions are doing or could do. These are:

- Academic Programs and Research Facilities
- Applied Learning Opportunities
- Local Sustainable, and Fair Trade Food Procurement
- Healthy Eating on Campus
- Farmers Markets and Food Trucks
- Growing Food
- Living Laboratories
- Engagement, Communications and Celebration
- Food Waste Reduction, Recovery, and Management
- Plans and Strategies
- Building Design
- Knowledge Mobilization
- Building Community Around Food and Increasing Access to Sustainable Food
- Education and Awareness
1. Introduction

As part of the University of Alberta’s continuous efforts to advance sustainability, Energy Management and Sustainable Operations (EMSO), in consultation with the Office of Sustainability (OS), initiated a Sustainable Food System Opportunity Assessment (SFSoA). The purpose of the assessment is to explore whether current or potential opportunities exist for reducing the university’s ecological footprint through the development of a Campus Food System Initiative (CFSI), which considers how food is procured, transported, consumed and disposed of as waste on its campuses. The assessment also analyzes this potential through the lens of the broader sustainability initiative at the University of Alberta. As a result, the study engaged a diverse audience of stakeholders and identifies additional opportunities where sustainable food initiatives are related to broader institutional goals, including teaching, learning and research and outreach and engagement.
1.1. Purpose and Scope of the Assessment

The scope of this assessment includes all five UAlberta campuses (North Campus, South Campus, Enterprise Square, Campus Saint-Jean, and Augustana Campus) through the comprehensive lens of facilities and operations, academic programs, and community outreach and engagement. As Figure 1 depicts, the Campus Food System Initiative is the broad term for the collective effort, outcomes, and impacts that the university as a whole can achieve.

The Sustainable Food System Opportunity Assessment (SFSOA) provides a baseline for beginning to develop the spine of the CFSI.

The Sustainable Food System Strategy (SFSS) will help to guide and coordinate activities. A SFSS is a strategic plan for enabling an institution or organization to contribute to the development of sustainable and resilient food systems within their areas of influence. Sustainable food system strategies examine opportunities across the stages of the food system, and highlight areas where institutions can take actions that contribute to the growth of sustainable food systems in a manner that benefits both the institution and its local and global communities. By tailoring strategies to the specific needs, challenges and advantages of a given organization, these strategic plans ensure organizations leverage their ability to contribute to food systems solutions as effectively as possible.

The development of the CFSI also involves stakeholder engagement and technical and feasibility testing on ideas the university may wish to pursue. The cumulative actions, activities, programs, pilots and projects that emerge from the strategy will form a university-wide initiative. The core purpose of the assessment, strategy and overall initiative is to develop a collective vision and coordinated strategy that enables UAlberta to increase performance in sustainable food systems and overall campus sustainability.
This Sustainable Food System Opportunity Assessment was initiated with the goal of determining whether or not current or potential opportunities exist for enhancing campus sustainability through the development of Campus Food System Initiative. Through research, engagement, and analysis this assessment explores the landscape of sustainability in food systems and opportunities for UAlberta. Identification of opportunities are based on what UAlberta is already having success in, what other post-secondary institutions are doing, and input from faculty, staff, students, and others.

1.2. Process for Developing the Assessment

The process to develop the Sustainable Food System Opportunity Assessment involved research, engagement, and strategic direction setting. The Energy Management and Sustainable Operations unit at the University of Alberta prepared this report with research, development, and production support from Urban Food Strategies. The assessment involved five primary activities:

1. Conducting background research on sustainable food system trends;
2. Obtaining input and identifying UAlberta food system opportunities through engaging a range of university stakeholders;
3. Identifying sustainable food initiatives amongst other post-secondary institutions;
4. Scanning current food system activities and programs at UAlberta;
5. Developing potential strategic directions and opportunities that provide a compiled list of ideas generated from research, engagement and analysis.

1.3. Rationale for a Campus Food System Initiative

In recent years, concerns have been raised around the environmental, economic, and social sustainability of conventional food systems in North America and beyond. In particular, issues related to increasing demand for food, natural resource scarcity, environmental degradation, economic considerations, food security and community health have become part of the discussion around food systems. The identification of these challenges has led to a renewed focus on strategies for ensuring the sustainability of each step of the food system, from production to waste recovery.

In response to this growing attention to food systems and in support of their overall sustainability objectives, many post-secondary education institutions are examining the impact and role of food on their campuses. In particular, universities and colleges across Canada and the US have come to recognize the integral role that food plays in the student experience, in the satisfaction of their staff, in reaching out to their external communities, as a teaching and learning tool, and most importantly as a significant means for reducing their institution’s ecological footprint. Through recognition of the integral linkages between food, health and sustainability, universities and colleges across Canada and the US are using food as a tool to meet numerous institutional objectives. There are four key reasons for supporting the growth of a CFSI at UAlberta:

1. Supporting U Alberta institutional priorities
2. Building on existing initiatives and programs
3. Increasing sustainability performance and ratings
4. Building and strengthening linkages with partners

Supporting UAAlberta institutional priorities: The University of Alberta is committed to a continuous effort to instill sustainability into the many aspects of university life, on our campuses, throughout our institution and in the larger community of which we are a part. In affirmation of this commitment, the university launched a formal campus sustainability initiative in 2008. The Office of Sustainability serves as a hub for the sustainability initiative which addresses three focus areas: (1) facilities, operations and services, (2) academics (teaching, learning and research), and (3) outreach and engagement.

A Campus Food System Initiative would support the University of Alberta’s larger priorities, vision and mission. More than 100 years ago, the first president of the University of Alberta, Henry Marshall Tory, stated that “…knowledge shall not be the concern of scholars alone. The uplifting of the whole people shall be its final goal.” Today, the university remains committed to Tory’s ambition and has adopted “to inspire the human spirit through outstanding achievements in learning, discovery, and citizenship in a creative community, building one of the world’s great universities for the public good,” as its official vision. From a historic perspective, one hundred years ago UAAlberta was very strongly focused on food and farming and a sustainable food system initiative is a way to reconnect to the origins of the university.

The sustainability challenges faced by current conventional food and agricultural systems constitute a very significant global social problem. By assessing the sustainability of its food system, and promoting awareness around food sustainability issues, the University of Alberta can contribute to the development of solutions to issues that impact all communities, local and global through an issue as universal and accessible as the food we put on our tables.

A sustainable food system strategy also has the potential to contribute to several institutional priorities outlined in the university’s Academic Plan, Dare to Deliver. Some important opportunities that may be created through the development of a sustainable food system strategy include: creating experiential and discovery learning opportunities, leveraging university facilities as ‘living laboratories,’ improving student and staff experiences on campus, and engaging the surrounding community.
Building on existing initiatives and programs: There is a large diversity of exciting food-related initiatives already underway at UAlberta (Please see chapter 5 for a full scan). These activities include everything from community gardens to sustainable food dinners and healthy food cooking classes, to procurement guidelines, to food waste reduction, to an international food research hub. Each year the University of Alberta spends over $5 million on the procurement and provision of food on its campuses. As a result, the university has a tremendous opportunity to use its purchasing power to positively impact the development of sustainable food systems, within the region and beyond.

Increasing sustainability performance and ratings: The relationship between the sustainability of campus food systems and overall institutional sustainability has been affirmed by the external sustainability assessment tools/surveys in which the University of Alberta participates such as the Association for the Advancement of Sustainability in Higher Education’s (AASHE) Sustainability Tracking, Assessment and Rating System™ (STARS®). The STARS® version 2.0 rating system provides points in 70 categories under four themes of Academic Programs (AC), Engagement (EN), Operations (OP), and Planning & Admin (PA). Sustainable Food Systems are linked to many of the categories and all of the themes. The following categories demonstrate how activities in food systems can help to increase the university’s overall sustainability rating.

- **OP 6: Food and Beverage Purchasing**\(^2\) - This credit recognizes institutions that are supporting sustainable food systems through their food and beverage purchases. Institutions can do this by prioritizing the purchase of sustainably produced food and beverage items. These actions reduce the social and environmental impacts of food production and help foster robust local economies and food security; improved conditions for farm workers; healthier animals, soils and streams; and secure livelihoods for farmers.

- **AC8: Campus as a living laboratory**\(^3\) - This credit recognizes institutions that utilize their infrastructure and operations as living environments for multidisciplinary learning, applied research and practical work that advances sustainability on campus. Students that actively participate in making their campuses more sustainable are well prepared to continue that work in their careers and communities after graduation.

- **OP23: Waste Diversion**\(^4\) - This credit recognizes institutions that are diverting materials from landfills and incinerators and conserving resources by recycling and composting.

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\(^2\) [http://www.aashe.org/files/documents/STARS/2.0/stars_2.0.2_credit_op_6.pdf](http://www.aashe.org/files/documents/STARS/2.0/stars_2.0.2_credit_op_6.pdf)

\(^3\) [http://www.aashe.org/files/documents/STARS/2.0/stars_2.0.2_credit_ac_8.pdf](http://www.aashe.org/files/documents/STARS/2.0/stars_2.0.2_credit_ac_8.pdf)

\(^4\) [http://www.aashe.org/files/documents/STARS/2.0/stars_2.0.2_credit_op_23.pdf](http://www.aashe.org/files/documents/STARS/2.0/stars_2.0.2_credit_op_23.pdf)
• **EN 3: Student Life** \(^5\) - This credit recognizes institutions that have co-curricular programs and initiatives that contribute to students learning about sustainability outside of the formal classroom.

• **PA 2: Sustainability Planning** \(^6\) - This credit recognizes institutions that have developed comprehensive plans to move toward sustainability.

**Building and strengthening linkages with partners:** The development of a Campus Food System Initiative for the University of Alberta provides opportunities for partnering with other levels of government.

In May 2011, the City of Edmonton announced the launch of its Food and Agriculture Policy Project,\(^7\) and in November 2012 the City adopted *fresh: Edmonton’s Food & Urban Agriculture Strategy*. The strategy was developed through a public consultation process and proposes recommendations to “position the City of Edmonton to become a leader in municipal food and urban agriculture initiatives.”\(^8\)

The Government of Alberta has also demonstrated its commitment to encouraging the sustainable development of food systems within the province. The Ministry of Agriculture and Rural Development has adopted two strategic priorities in its 2009-2012 Business Plan\(^9\) relating to the issue of sustainability in food and agricultural systems: “enhanced environmental stewardship” and “collaboration that enables resilient rural communities” (ARD 2009, p. 31). The Ministry also lists environmental stewardship as a key objective (ARD 2009, p. 33), and has identified several strategies relating to climate change objectives, water conservation, and encouraging producers to adopt environmentally sustainable agricultural practices. With respect to local food and rural development, the Alberta Agriculture and Rural Development recently launched its *Explore Local*\(^10\) initiative, which provides services and expertise to mid-size producers, chefs, industry associations, and consumers interested in building a sustainable food system within the province.

Northlands recently launched *Alberta Flavour*\(^11\), an incubator initiative to support the development and testing of various local products in a commercial food service setting.

Northlands and the City of Edmonton recently initiated a Food Procurement Working Group with a

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\(^5\) http://www.aashe.org/files/documents/STARS/2.0/stars_2.0.2_credit_en_3.pdf  
\(^6\) http://www.aashe.org/files/documents/STARS/2.0/stars_2.0.2_credit_pa_2.pdf  
\(^10\) http://www.northlands.com/our-events/agriculture/alberta-flavour/  
goal to increase the amount of Alberta food purchased by large institutions in the Edmonton region. The University of Alberta is an active participant of this group.

1.4. Food System Assessment Overview

This report reflects the process that was followed to conduct the assessment, and as such is arranged into the following chapters:

2. Background on Sustainable Food Systems
3. Stakeholder Engagement
4. Post-secondary Initiatives in Sustainable Food Systems
5. UAlberta Sustainable Food System Activities Scan
6. Findings, Assessment, and Recommendations
7. Moving Forward: Potential Strategic Directions & Opportunities
8. Conclusion
2. Background on Sustainable Food Systems

This section provides background information on sustainable food systems and their impacts on the environmental, economic and social sustainability of a region. In particular, it addresses three foundational questions:

- What is a food system?
- What is a sustainable food system?
- Why is there a need for innovation within our current food systems?
2.1. What is a Food System?

A food system is the cycle of farming/growing, processing, transporting, distributing, celebrating, and recovering food waste in the context of larger natural, social, political, and economic driving forces (Figure 2). Food systems exist on multiple, sometimes interacting, scales: local, regional, national and global. Sustainable food systems are defined by the geographic, climatic, political, economic, and social contexts they exist in. The six major components are:

**Primary Food Production** — the primary process of growing, raising, hunting, fishing and harvesting of food, including rural and urban agriculture.

**Processing & Storage** — the process of altering raw foodstuffs to create a different, more refined product. Storage is often required at the processing stage. Examples include preserving, cooking or baking, preparation, meat processing, grain milling, and other value-adding operations.

**Distribution and Transportation** — the transportation and distribution of both raw and processed food products.

**Buying and Selling** — the retailing, wholesaling, and purchasing of food products. This takes place at a variety of locations from the farmgate, to grocery stores, to farmers’ markets, to restaurants.

**Eating, Culture, & Celebration** — the act of consumption and enjoyment of food. This can include food-related events, and eating in both the public and private realms.

**Waste Recovery** — the diversion, management, and utilization of organic waste (for example, as an energy source or as fertilizer using recycled nutrients).

**Education, Teaching, and Research** — Within all elements of the food system, there are education, teaching and research opportunities to increase knowledge from basic food skills to innovations in food production and distribution.

This Sustainable Food System Assessment considers all elements of the food system.
2.2. What is a Sustainable Food System?

The multitude of challenges posed to current food and agricultural production models has led to a renewed focus on strategies for ensuring the sustainability of each step of the food system from production to waste recovery. A sustainable food system is built on principles that further the ecological, social, and economic values of a community and region. A sustainable food system:

- Is secure, and therefore reliable and resilient to change (e.g. environmental changes, climate change, rising energy prices), and accessible to all members of society;
- Is energy efficient;
- Is an economic generator for farmers, whole communities and regions;
- Is environmentally beneficial or benign;
- Uses water reclamation and conservation strategies for agricultural irrigation;
- Balances food imports with local capacity;
- Adopts regionally-appropriate agricultural practices and crop choices;
- Works towards organic farming;
- Preserves biodiversity in agro-ecosystems as well as in crop selection;
- Diverts organic waste and builds soil quality and farmland by recycling organic waste;
- Recovers and reduces food waste;
- Is socially just and provides healthy food for everyone;
- Ensures food processing facilities are accessible to farmers and processors;
- Contributes to community health;
- Is fairly traded by providing a fair wage to producers and processors locally and abroad;
- Is celebrated through community events, markets, restaurants, etc.; and
- Has a strong educational focus to create awareness of food and agricultural issues.

In addition to the characteristics listed above, sustainable food systems and regionalized supply chains they entail contain significant potential for economic development and advancing rural sustainability. By effectively connecting the abundant supply of food, fuel, feed and fiber in the rural areas with urban demand, sustainable food systems can be a powerful economic driver that benefits communities beyond the University of Alberta.

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2.3. The Need for Innovation in the Field of Sustainable Food Systems

Modern food systems are the products of long periods of evolution and growth. The past hundred years has seen dramatic increases in the output, productivity and scale of the commercial agricultural sector. Increasing agricultural outputs have been accompanied by an increasing dependence on fossil fuel inputs and as a result, today’s food system is heavily dependent on non-renewable energy sources.

The abundance and relative affordability that characterizes our modern food system has unfortunately come with some unintended consequences. While the planet has never produced so much food in human history, the environmental and social costs of modern food systems have increased. There are now growing concerns about whether the trends of increasing productivity per acre of land can continue while maintaining or restoring the natural resource base upon which agriculture depends. Food insecurity also persists in every country, even the most affluent, causing significant increases to the cost of health care and quality of life. Increasingly, food systems are being determined by private interest, and wealth generated from the many dimensions of food systems is being concentrated in a smaller number of power brokers. Specific global and local trends and challenges to the sustainability of our current food systems include environmental degradation, economic concerns, and social issues. These are described below in terms of the need for innovation and creativity in 21st Century food systems.

FOOD SYSTEM CHALLENGES IN ENVIRONMENTAL SUSTAINABILITY

The gains in productivity characterizing North American agriculture over the past century are the result of a food production system that is increasingly large-scale, input dependent, based on mono-cropping techniques, and concentrated animal production. While this model has its advantages in terms of available food quantity and reduced purchasing prices, it has also brought with it several unintended consequences, which now pose a serious challenge to the ecological sustainability of our current food and agricultural system. These trends and challenges are described below.

Decreasing air quality. Conventional farms release several air pollutants into the atmosphere, including nitrous oxide (N\(_2\)O), methane (CH\(_4\)), ammonia, and particulate matter. Many of these pollutants are also potent greenhouse gases (e.g., N\(_2\)O and CH\(_4\)).

Decreasing biodiversity. The resiliency of crops and their ability to adapt to future circumstances such as new cropping systems or global climate change depend on access to genetic variation. Yet, large-scale mono-crop farming systems are one factor that has contributed to a dramatic reduction in crop genetic diversity throughout the world.

Soil quality. Soil quality can be degraded by physical, chemical or biological sources. Some examples include: irrigation, which in the absence of proper drainage can lead to salinization; soil tillage, which can lead to increased soil loss through wind and water erosion; and toxification, which can result from excessive fertilization and pesticide use. In addition, modern agriculture’s production of a few species of crops, with limited diversity and rotation, is antithetical to nature’s tendency for diversity that leads to

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14 Monocropping is the agricultural practice of planting the same crop on the same land without rotation to other crops.
higher-quality soils. Soil quality degradation can be self-reinforcing, as depleted soils require higher levels of the very inputs that cause degradation. Desertification, the elimination of microbes and organic matter from soil, is a worldwide phenomenon affecting about two-thirds of the world’s countries and one-third of the earth’s land surface.15

**Changes in diet.** Global meat demand is projected to double by 2020.16 As a result of this increase, more land will be required to produce grain to feed the livestock causing an increase in the rate of deforestation, methane gas release, and point source pollution.17 Other agricultural commodity groups are also expected to increase in demand and production including dairy and coffee, both land and process intensive products.

**Rise of biofuels.** The increase in biofuel production has had many environmental impacts including displacing agricultural lands that effectively drive up food prices and reduce self-sufficiency,18 increasing pesticide and fertilizer use, increasing irrigation requirements, and relying on non-renewable energy for production, processing and distribution. Palm oil imports from South to North America for biodiesel production are also associated with deforestation and a lack of environmental regulations.19

**Degree of food waste.** Globally, half of all food produced is wasted, pre- and post-consumer, and much of this is edible.20 In the US, this represents $48 billion that disappears from the food economy.21 Consumer expectations for perfect and uniform produce drives stores to eliminate many foods that are edible and nutritious. Often this organic waste, heavy and high in water content, is not separated from the main waste stream, causing more trips to the landfill as well as methane gas emissions as food waste breaks down.

**Decreasing Land availability.** Increasing urbanization and growth of cities often comes at the expense of cropland. Like many urban centres in Canada, the population of the City of Edmonton is expected to increase significantly by the end of the decade, from 877,000 to 1 million people and is expected to top 2.1 million people in less than 50 years.22 Historically this growth has been accommodated in the form of low-density development builds on prime agricultural land, which has permanently reduced

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opportunities for agriculture close to where people live. In Edmonton, prime agricultural soils exist within city limits, and yet Edmonton has lost approximately 75% of its Class 1 soils since 1982.\textsuperscript{23}

**Water availability.** In Alberta, the agricultural sector is by far the largest user of freshwater, accounting for approximately 63 per cent of all water consumed in the province (followed by the industrial sector at 13 per cent).\textsuperscript{24} Although some new innovations in irrigation technology have led to more efficient water and energy use, water scarcity will likely be a challenge for agricultural producers in the future as overall demand for limited fresh water resources continues to grow.\textsuperscript{25}

**Climate change and energy security.**

Global climate change poses a series of different threats to current food and agricultural systems. Conventional food systems in North America are almost completely dependent upon fossil fuels. Production, transportation, packaging, processing, refrigeration, preparation and other food system components – excluding household cooking – require 10 units of energy for every unit of energy produced in the form of food (Figure 3). A by-product of this energy-intensive system is the substantial amount of greenhouse gases released into the atmosphere by Canada’s agricultural sector. GHG emissions in Canada’s agricultural sector increased by 19 per cent over the period between 1990 and 2009, accounting for 9 per cent of the country’s overall increase in GHGs over the same period\textsuperscript{26}. It is likely that future national and sub-national responses to climate change will increase the cost and limit the availability of fossil-fuel based inputs. Growing awareness of this issue has encouraged many farmers and consumers to look towards organic agriculture, which involves relying mainly on energy from the sun rather than high-input conventional agriculture that depends on natural gas dependent synthetic fertilizers and pesticides.\textsuperscript{27}

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\textsuperscript{27} Michael Pollan. “Farmer in Chief”. The New York Times. Published October 9, 2008.
Climate change also significantly threatens North American food systems through the production of increased risk and uncertainty with respect to regional precipitation rates, the frequency of extreme weather events like droughts and floods, and proliferation of insect pests, which in turn leads to increased crop vulnerability.\footnote{28 Natural Resources Canada. “Climate Change Impacts and Adaptation: A Canadian Perspective.” 2004.}

**FOOD SYSTEM CHALLENGES IN ECONOMIC SUSTAINABILITY**

In certain regards, the global food system has never created so much wealth since the planet has never produced as much food as it does at current levels. Despite these accomplishments, millions of people globally are undernourished and the family farm economic model has been all but dismantled. There is nothing necessarily inherently good or bad about the nature of small vs large farms, but addressing the challenges described below and providing equal economic opportunity for all food and farm businesses promises to generate the most wealth and benefits.

*Decreasing viability of agriculture in Canada.* In recent years, it has become increasingly difficult for farmers to maintain their livelihoods on the prairies, and there are signs that young people are being deterred from entering the industry, as the average age of farmers increases every year.\footnote{29 Statistics Canada 2011 Census of Agriculture. Retrieved Sept 24, 2013: http://www29.statcan.gc.ca/ceag-web/eng/index-index?fpv=920} Increases in farm incomes over the past forty years are basically cancelled out by increases in the costs of production, including the increasing prices of fuel and fertilizer. More recently, farm advocates have decried the loss of mid-size family farms, which are seen as important for rural sustainability and local economies.\footnote{30 Lobao, Linda and Curtis S. Stofferahn. “The Community Effects of Industrialized Farming: Social Science Research and Challenges to Corporate Farming Laws. *Agriculture and Human Values* 2008: 25 (2), 219-240.} Encroachment from urban development on agriculture land can drive land values up making good farmland vulnerable to speculative land purchases as well as cause conflict with nearby urban land uses.

*Loss of skilled labour and farming knowledge in agriculture.* As mid-size farmers retire or are squeezed out by large-scale mono-crop industrial agriculture, communities are losing the capacity to feed themselves fresh, healthy, local food. Moreover, the absence of a vertically integrated local economy that specifically addresses agri-business represents a risk to the future economic competitiveness of cities like Edmonton. Local food and agriculture can be powerful economic drivers whose true potential has not yet been fully realized in Canada.

*Costs of conventional agriculture systems.* As the environmental and health risks associated with fertilizer and pesticide use are recognized, there has been a significant increase in consumer preferences for organic products with a tripling of organic sales in mainstream retail over the past six years.\footnote{31 Canada’s Organic Market (2013). Canada Organic Trade Association: http://www.ota.com/pics/media_photos.199.img_filename.pdf} Longitudinal studies have also shown that organic production practices provide better yields over time,
generate more profit, and require less energy and create less GHGs, than conventional systems (See Figure 4).  

**Import Redundancy.** A study by the Region of Waterloo demonstrates how Canada is importing many of the same foods that it is exporting. Between July and September of 2005, Ontario exported $69 million in fresh tomatoes. During the same period, the province imported $17 million in fresh tomatoes. Likewise, 54,000 tonnes of apples, a fruit that grows in many of the climatic zones in Canada, were exported while 159,000 tonnes of apples were imported from other countries. This import redundancy is seen as a key challenge and opportunity for regional and provincial economic development and 

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content/uploads/2012/12/FSTbookletFINAL.pdf


represents a significant leakage of value from the food and agriculture sectors in Canada, including Alberta and Edmonton.

**Loss of potential local economic multipliers.** The multiplier effect is the amount of local economic activity that is triggered by the purchase of any one item. In Canada local food generally has between a 1.4 and 2.6 multiplier—that is, one dollar spent locally generates between 1.4 and 2.6 times that value for the local economy.\(^{35}\) Even small shifts towards local can have significant impacts on the regional economy. In a study done in Northeast Ohio, it was found that meeting 25% of local demand with local production created 28,000 new jobs and increased annual regional output by $4.2 billion.\(^{36}\) Without making room for regional producers, processors and food businesses, this value is exported to other provinces and countries.

**FOOD SYSTEM CHALLENGES IN SOCIAL SUSTAINABILITY**

**Food quality and safety.** Some evidence\(^ {37}\) suggests that though modern plant breeding techniques have led to huge increases in yield-per-acre, the increases in size and yield have diluted the crops nutritional content and flavor. Additionally, food that spends more time on the road between producer and consumer has a longer period in which to experience nutrient loss. Modern centralized food production and postharvest processing have led to heightened risk of food-borne illness and pathogens, as indicated by the number of food recalls in Canada and the US.

**Food security.** Despite the advances made by our current food systems, Canadians and Albertans still suffer from inadequate access to affordable food, malnutrition and hunger. While much of the problem reflects a lack of sufficient household incomes, other issues aggravate food insecurity. Some people live in ‘food deserts’\(^ {38}\) and do not have ready access to grocery stores. Domestic and international food security is also exacerbated by volatility in farm commodity prices, global shifts in market supply and demand, and the competition for agricultural products from the bio-fuels sector.

**Individual and community health.** Many people in Canada do not have access to healthy food choices and this is related to a dramatic increase in obesity and obesity-related diseases in adults and children. The treatment of diet-related illnesses has been estimated to cost the


\(^{38}\) Food deserts are areas without reasonable geographic access to healthy food sources.
Canadian health care system over one billion in direct costs and three billion in indirect costs every year.\(^{39}\)

Obesity is impacted by social and cultural factors. In addition to an overall relative lack of access to healthy foods, modern food systems have also been implicated in the obesity epidemic for providing constant consumer access “to virtually unlimited volumes of relatively inexpensive, calorie-dense, to all people in all places at all times, through supermarkets, catering, vending, takeout, home-delivered, drive through and fast/snack foods.”\(^{40}\)

Other environmental factors, such as environments that discourage physical activity, also contribute to obesity.\(^{41}\)

The spread of obesity and the rising ecological impacts of current food systems are closely related. Many observers have noted that generally solutions for reducing the ecological impacts of food production also contribute to improved health outcomes.\(^{42,43}\) According to the World Health Organization, for example, “the solutions for the concerns surrounding food and health are in line with solutions for protecting the environment and promoting sustainable rural development.”\(^{44}\)

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\(^{43}\) Swedish Environmental Protection Agency (1999). A Sustainable Food Supply Chain: A Swedish Case Study. Stockholm, Swedish Environmental Protection Agency.

3. Stakeholder Engagement

Fourteen groups including 40 individuals from academic and administrative departments as well as students and two outside stakeholder groups (Alberta Agriculture and the City of Edmonton) were interviewed as part of this opportunity assessment. These individuals and groups were asked a series of questions and the responses to these questions were used to assist with determining the feasibility of a campus food system initiative at UAlberta.

45 Please see Appendix A for a full list of departments and positions of participants
The interviews were focused around these key questions:

- To what extent, if any, do you believe it is important for the University of Alberta to take actions to further the sustainability of its campuses’ food systems?
- If the University of Alberta were to decide to further pursue the development of a sustainable food system strategy, what benefits, if any, would development of this strategy provide to the university?
- What is already happening on our campuses in relation to sustainable food systems?
- What opportunities do you see for further action in the area of sustainable food on our campuses?
- Can you identify any possible challenges to further action on sustainable food system at the university?
- Are there any specific university food system initiatives you would like to see explored further for possible implementation at the University of Alberta?

This section presents the findings of the interviews in the form of an overview and reviews key considerations for a Campus Food System Initiative using major themes that emerged during stakeholder discussions. This section provides an introduction to the UAlberta context and its impacts on any future development of a sustainable food system strategy.

### 3.1. Engagement Findings

A wide range of staff, faculty and students spoke about the current scope of food system activities they were involved in and the opportunities they saw. Overall, the idea of creating a sustainable food system strategy at the University of Alberta was positively received and well supported, and the majority of stakeholders interviewed expressed significant enthusiasm for developing a systematic approach to food as a part of the university’s overall campus sustainability efforts. There was consensus among most interviewees that the strategy should touch all facets of university activities and that it should be tailored specifically to the University of Alberta context. Interviewees recommended that the strategy start out small, and focus on short-term goals where the university could make significant progress relatively quickly, or as one stakeholder suggested ‘dig where the ground is soft.’ Focusing on low-hanging fruit would provide the initiative with early success to gain momentum, while allowing more time to develop long-term targets and strategies for more comprehensive change.

Overall, the idea of creating a sustainable food system strategy at the University of Alberta was positively received and well supported, and the majority of stakeholders interviewed expressed significant enthusiasm for developing a systematic approach to food as a part of the university’s overall campus sustainability efforts.
Throughout the interview process, it became clear that there is a strong commitment to sustainability across the leadership, faculty, staff and student body at the University of Alberta. As well, the institution houses considerable expertise in the areas of sustainable operations, food systems and health. Current initiatives in these areas include food production, processing, health, education, community partnerships, infrastructure, waste management, research, innovation and much more. The potential development of a sustainable food system strategy for the University of Alberta offers significant opportunities for multi-disciplinary and synthesized approaches. For example, while many noted that there were already activities and events related to sustainable food underway at the university, they felt these efforts suffered from the lack of an integrated overall approach. A potential sustainable food system strategy could unite these disparate efforts and leverage existing resources under one united, visible, umbrella initiative.

Several key themes emerged repeatedly from consultations with various stakeholders. These themes are summarized here as important considerations for any future efforts to create a sustainable food system strategy.

**Made at UAAlberta.** It is key to tailor the strategy to the university’s unique strengths and context in order to build on the assets and opportunities already in place. The university has its own strengths that contribute to this project, including a long agricultural heritage, a strong commitment to sustainability, and a keen interest in creating experiential learning opportunities, among many others. However, the UAAlberta context also has a number of characteristics that constitute challenges a strategy will need to overcome (including existing relationships with its contractors and its relatively cool climate). A sustainable food system strategy will need to consider all aspects of the university situation in order to ensure the university can leverage its strengths and develop realistic strategies for overcoming barriers.

**Phased approach.** Given the range of directions and opportunities that are possible for UAAlberta, the strategy must consider a phased approach that provides early wins to gain momentum as well as mid to long term projects to ensure continuous improvement, long-term success and an integrated approach. Further, the strategy must be in line with the overall university goals and build on existing programs and capacities, wherever possible.

**Defining sustainable food.** There are a number of different ways to define sustainability in the context of food systems. For some people, sustainability may mean local food, grown within 100 miles of an institution. For others, it means produce and meat grown organically. Other modifiers...
and ideas, like low-carbon diet, wild game, reduced-meat, reasonably-priced, wholesome, and nutritious, were also suggested by interview participants. Although there is considerable objective evidence about what constitutes sustainable food choices, debate over the best directions persists. A UA food system strategy should strive to define sustainable food systems broadly and work to encourage continued education and debate on the university’s campuses about sustainability in food systems.

**Improvements to existing operations.** Interviewees highlighted a number of areas in the current campus food system where they felt significant improvements could (and should) be made. In particular, interviewees highlighted an overall lack of labelling and promotion of existing sustainable choices, waste created by excessive use of disposable containers and other packaging, a lack of good facilities for students, staff and faculty who bring their own food for lunch, and the need to procure more locally grown or third party certified sustainable food options. Although these initiatives vary in degree of difficulty, it should be noted that existing contract food providers indicated in interviews a willingness to work together to find mutually beneficial solutions.

**Food, sustainability, and health.** Many interviewees highlighted the intrinsic links between food, environmental sustainability and social sustainability. In particular, respondents felt that any food strategy would need to also consider the contribution made by sustainable foods to overall community health. A number of participants expressed frustration that the university does not do more to promote healthy choices with respect to food and welcomed the opportunity to contribute to achieving multiple objectives relating to the environment and population health, through the creation of an environmentally and socially responsible food strategy at the University of Alberta.

**Student leadership.** Students that were interviewed were very interested in and motivated by developing a sustainable food system and sustainability as a whole. As students play a central role in both developing and actualizing the sustainable food system, their energy will not only ensure that ideas and creativity from the student body are incorporated but also that students have a key role in the longevity and success of the strategy.

**Outreach and engagement.** The deans and senior administrators interviewed indicated that an initiative like this would fit very well with a number of university priorities in the areas of engagement and outreach. In particular, they identified significant opportunities for experiential learning through sustainable food programs, like on-campus gardens, student-run cafes or farmers’ markets. They also acknowledged that food as a universal pursuit provides an important but untapped mechanism for
outreach, community-building and celebrating cultural diversity among international students, faculty and staff on campus.

**Resources.** In considering new initiatives and programs, the resource requirements will need to be addressed in the strategy moving forward. This might include reallocation of existing resources, including leveraging existing research and knowledge in these areas, developing cost neutral initiatives, internal allocation, or new funding through external partnerships.

**Opportunity for leadership.** Food systems have recently entered the mainstream as a focus area for government, business, and universities. Their universality, innate multidisciplinary character and the added complexity of marrying social, ecological and health objectives means that universities have a substantial opportunity to contribute to the public good through the research, innovation, and promotion of sustainable food systems. In other words, the challenge of feeding a growing population in a way that ensures ecological integrity, health outcomes, and equity for generations to come represents an intransigent problem. Not only are universities, as institutions of knowledge and advancement, uniquely posed to provide leadership in this area, the scale of the challenge suggests there are tremendous opportunities for universities to distinguish themselves through engagement with food systems.

In addition to the general themes discussed above, interview participants also identified a wide variety of specific ideas for actions or initiatives that could be investigated for possible inclusion in a future University of Alberta sustainable food system strategy. These ideas are listed below in section 7.2, Early Strategic Directions and Initiative Options.

### 3.2. Overall Conclusions

Based on input from stakeholders, a Campus Food System Initiative for the University of Alberta is appropriate, well-supported, and feasible. The conclusions that may be drawn from the wealth of information that was collected through the interviews are:

- There is significant interest in and energy behind pursuing and engaging in a sustainable food system strategy for the University of Alberta.
- Sustainability in UA’s food systems must incorporate a triple-bottom-line approach that considers environmental, economic, and social sustainability.
- In order to maximize opportunities for sustainable food systems, there is a need for a coordinated and planned approach.
- The strategy must be tailored for UA’s specific needs and assets, while also considering the full range of constraints and opportunities.
- The strategy should contribute to existing university objectives and priority areas.
- There are already many good ideas for actions to assess and consider.
- Further research, assessment, and engagement are needed to fully develop an implementable, phased strategy.
- The university is well positioned to play a leadership role in the ongoing advancement of sustainable food systems.
4. Post-Secondary Initiatives in Sustainable Food Systems

Universities across the continent are taking action on food systems. This section scans and annotates sustainable food system activities from across Canada and the US. These examples have been organized into seven themes:

1) Academic programs
2) Local, sustainable and fair trade procurement
3) Healthy eating on campus
4) Farmers’ markets and food trucks
5) Growing food and living laboratories
6) Food waste reduction, recovery and management
7) Engagement, communications and celebration
The best practice set presented below is not intended to be an exhaustive inventory, but rather a snapshot of the many actions other leading universities are taking towards building more sustainable food systems on their campuses. For the purposes of this research exercise, the practices of comparable institutions are simply stated to inform the reader and not as a comment on what is necessarily best suited to the University of Alberta’s institutional context. The implementation of any sustainable food system initiative will need to be subject to further assessment with respect to its suitability to the university.

In order to identify post-secondary institution food system activities that are applicable to UAlberta, the project team identified several research guidelines for identifying examples. Research guidelines included:

- Work from what is known as best practices.
- Search for other northern climate institutions.
- Focus on institutions with available information on their food system activities.
- Research activities that apply to facilities and operations, academics, and community outreach and engagement.

Based on Internet research, the project team used the guidelines to identify themes and generate a sorted list of post-secondary examples in sustainable food system activities.

Each of the seven themes are discussed in three parts: 1) An opportunity overview that describes the main elements and examples of common challenges and responses, 2) A summary of key university collaborators that outlines groups typically engaged in the post-secondary initiative examples presented, and 3) North American post-secondary examples that annotates post-secondary food system activities. Three in-depth case studies have also been provided that highlight food system related university activities that are established and provide inspirational examples for future discussions at the UAlberta.

These themes and examples are not intended to be exhaustive, but rather to illustrate the many ways in which post-secondary institutions are engaging in sustainable food systems. Further research and feasibility testing is needed to determine the level of appropriateness and fit for UAlberta.
4.1. Academic Programs

OPPORTUNITY OVERVIEW: Over the past several years, there have been a growing number of post-secondary institutions forming centres of excellence and academic departments that address food, as well as courses, certificates, and degree programs with varying levels of hands-on learning opportunities. Academic programs that relate to food systems tend to be interdisciplinary and multifaceted. Some programs are very applied, providing a learning environment for new farmers, food processors, and chefs. Other programs are focused on technological innovations in growing food and creating new food products, for example. Other programs yet focus on food policy and design. Many institutions have created centres or institutes for research, innovation, etc. in the area of sustainable food systems. Many institutions also have long histories of research and teaching in food and agriculture dating back to the late 1800s and have evolved towards integrating a sustainable food system platform within programs. Other programs have been established through student advocacy as well.

One consideration for academic programs related to sustainable food systems is to consider the regional and provincial opportunities. Indeed, Alberta as a province is strongly committed to agriculture so sustainable food systems research seems like an area ripe for expansion. As one example, UAlberta is in the unique situation of being a major university in a Northern Climate. This means a shorter growing season that could provide an opportunity for research and development in cold-weather production systems or theoretical discussions around what sustainable regional food systems look like for Edmonton and other Northern communities in Canada, among many other topics.

KEY UNIVERSITY COLLABORATORS: Academic departments and faculty are the natural lead on developing programs around sustainable food systems. However student groups, industry partners, and community collaborators can also play an important role in initiating and shaping academic programs, and there is the potential to use campus facilities as “living laboratories.”

NORTH AMERICAN POST-SECONDARY EXAMPLES: There are an increasing number of sustainable food system related academic programs in North American post-secondary institutions. These examples fall across a spectrum ranging from new emerging programs to well-established centres and institutes. Institutions that have established programs have been described below. A table summarizing examples of a wider breadth of academic programs is also offered in order to capture the diversity of programs.
M.S. IN FOOD SYSTEMS AND SOCIETY, DEPARTMENT OF FOOD SYSTEMS & SOCIETY
MARYLHURST UNIVERSITY

Beginning in September 2013, Marylhurst University offers a two-year graduate degree program that “delves deeply into ideas and practices for improving health, equity, and sustainability in our food systems.” It combines seminars and classes both online and in person to create a rich and flexible learning environment, and integrates theory and practice in an interdisciplinary, well-rounded program. Specific focuses on social change and social justice within food systems are unique aspects of this program.


SUSTAINABLE AGRICULTURE AND MODEL FARM, FACULTY OF LAND AND FOOD SYSTEMS
UNIVERSITY OF BRITISH COLUMBIA FARM

The Centre for Sustainable Food Systems, within the Faculty of Land and Food Systems, runs the UBC Farm, which hosts more than 100 academic initiatives including research projects in six UBC faculties. These initiatives represent a broad spectrum of research areas including climate change, community health, and preservation of biodiversity worldwide. Some of the initiatives on-site included next-generation biofuel development and basic research in evolutionary biology (Science), behavioral neuroscience (Arts), mass spectrometry-based proteomics (Medicine), bio-fertilizer development (Applied Science), animal welfare, avian genetics, and soil conservation (Land and Food Systems).

More: http://ubcfarm.ubc.ca/

INSTITUTE FOR SUSTAINABLE FOOD SYSTEMS, DEPARTMENT FOR SUSTAINABLE AGRICULTURE AND FOOD SYSTEMS
KWANTLEN COLLEGE

Kwantlen College’s Institute for Sustainable Food Systems is an applied research group that explores questions around municipally supported agriculture and bio-regional food systems. The Richmond Farm School, a government, university, non-profit collaboration, provides a hands on learning experience for student farmers.

More: http://www.kpu.ca/science/agriculture
The University of Guelph offers the only undergraduate major program in organic agriculture in Canada, and offers both academic courses as well as applied learning through its Guelph Centre for Urban Organic Farming (GCUOF), a one-hectare hands-on educational farm. In addition to providing practical training to students, the GCUOF farm is a market garden and community networking centre, including connections with the Canadian Organic Growers and the Ecological Farmers Association of Ontario.

More: [https://www.uoguelph.ca/gcuof/home](https://www.uoguelph.ca/gcuof/home)

The City University of New York’s Brooklyn College is home to the Aquatic Research and Environmental Assessment Center, where research is conducted on land-based aquaculture termed “urban aquaculture” by the center’s founder. These re-circulating aquaculture systems can be run virtually anywhere - in warehouses, on brownfield sites, or at home - utilizing the hydroponic component of aquaponics to clean the water. The college has a 15,000 square foot facility dedicated to basic and applied studies of aquatic organisms and the environments they inhabit.


The Center for Integrated Agricultural Systems (CIAS) is a research center established at the University of Wisconsin-Madison in 1989. The goal of the CIAS is to learn how integrated farming systems can contribute to environmental, economic, social, and intergenerational sustainability. CIAS staff members work with a Citizens Advisory Council and a group of Faculty Associates to create flexible, multidisciplinary and education training programs. In addition to publishing regular research briefs on questions related to sustainable agriculture in Wisconsin, the CIAS also operates several initiatives geared to enhancing long-term rural sustainability; examples include several schools for beginning dairy farmers, market growers, apple growers and cut flower growers and numerous training opportunities designed to help mid-size farmers become more sustainable and profitable at the same time.

More: [http://www.cias.wisc.edu/](http://www.cias.wisc.edu/)

The Centre for Studies in Food Security at Ryerson promotes sustainable food system development through research, education, dissemination, as well as community action and professional practice. It supports numerous projects, including innovative research into the physical aspects of urban agriculture, food distribution and provision.

More: [http://www.ryerson.ca/foodsecurity/index.html](http://www.ryerson.ca/foodsecurity/index.html)
CASE STUDY:
University of British Columbia

Type of university: Teaching and Research
Population: 64,014
Location: Vancouver, BC, Canada

Description of degrees, programs, activities:

- The Faculty of Land and Food (est. 2005), formerly the Agricultural Sciences Department, offers BA, BSc, MA, MSC, and PhD food systems related research and course offerings, with some co-op opportunities.
- The Centre for Sustainable Food Systems runs the 40 hectare UBC Farm (est. 1915), the UBC farmers market, a Community Supported Agriculture program, numerous community outreach projects, and the Practicum in Sustainable Agriculture.
- UBC Food Services “are committed to becoming a leader in food sustainability,” through UBC Farm purchases, operating a composting program, selling fair trade and organic coffee, engaging with over 900 students through academic programing, using sustainable procurement standards, and developing and operating a campus food truck program.
- UBC Sprouts (est. 1997) is a student run volunteer organization that operates an organic, vegetarian grocery store and cafe on campus.
- UBC uses an in vessel composter to process the over 1900 tonnes of compostable waste generated on campus each year.
- GHG tracking related to the procurement and consumption of food on campus.

Outreach and Engagement: UBC’s campus and the broader community’s experiences are enriched by multi-faceted sustainable food systems teaching, research, and job generation.

- The Centre for Sustainable Food Systems (CSFS) website engages the community by providing information on academic and community programming including indigenous, and children’s programming, and rental of the farm for community and private events.
- CSFS’s 2013 Indigenous initiatives helped bring “over 4,500 visits to the farm and engaged more than 300 UBC students through class visits, group projects, graduate research, and directed studies.”
- UBC’s Annual Sustainability Fair and the UBC Sustainability website provide access to food systems and broader sustainability associations, events, projects, and education resources and funding opportunities.
- There is a weekly public farmers market at the UBC farm as well as many other events such as book signings by prolific food-focused authors like Michael Pollan.

Partners and Collaborators: UBC collaborates with partners in local government, non-profits, professional institutes, industry specialists and the private sector to develop and implement sustainable food systems research and projects. Examples include: UBC Food Services partnering with Vancouver’s Ethical Bean Coffee Roasters, sustainable seafood suppliers, and BC organic farmers to develop and implement a sustainable food supply chain. Another example is the collaboration between seventeen Downtown East Side (DTES) service agencies, the City of Vancouver and UBC Farm to facilitate the DTES Aboriginal Community Kitchen Garden Project.

For more information: UBC Farm: http://ubcfarm.ubc.ca

References:
46 http://www.vancitybuzz.com/2013/08/ubc-campus-food-trucks/
48 http://ubcfarm.ubc.ca/community/indigenous-initiatives/
49 http://www.food.ubc.ca/sustainability/sustainability-initiatives
### Table 1: Further Examples of Post-Secondary Academic Programs in Sustainable Food Systems

<table>
<thead>
<tr>
<th>Post-Secondary Institution</th>
<th>Academic departments focused on sustainable food systems</th>
<th>Year</th>
<th>Degree, Certification, Course type Options: Undergraduate; Graduate; PhD; Certificate; Diploma; or Course Offering</th>
<th>Co-Op</th>
<th>Innovation Facilities</th>
<th>Outdoor classrooms</th>
<th>Classroom Courses</th>
<th>Community Workshops</th>
<th>Online Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>McGill University</td>
<td>Institute for Global Food Security in the Faculty of Agriculture and Environmental Sciences</td>
<td>2010</td>
<td>BSc (AgEvSc) Major in Global Food Systems with option for specialization in International Agriculture; Course offerings across departments at Bachelors, Masters, and PhD levels.</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
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<tr>
<td>Simon Fraser University</td>
<td>City Program (Continuing Studies), Center for Sustainable Community Development</td>
<td>2011</td>
<td>Undergraduate and mid-career course offerings in community food systems</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
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<tr>
<td>Stanford University</td>
<td>Center on Food Security and the Environment (FSE); Stanford Sustainable Food Program; Stanford Educational Farm Program, School of Earth Sciences</td>
<td>2005</td>
<td>Local Agriculture and Sustainable Food Systems Graduate level Course; Course offerings across departments at Bachelors, Masters, and PhD levels.</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
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<tr>
<td>Syracuse University</td>
<td>Falk College, Food Studies Program</td>
<td>2011</td>
<td>Bachelor of Science OR minor in Food Studies with major concentrations in food politics and governance or community food systems and gastronomy.</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
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<tr>
<td>University of California, Berkeley</td>
<td>Berkeley Food Institute (BFI) Research Centre, Centre for Diversified Farming Systems</td>
<td>2010</td>
<td>Course offerings across departments at Bachelors, Masters, and PhD levels.</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
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<td>Y</td>
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<tr>
<td>University of Northern British Columbia</td>
<td>Campus Food Strategy Project</td>
<td>2013</td>
<td>Course Offerings; Continuing Studies Master Gardener Certificate</td>
<td>Y</td>
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<td>Post-Secondary Institution</td>
<td>Academic departments focused on sustainable food systems</td>
<td>Year</td>
<td>Degree, Certification, Course type Options: Undergraduate; Graduate; PhD; Certificate; Diploma; or Course Offering</td>
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<td>Innovation Facilities</td>
<td>Outdoor classrooms</td>
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<tr>
<td>University of Washington</td>
<td>Environmental Studies, Department of Urban Planning and Design</td>
<td>2009</td>
<td>Undergraduate in Environmental Studies with courses available in food and the environment.</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
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<tr>
<td>University of London</td>
<td>Centre for Food Policy</td>
<td></td>
<td>Graduate and doctorate degrees in food policy (Science Philosophy)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>University of British Columbia</td>
<td>ISIS Research Centre</td>
<td>2009</td>
<td>Applied research opportunity for students &quot;Economy of Local Food in Vancouver&quot;</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Mt. St Vincent University</td>
<td>Applied Human Nutrition, Food Action Research Centre</td>
<td>2007</td>
<td>Undergraduate and graduate degrees</td>
<td></td>
<td></td>
<td></td>
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<td>Y</td>
</tr>
</tbody>
</table>
4.2. Local, Sustainable, Fair Trade Food Procurement

OPPORTUNITY OVERVIEW: Mirroring consumer trends in food purchasing, students and staff are increasingly asking for local, sustainable, fairly traded, and healthy food options. Given that universities purchase, process, prepare and sell a significant amount of food every day as well as manage food vendor and supplier contracts, this represents a key opportunity. UAlberta Dining Services alone spends over $5 million annually on food purchases. Investing a portion of this amount in local foods helps to stimulate local business and regional demand for regional products. Post-secondary institutions across North America are leading by example and setting up procurement systems that target local, healthy, and sustainable foods for use in dining services. Table 2 below lists the top 10 local food procurement schools in the US and Canada according to their STARS™ rating.

Shifting a portion of food spending to local/sustainable/fair seems simple on the surface, but is a complicated issue. Long-term food purchasing contracts limit the flexibility of both parties to change terms, and it specifically makes it difficult for universities to require local products from food suppliers. Strategies for overcoming this challenge include involving a third party to certify local sustainable product providers and setting achievable targets over the span of 5 years to progressively increase local products. One of the key reasons that suppliers have difficulty in sourcing/providing local food options is the lack of convenient, consistent, availability at low prices. The lack of regional food infrastructure (i.e., cold storage and processing) is often identified as a gap in regional food economies and limits the potential for regional producers and processors to meet orders for the universities’ major food service providers. Institutions that have had a plan and meaningful engagement with dining services, food service providers, students and others have had success increasing the amount of local, sustainable and fair trade products the university purchases and makes available on campus.

KEY UNIVERSITY COLLABORATORS: Facilities and Operations and Dining and/or Hospitality Services are commonly the leads for most of the procurement examples identified here. Student groups, vendors, and non-profits are also key players to shift procurement towards regional products where appropriate.

NORTH AMERICAN POST SECONDARY EXAMPLES: As illustrated in the examples that follow, there are different approaches to increasing local food procurement at universities ranging from developing policy and integrating local, sustainable, fair trade food into procurement contracts and vendor guidelines to adhering to third party certification programs.
SUSTAINABLE DINING SERVICES OPERATIONS
QUEEN’S UNIVERSITY
Queen’s Hospitality Services, in collaboration with student groups and other organizations across campus, promotes sustainable dining services through a number of initiatives, including local food procurement, pre- and post-consumer food composting, donation of food to local shelters, compostable plates at retail outlets, and others.
More: http://dining.queensu.ca/sustainable-u/

SUSTAINABLE FOOD PROCUREMENT POLICY
CITY UNIVERSITY OF LONDON
The university has adopted a food procurement policy that seeks to reduce the environmental and social impacts of the university’s food purchasing. Policies include:
• Increase sustainable food offerings at dining outlets
• Communicate commitment to serving sustainable food to students, staff and visitors
• Monitor sustainability targets and review objectives annually

DINING SERVICES, SUSTAINABILITY AND SOCIAL RESPONSIBILITY
MCGILL UNIVERSITY
Working with the McGill Food Project, Dining Services has developed a broad based approach to sourcing local and ethical foods, reducing waste through composting and packaging reduction, establishing a farmers market, conducting energy use assessments, and developing a strategic plan for dining services “An Appetite for Sustainability” (2011), among many other activities. Information is well presented on the university website. In 2013, The university received an IPAC/Deloitte Public Sector Leadership Silver award for their work on “Feeding McGill.”

DINING SERVICES, SUSTAINABLE FOOD
CARLETON UNIVERSITY
Carlton University Dining Services currently purchases local, ecological, and humane foods, sustainable seafood, and fair trade coffees and teas. The program set a target that 95% of all seafood by the end of 2013 is certified sustainable by the Marine Stewardship/Ocean Wise programs. Go Local Wednesdays and overall local food purchasing are also part of Carleton Dining Services. More: http://dining.carleton.ca/about/

DINING SERVICES SUSTAINABILITY PLAN
UNIVERSITY OF BOSTON
The University of Boston’s Dining Services Sustainability Plan is a campus-wide effort to develop systems that help reduce the environmental impacts of dining services operations. Central objectives of the plan are to encourage the reuse and recycling of dining materials, sourcing products that save energy and water, and reduction of greenhouse gasses. The plan calls for Dining Services to partner with suppliers, the Office of Facilities Management and Planning, the Office of Purchasing Services and waste management companies.
More: http://www.bu.edu/dining/about/sustainability.html
Table 2: Top 10 STARS Institutions Scores* for OP6: Food and Beverage Purchasing

<table>
<thead>
<tr>
<th>Institution</th>
<th>Percentage of food expenditures that meet one or more of the criteria for this credit (0 - 100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Maharishi University of Management</td>
<td>95</td>
</tr>
<tr>
<td>2. University of North Texas</td>
<td>85</td>
</tr>
<tr>
<td>3. Virginia Commonwealth University</td>
<td>82</td>
</tr>
<tr>
<td>4. Royal Roads University</td>
<td>80</td>
</tr>
<tr>
<td>5. Loyola Marymount University</td>
<td>73</td>
</tr>
<tr>
<td>6. University of Wisconsin-Oshkosh</td>
<td>71</td>
</tr>
<tr>
<td>7. California State Polytechnic University, Pomona</td>
<td>60</td>
</tr>
<tr>
<td>8. Lawrence University</td>
<td>60</td>
</tr>
<tr>
<td>9. Mills College</td>
<td>60</td>
</tr>
<tr>
<td>10. Princeton University</td>
<td>60</td>
</tr>
</tbody>
</table>

* Scores as of September 16, 2014.
4.3. Healthy Eating on Campus

OPPORTUNITY OVERVIEW: Affordable, healthy, and convenient food choices are often less frequent than the cheap, quick slice of pizza or sushi roll. With vegetarian, vegan, kosher, gluten-free, organic and other student preferences for healthy diets becoming more common on campus, creating a healthy food approach to not only what you can buy, but what you can make on campus is part of an overall campus food system initiative. For example, two strategies are to have food preparation areas in student residences and reheating stations in gathering areas so people can easily bring food from home. Affordable healthy food preparation information and demonstrations is another way to support healthy diet choices for students, staff, and faculty. Several institutions in North America have developed healthy eating strategies.

Often-times healthy food is either perceived to be or actually is more expensive than grab-and-go fast food options. With many students on tight budgets, affordability is a key priority for Dining Services and other food service providers. This can cause tension between the desire for healthy food options and the availability of these products and services through existing systems. Finding affordable healthy food vendors as well as providing opportunities for students to purchase and prepare their own foods are just two ways institutions can increase healthy eating on campus.

KEY UNIVERSITY COLLABORATORS: Healthy eating involves both eaters and providers of food. Students, employees, Dining Services, Food Vendors, and Food Service Providers all play a role in the demand and supply side of healthy eating. Faculty and community organizations also play a role in the demonstration of and engagement in healthy eating.

NORTH AMERICAN POST SECONDARY EXAMPLES: Post-secondary institutions are increasingly thinking about how to make food healthier on campus. These examples represent only a few of the many diverse ways institutions address healthy eating on campus.
THE GARDEN SPOT
CARLETON FOOD COLLECTIVE – CARLETON UNIVERSITY
The Garden Spot is a pay-what-you-can vegan soup kitchen designed to serve healthy, affordable meals to all members of the Carleton community. Recently the program has encountered difficulty with the garden, kitchen, and student levy being eliminated. However, the idea of reestablishing the program remains popular with students.
More: http://www.leveller.ca/2014/01/the-g-spot-fights-back-cusa/

KEEPING IT HEALTHY ON CAMPUS, A GUIDE FOR MAKING SMART FOOD CHOICES
UNIVERSITY OF FLORIDA
The University of Florida developed a guide for students to choose healthy foods within the existing vendors on campus. While not all of the recommendations may be universally considered healthy, the guide provides a good example of how to support students in making healthy food choices.

ROOFTOP GARDEN AND STUDENT-RUN CAFÉ
TRENT UNIVERSITY
The Seasoned Spoon Café is a student-run, cooperative café that focuses on providing meals based on local and seasonal foods to students on campus. The restaurant is entirely student-run and receives much of its produce from a roof-top garden on the University’s Environmental Sciences building. Student employees of the Café tend the garden, harvest produce, develop annual business plans and manage daily operations.
More: http://www.cityfarmer.org/TrentRoof.html

ALTERNATIVE FOOD SERVICES – DIVERSITY FOOD SERVICES INC.
UNIVERSITY OF WINNIPEG
Diversity Food Services Inc. at the University of Winnipeg is an alternative services delivery model created by two Winnipeg based organizations, The University of Winnipeg Community Renewal Corporation (UWCRC) and SEED Winnipeg. The mission of Diversity Food Services is to provide nutritious, fairly-priced and ethnically diverse food options, focusing on locally sourced foods, organic ingredients, and a commitment to fair-trade practices.

BANNING FRIED FOOD AND SOFT DRINKS, AND STUDENT-RUN CO-OP CAFE
VANIER COLLEGE
Vanier College in St. Laurent QC, has banned the sale of fried foods and soft drinks on campus. Despite an expected loss of $40,000, the college is one of the first post-secondary institutions in the province to prioritize health on campus in this way and consider the other costs associated with unhealthy food. Students have generally been accepting of the changes, and the college’s Students’ Association has embraced the move. Additionally, a student-run cooperative café will provide healthy food options and give students hands-on experience running a restaurant.
More: http://academicagroup.us6.list-manage.com/track/click?u=adff35e3091cad1452f767ad5&id=c7878d3305&e=ac5f7695b7
4.4. Farmers’ Markets and Food Trucks

**OPPORTUNITY OVERVIEW:** Farmers’ markets and food trucks are great ways to create active food spaces, while providing business opportunities for vendors and tasty food options for students, staff, and faculty, especially those living on campus. Farmers’ markets, mobile grocery stores, and food trucks all have the potential to offer healthy and local food options and help to create community on and off campus.

Some considerations for farmers’ markets and food trucks include sensitivity around infringing on existing campus business, products, and services. However, in some cases it has been found that farmers’ markets create a draw and businesses actually experience an increase in activity. The availability of regional products all year round can also be a challenge, especially in a Northern climate, although some institutions are starting up winter markets. In order to attract fresh food products from regional producers, focusing on food products that have been regionally made, baked, or grown is a consideration for market organizers. Locating markets and food trucks in pedestrian areas that also have the right conditions for safe and effective operation is another aspect for consideration.

**KEY UNIVERSITY COLLABORATORS:** Farmers’ markets and food trucks would commonly collaborate with university student groups and operations to find appropriate locations, times, and operating systems.

**NORTH AMERICAN POST SECONDARY EXAMPLES:** Many institutions have integrated farmers’ markets and food trucks on campus. A few of these are described below.
WINTER FARMERS’ MARKET
UNIVERSITY OF TORONTO SCARBOROUGH CAMPUS

The University of Toronto organizes a weekly outdoor (summer) and indoor (winter) farmers’ market geared towards a student audience over the winter months. Distinguishing features of this farmers market include being hosted by the University’s Food and Beverages Services, and participating farmers are certified local and sustainable.

More: [http://blog.utsc.utoronto.ca/farmersmarket/about/](http://blog.utsc.utoronto.ca/farmersmarket/about/)

UNIVERSITY FARMERS’ MARKET
UNIVERSITY OF NORTHERN BRITISH COLUMBIA

The university farmers’ market is a volunteer student run weekly market of local vendors. The market is guided by a mission to promote local sustainability. The university website provides information on the market itself, this week at the market, about the vendors, vending, volunteering and partner organizations.


QUEENS FARMERS’ MARKET:
QUEENS UNIVERSITY

Queens Hospitality Services helped to initially start-up the farmers’ market that now operates once per week. The market has food, flower, cheese, chocolate, jam and wheat free vendors.


FOOD TRUCKS ON CAMPUS
UNIVERSITY OF CALGARY

Recently the University of Calgary established two food truck locations on campus that will be used by local vendors.

More: [http://www.ucalgary.ca/mse/foodtrucks](http://www.ucalgary.ca/mse/foodtrucks)

FARMERS’ MARKET
HARVARD UNIVERSITY

Dining services hosts a weekly farmers’ market that features a range of vendors as well as education and demonstration events.

More: [http://www.dining.harvard.edu/flp/ag_market.html](http://www.dining.harvard.edu/flp/ag_market.html)
4.5. Growing Food and Living Laboratories

OPPORTUNITY OVERVIEW: Growing food on campus can happen at a wide range of scales for a wide range of reasons. In some cases growing food may be at a student or community scale, providing spaces for people to grow some produce and flowers. In other cases, entire areas of campus may be converted into living laboratories that provide research and teaching resources.

Some program and space considerations for growing food on campus include but are not limited to climate and seasonality, management and harvesting, location of productive landscapes, pest deterrence and management, water, soil, and sun for plant growth, and equipment storage. Living laboratories have many considerations, as they are major projects often involving land, facilities, and faculty. Integrating academic functions with community ones has been a central component of living laboratories at other institutions such as the UBC farm. Student or community partnerships to manage edible landscapes and community gardens is one example of an approach taken to integrate food production with campus life and manages the challenges of seasonality.

KEY UNIVERSITY COLLABORATORS: Facilities and Operations, academic departments, student, staff and community organizations all have roles and unique ways to support growing food on campus as well as establishing living laboratories.

NORTH AMERICAN POST SECONDARY EXAMPLES: The use of fields, green houses, and other food production spaces has been part of the history of many post-secondary institutions. These facilities have been scaled-up in many cases and have become a key part of the character of the institution. The following explore some of the various ways in which post-secondary institutions have developed living laboratories and hands-on learning opportunities.
SUSTAINABLE STUDENT FARM
UNIVERSITY OF CHICAGO AT URBANIA-CHAMPAIGN

The University of Chicago at Urbana-Champaign operates a Sustainable Student Farm including 3 acres of seasonal outdoor field production and over 10,000 square feet of unheated high tunnel (hoop house) space that allows for year round food production. Although the farm fulfills the primary function of providing food for campus dorms, it relies heavily on the efforts of student volunteers and as a result also serves as a ‘living laboratory to connect students and campus community members with regional, small-scale food systems’.

More: [http://thefarm.illinois.edu/](http://thefarm.illinois.edu/)

INDOOR HYDROPONIC ORGANIC HERB GARDEN
UNIVERSITY OF PENNSYLVANIA

In 2009, Bon Appétit Ltd. installed a hydroponic garden in the 1920 Commons Cafeteria at the University of Pennsylvania. The garden features plants such as heirloom lettuce, dill, sweet basil, rosemary and chives, and is available for use by chefs of the dining hall. Bon Appétit plans to experiment and expand the garden so all dining chefs on campus have access to the plants. Produce from the garden is organic by nature as the garden does not require soil to thrive, thus eliminating the need for pesticides or chemical-based soil amendments.

More: [https://cms.business-services.upenn.edu/dining/](https://cms.business-services.upenn.edu/dining/)

URBAN GARDENING
MCGILL UNIVERSITY

A partnership between McGill University’s Minimum Cost Housing Group and two local NGOs (Alternatives and Santropol Roulant (Meals on Wheels)) was formed to develop strategies to transform under-utilized and neglected spaces on campus into urban gardens. The group identified a concrete plaza on campus for its initial garden project, which in 2010 produced more than one ton of food. The project recently received an award for sustainable development by the City of Montreal and the Conseil Régional de l'Environnement-Montréal.


OLDS COLLEGE CENTRE FOR INNOVATION
OLDS COLLEGE

Olds College, established 1913, is one of Canada’s preeminent post secondary institutions providing education and training in agriculture, horticulture, land and environmental management, agribusiness and rural entrepreneurship. In addition to an on-campus working farm and botanical gardens, the college houses the Olds College Centre for Innovation that works with government and industry in applied research and rural economic development. Both indoor and outdoor research facilities create multiple aspects to the living lab at Olds and include biofuel technology centre, composting technology centre, research green houses and field plots, seed cleaning facility and incubator space.

More: [http://www.oldscollege.ca/research-innovation/index](http://www.oldscollege.ca/research-innovation/index)
CASE STUDY:
Yale University

Type of university: Teaching and Research
Population: 27,670
Location: New Haven, Connecticut, USA

Description of degrees, programs, activities:

- BA, BSC, MA, MSC, and PhD food systems related research, co-ops and course offerings. Twenty food and agriculture courses per semester enrolling approx. 1,000 students with increasing demand.  

- The Global Food Fellowship financially supports students from bachelors to doctorates “pursing ideas that could overturn the ecological, social, and economic deficiencies of today’s predominant food system.”

- The Yale Sustainable Food Program (YSFP) est. 2003: “manages two farms (est. 2003 & 2013), one on central campus and one on West Campus (with sales at a local market), and runs diverse programs that support exploration and academic inquiry related to food and agriculture.”

- Food Systems based paid internships for graduate and undergraduates are offered year round, and include farm based work experience.

- YSFP “hosts regular workshops, conferences, and talks with visiting experts, and works to enrich and expand coursework and hands-on learning opportunities in partnership with faculty and staff across the campus.”

- YSFP efforts resulted in Yale’s Berkeley College dining hall working to serve “all local, seasonal, and sustainable food.”

Outreach and Engagement: Yale engages on and off campus communities through food systems research, courses, community events, and farm based projects.

- YSFP hosts: Speaker Series, podcasts, jobs, apprenticeships, and internships, and the Global Food Fellowship that encourages applicants to engage with non-Yale community partners.

- The YSFP website provides easy engaging access to their events, projects, and volunteer opportunities, and hosts a blog and newsletter.

- The student led 2014 Yale Food Systems Symposium was developed “to provide a space where researchers, practitioners, theorists, and eaters,” can work towards “a just, sustainable food system.”

Partners and Collaborators: The Yale Sustainable Food Program (YSFP) works across faculties and with Yale based and non-Yale based organizations including: the Yale School of Forestry and Environmental Studies; the Yale Center for Environmental Law and Policy; The Hixon Center for Urban Ecology; and the Betsy and Jesse Fink Foundation. World-renowned chief and food systems guru Alice Waters was a key collaborator in establishing YSFP and continues to support its efforts.

For more information: Yale Sustainable Food Program (YSFP): http://sustainablefood.yale.edu

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52 http://sustainablefood.yale.edu/classroom
53 http://sustainablefood.yale.edu/global-food-fellows-program
54 http://sustainablefood.yale.edu/about-us
55 http://sustainablefood.yale.edu/about-us/history
56 http://yalefoodsymposium.org
4.6. Food Waste Reduction, Recovery, and Management

**OPPORTUNITY OVERVIEW:** Post-secondary institutions produce large amounts of food waste that goes to the landfill. UAlberta currently diverts 15% of food scraps and yard waste and is working to achieve 75% capture of organics by 2017. Many regional governments are shifting systems to eliminate organic waste from landfills. There are strong reasons for this. Given that food waste is mostly water, it is heavy and inefficient to transport and is unable to breakdown when mixed with non-biodegradable materials. Not only that, but organic waste is increasingly being recognized as a potential resource, both as an energy source and a soil amendment once it is processed.

Waste management strategies that include food scraps help to support the development of organic waste diversion and recycling systems. Student and staff education is also a strategy that is used to increase diversion of organic waste. New recycling receptacles that contain food waste compartments are another strategy used by local governments and universities to help separate out organic waste. Having space and facilities on- or off-site to convert food scraps into soil amendments is also a key consideration. Once the scraps are broken down, a source for using the organic matter must be identified.

**KEY UNIVERSITY Collaborators:** Facilities and Operations commonly have a lead role in campus food waste management. Academic departments may collaborate and engage in tracking GHG reductions, collaborating on waste audits, incorporating data into coursework, or other methodologically intensive data collection projects. Every person on campus also has a role in separating waste.

**North American Post Secondary Examples:** Post-secondary institutions use a range of techniques to divert, compost, and re-use food waste. A few examples are provided below.
THE FOOD RECOVERY NETWORK

Established in 2011, the FRN is a non-profit organization that works with students on college campuses to recover food waste or surplus foods to redistribute to hungry people. Currently, FRN works with 95 post secondary institutions in 26 states and has recovered half a million pounds of food since 2011.

More: [http://www.foodrecoverynetwork.org](http://www.foodrecoverynetwork.org)

RECOVERED BIOMASS FACILITY
VERMONT TECHNICAL COLLEGE

Vermont Technical College broke ground in 2013 on the new Central Vermont Recovered Biomass Facility. This facility will use natural biological processes to produce electricity plus heat from food waste and manure. It will generate electricity for sale to Central Vermont Public Service, and waste heat will be distributed through the campus's central heating plant.


FOOD WASTE COMPOSTING
UNIVERSITY OF NORTH CAROLINA AT CHARLOTTE

UNCC has been composting on-campus food waste for ten years. In 2008-2009, it composted 14,360 pounds of food. Food waste and scraps are composted on-site in two large (3200 lb) bins, with the finished product used for gardening and landscaping on campus as well as by local businesses.


COMPOSTING
UNIVERSITY OF VICTORIA, OFFICE OF CAMPUS PLANNING AND SUSTAINABILITY

Since 2003, the University of Victoria has been diverting approximately 400 tonnes of food waste from the landfill, accounting for 72% of all food waste. Success has been attributed to food service staff who compost almost all of kitchen waste. Through using a third party (refuse Resource Recovery) and an industrial composting system, dairy, meat, paper towels and cups, among other items are able to also be broken down.


TURNING ENERGY INTO WASTE
CLARKSON UNIVERSITY

Clarkson University, in the state of New York, uses food scraps from campus cafeterias and other food services to feed an on-site anaerobic digester, that in turn generates creates and nutrient-rich effluent. The power is used to run a green house that grows leafy greens for the cafeteria, using the nutrient rich effluent. This project demonstrates closed loop systems and provides a key learning opportunity and demonstration of green infrastructure.

4.7. Engagement, Communications, and Celebration

**OPPORTUNITY OVERVIEW:** Communication systems, such as branding, web and print media, and other tools keep people informed and involved, and help to build awareness and momentum behind plans and the Campus Food System Initiative. Engaging university and non-university stakeholders is essential for not only creating a vision and plan, but also for collaborations towards implementing a food system plan or strategy.

Considerations for planning, communications, and engagement for a Campus Food System Initiative are internal to the university and need to work from existing relationships and systems. Integrating food systems with other campus systems requires cross-departmental collaboration, communications, and engagement.

Engaging and communicating with government, industry, and community partners can identify mutually beneficial collaboration opportunities. It also allows new or prospective collaborators to quickly learn about the many aspects of a university’s food system initiative.

**KEY UNIVERSITY COLLABORATORS:** Planning, communications and engagement towards a Campus Food System Initiative involves almost everyone on campus in one way or another. Linkages between initiatives and the university’s communications systems can help to get the word out and celebrate what is happening. Various departments or organizations may lead activities that are determined by a plan that was co-created by university stakeholders.

**NORTH AMERICAN POST SECONDARY EXAMPLES:** Post-secondary activities in communications, planning and engagement are quite diverse. Institutions will often contain information about food system initiatives on a website that houses information on plans, food system activities, and engagement events. However, most institutions craft their own unique approach to planning communications and engagement for campus-wide initiatives. Some examples follow.
SUSTAINABLE FOOD MAP AND DIRECTORY
UNIVERSITY OF TORONTO

The University of Toronto has incorporated locations of all the eateries that provide sustainable features like local, organic and/or fair-trade meals, vegan entrees, coffee mug discounts and reusable eco-trays as a layer on their campus maps. The university has also created a map of water fountains/water stations on campus as a layer on their campus map.


PRIDE OF THE PRAIRIE INITIATIVE
UNIVERSITY OF MINNESOTA – MORRIS

The University of Minnesota’s Morris Campus and Faculty of Extension are two founding members of Minnesota’s Pride of the Prairie network, which is working to build a sustainable food system in the state of Minnesota. The University of Minnesota contributes to the project in numerous ways, including by requiring their dining services contractor to purchase Minnesota grown foods, hosting local food feasts for the community, hosting sustainable food service learning opportunities, which encourage students in writing, photography and sociology to travel to area farms, interview farmers, and create information displays for the community at large.


ONGOING ENGAGEMENT AND CELEBRATION
STANFORD UNIVERSITY

Since 2006, Stanford University’s Department of Hospitably and Auxiliaries has developed the Sustainable Food Program on campus. Examples of initiatives include, partnering with a student group to sponsor a weekly on-campus produce stand, conservation efforts in dining services (ex. trayless dining), and hosting ‘Climate Conscious Foods Week’. In addition, every dining hall on campus has an organic garden adjacent to it, which provides produce for the hall. These gardens are maintained entirely by student gardeners employed by Dining Services.


UNIVERSITY PARTNERSHIP WITH SLOW FOOD
UNIVERSITY OF GASTRONOMIC SCIENCES

At the University of Gastronomic Sciences, located in Bra Italy and founded in 2004, students, staff, and faculty are regularly engaged in the major events and festivals put on by the Slow Food Movement. A long-standing partnership between the university and Slow Food facilitates these activities and offers many opportunities for the university to directly engage campus in celebrating slow food such as Terra Madre, the Slow Fish Festival, and the Cheese Festival. The university also offers undergraduate and graduate degrees in gastronomy and other disciplines.


57 Slow Food is a global, grassroots organization linking the pleasure of good food with a commitment to local communities and the environment. http://www.slowfood.com,
C A S E  S T U D Y

University of Northern British Columbia

Type of university: Teaching and Research
Population: 4,939
Location: Prince George, BC, Canada

Description of degrees, programs, activities:

- BA, BSC, MA, MSC, and PhD food systems related research, co-ops and course offerings.
- Campus Food Strategy Project (CFSP): the “only national farm to campus initiative in Canada.” Students are hired “to create a vision and strategy for food on campus, in an effort to align and catalyze food-related initiatives.”
- CFSP developed a National Student Food Charter with students from across Canada to support the implementation of local, sustainable and healthy campus food systems.
- UNBC Food Services are committed to being flexible, diverse, local and community driven, and to “act as a catalyst for progressive change to the overall UNBC Food System.”
- Campus farmers market, good food box program and an organic compost garden are run by the student led Prince George Public Interest Research Group (PGPIRG).

Outreach and Engagement: UNBC utilizes food systems activities, research and programing to engage and catalyze the campus and broader community to support and implement healthy, sustainable food systems.

- UNBC’s Farmers Market, CFSP, and PGPIRG have informative websites that encourage engagement with their community focused events and programing.
- CFSP collaborated with the Canadian National Student Food Summit in 2014 to support healthy, affordable, diverse, sustainable food systems.
- CFSP launched a multi-media campaign: 1,000 Students for Good Food For All @studentsforgoodfoodforall #studentsforgoodfoodforall

Partners and Collaborators: CFSP is in partnership with the Sierra Youth Project and Meal Exchange, working with twelve universities across Canada, and engages with a national network of food service providers, the Canadian Association of Food Studies, and Food Secure Canada. CFSP supporters include: the Community Foundation of Ottawa, Fredericton Community Foundation, The J.W. McConnell Family Foundation, the Green Belt Foundation, Nova Scotia Community Services, the Vancouver Foundation, VIA Rail Canada and the Community Food Action Program.

For more information: Campus Food Systems Project: http://studentfood.ca

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60 http://www.unbc.ca/food-services/vision
61 http://studentfoodsummit.ca/index.php/our-history
62 http://studentfood.ca/index.php/about-us/where-we-are
5. UAlberta Sustainable Food System Activities Scan

Implementation of a Campus Food System Initiative would provide an opportunity for the university to build upon the early actions that have already been taken and visibly demonstrate the university’s overall commitment to sustainability in its food systems. The following list of initiatives represents some of the current food-related activities at UAlberta, though it is not an exhaustive list.
Sustainable Operations

Dining Services & Aramark Sustainable Food Procurement
UAlberta Dining Services has a continuing goal to enhance the incorporation of sustainable criteria into food purchasing, preparation, waste disposal and related equipment and supplies. As part of ongoing STARS™ information tracking, Aramark on North Campus is now tracking their purchases according to the STARS™ definitions for credit OP-6 Food and Beverage Purchasing and reached approximately 32% of purchases that fit the STARS™ criteria in 2013-14, nearly doubling from 18% in 2011/12.

Aramark Food Waste Reduction Program
Aramark began an initiative to measure and reduce preventable food waste in their kitchens in 2012. All food waste (i.e., from preparation, un-servable food such as burnt food, over-production or expired food) is collected and weighed in clear containers, tracked, and areas for improvement are identified and addressed. Aramark also participates in the UAlberta organics collection program to divert organic waste from landfill.

Healthy Food Labeling
Dining Services, Aramark, and the Health and Wellness Movement launched the Traffic Light Program in January 2013. The Traffic Light Program uses a colour-based way finding system to label food from least nutritious (red) to most nutritious (green) to help students make healthier food choices at a glance. Additionally, Aramark’s Get the Good Stuff initiative labels packaged foods at express locations that have been identified as a healthier option—these items must meet standard acceptable amounts of fat, calories, sodium.

Augustana Sustainable Food Policy
Augustana Campus in Camrose has adopted a Sustainable Food Policy guided by three commitments: 1) To provide safe, fresh and nutritious food; 2) To contribute to the economic, social and environmental sustainability of our home region and the planet, through balanced and responsible procurement decisions; and 3) To cultivate within our academic community both a critical awareness of food issues and a sense of celebration around food that is inclusive of the many cultural traditions represented among our students. As part of this policy, Augustana Cafeteria prioritizes purchasing locally produced food, and supporting farmers and processors that use sustainable practices.
More: [http://www.augustana.ualberta.ca/sustainability/programs/food.html#sustainable_food_policy](http://www.augustana.ualberta.ca/sustainability/programs/food.html#sustainable_food_policy)

Augustana Cafeteria Local Lunches and Vegetarian Meals
The Augustana Cafeteria features a Local Lunch at least once per month, where all food at the lunch is sourced locally and priced equally to regular lunchtime meals. Vegetarian options are also clearly identified on the weekly menu and are available at every meal offering.
More: [https://webapp.augustana.ca/menu/](https://webapp.augustana.ca/menu/)
**Food Procurement Working Group**

Northlands and the City of Edmonton initiated a Food Procurement Working Group in 2014 aimed at getting more local food on local plates by working with large institutional food service providers and their distribution networks. This group recently received a McConnell Foundation grant to support their efforts and the University of Alberta is an active participant in this working group.

**Organics Collection and High Solids Anaerobic Digestion Facility Project**

Beginning in 2007, the University of Alberta began collecting organic waste from food service locations on campus. In 2010/11, additional locations in offices and some residences were added. Today over 300 tonnes, or 15 per cent, of organic waste is being captured each year, with a goal to increase this to 1500 tonnes, or 75 per cent, by 2017.

In partnership with the City of Edmonton, the University of Alberta is contributing to the development of a High Solids Anaerobic Digestion Facility (HSADF) at the Edmonton Waste Management Centre, slated for completion in 2017. UAlberta will divert their organics to this facility when it opens. This exciting project will maximize organic waste as a resource by producing heat, power, and compost from the facility.

**Greenhouse Gas Emissions Inventory and Reduction Plan**

Climate change presents a fundamental challenge to global ecological sustainability. In recognizing the need to do its part, the University of Alberta has completed its first Greenhouse Gas Emissions Inventory and GHG Emissions Reduction Plan. By taking steps to enhance the sustainability of its food systems, the university also has the opportunity to reduce its climate impact. Read the plans here:

Community Outreach and Engagement

Sustainability Awareness Week
The Office of Sustainability, Aramark, and Sustain SU host several events that are food-themed during the annual Sustainability Awareness Week each October on North Campus. Past events have included a Sustainable Harvest dinner, sustainable food themed menus (e.g., local, vegetarian), cooking classes, the farmers’ market, and a kick off BBQ.

Farm to Fridge Workshop
The Office of Sustainability delivers a series of workshops on various sustainability topics. Farm to Fridge is focused on providing attendees with information and helpful resources on how to reduce the environmental impact of their food choices using everyday examples and common ingredients. [http://sustainability.ualberta.ca/GetInvolved/Workshops/WorkshopDescriptions.aspx](http://sustainability.ualberta.ca/GetInvolved/Workshops/WorkshopDescriptions.aspx)

Health and Wellness Team
The Health and Wellness Team within University Wellness Services works to support student health and wellbeing by creating a health campus community. Many of their initiatives focus on health eating practices targeting students. [http://www.studenthealth.ualberta.ca/](http://www.studenthealth.ualberta.ca/)

Campus Food Bank
The Campus Food Bank was founded in 1991 and is a registered charity. It is located in the Students’ Union Building on North Campus and distributes food and toiletry items to all members of the university community. The CFB is run by staff and volunteers dedicated to eliminating hunger at the University of Alberta. [http://campusfoodbank.com/about-us/](http://campusfoodbank.com/about-us/)

Adopt a Planter
Formerly “adopt-a-flower”, the Adopt a Planter program is a joint initiative of Buildings and Grounds Services and Health Promotion and WorkLife Services. Individuals, faculties and departments are given the opportunity to adopt a planter over the summer growing season and take ownership of its care and plant choices. Beginning in 2013, plant choices now include edible plant varieties, including tomatoes, lettuce, and corn. [http://www.virtualwellness.ualberta.ca/ActiveLivingforU/Adopt%20a%20Planter.aspx](http://www.virtualwellness.ualberta.ca/ActiveLivingforU/Adopt%20a%20Planter.aspx)

Jardin communautaire Campus Saint-Jean Community Garden
The Jardin communautaire Campus Saint-Jean Community Garden is a bilingual group open to staff, Résidence Saint-Jean students and members of the surrounding neighbourhood. It sits on the same location that was farmed almost a century ago by the Fathers of the Juniorat Saint Jean. Some of the sustainability initiatives of the garden include responsible water use, on-site composting using organic waste from the residence, and organic fertilizer use.

Academic Programs

**Heritage Chicken Program (Faculty of ALES)**
In 2013, the faculty of ALES began the Heritage Chicken Program to promote the conservation of unique genetic lines of poultry at the University of Alberta. Through the 'Adopt a Hen' program supporters receive local, organic eggs from five heritage breeds of chickens (Plymouth Rock, Light Sussex, New Hampshire, White Leghorn and Brown Leghorn). [https://www.heritagechickens.ca/](https://www.heritagechickens.ca/)

**Prairie Urban Farm (Faculty of ALES)**
Prairie Urban Farm is a one-acre, mixed crop, community food system in the University of Alberta's South Campus. Our goals are to demonstrate an alternative, regenerative way of growing food within the city. We want to enhance campus sustainability and community food security by providing local food in our campus food system and food bank, and encouraging skill-building in food production and preservation within our community. [http://www.prairieurbanfarm.ca/](http://www.prairieurbanfarm.ca/)

**Green & Gold Community Garden (School of Public Health)**
Established in 2009, the Green & Gold Community Garden is a joint project of the School of Public Health and the Faculty of Agricultural, Life, and Environmental Sciences (ALES). This approx. two acre garden on the UAlberta South campus is run by volunteers and most of the equipment, seeds, and plants are donated. All funds raised from sales of produce from the garden are sent to the Tubahumurize Association, a not-for-profit organization that supports socially and economically marginalised women in Rwanda. [http://uofa.ualberta.ca/public-health/about/connecting-with-communities/green-and-gold-community-garden](http://uofa.ualberta.ca/public-health/about/connecting-with-communities/green-and-gold-community-garden)

**Edmonton Organic Growers Guild**
The Edmonton Organic Growers Guild is an organic community garden located on South Campus. It is a working group of APIRG, and operates with support from IMANTA and The Faculty of Agricultural, Life and Environmental Sciences. [http://www.eogg.org](http://www.eogg.org)

**Certificate in Sustainability (CIS)**
The CIS is a joint initiative of the Faculty of Agricultural, Life & Environmental Sciences (ALES) and the Office of Sustainability. The CIS is a credential that undergraduate students can earn that demonstrates a students’ commitment to learning more about sustainability and being a sustainability leader in their future endeavours. The CIS is available in nine faculties: ALES, Arts, Augustana, Extension, Education, Native Studies, Physical Education and Recreation, and Science. [www.sustainabilitycert.ualberta.ca](http://www.sustainabilitycert.ualberta.ca)

**Augustana Year of Food (Academic Theme Year)**
In 2008 and 2009 Augustana Campus’s academic theme was food, where students, staff, and faculty learned about and showcased regional and local food. A few of these activities included dining services
provided regionally based menus that fostered new relationships with farmers and the university, a student garden was installed, and students were assigned to read and discuss *Omnivore's Dilemma* by Michael Pollan.

**Food for Health**
The University of Alberta Faculty of Agriculture, Life, and Environmental Sciences (ALES) Food for Health research program is home to numerous researchers and world-renowned expertise. In 2013, ALES formalized a partnership with New Zealand’s University of Auckland to build an international program through academic exchange, research, and outreach.

http://www.ales.ualberta.ca/FacultyResearch/FoodForHealth.aspx

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**Student-Led Initiatives**

**Augustana Garden Initiative**
The Augustana Garden began as a pilot project in 2013 and was run by student volunteers. It is now an Augustana Students’ Association initiative run by a coordinator and supported by volunteers. The garden aims to increase Augustana’s food security by donating most of the garden’s produce to the cafeteria and The Chapel’s Soup Supper Program.

**Farmers’ Market**
Sustain SU: The Student Sustainability Service hosts bi-weekly Farmers’ Markets in the Students’ Union Building, bringing together campus community members to explore the world of local, organic, sustainable, and fresh food. Campus members are encouraged to “Bring Your Own Bag (BYOB)” to buy local goods and engage in discussion with the nearly 20 local vendors at the market.

**Sustain SU Campus Community Garden**
Sustain SU also runs a 300 square meter Campus Community Garden on the UAlberta North Campus. This large cooperative garden welcomes volunteers from both campus and the surrounding community, and is operated using organic methods to showcase environmentally friendly gardening and serve as a learning opportunity for local, organic food production.

**Health and Wellness Movement Fruit Stand**
The Health and Wellness Movement won the Heroes for Health challenge in 2012 for their initiative to host a series of fruit stands throughout the school year. The
goal was to increase access to fruit as a healthy snack by making it easily available and affordable (minimum donation of $0.50) to students and other campus community members.

**Sustainable Food Initiative**
The Sustainable Food Initiative is a student initiative within the Faculty of ALES with a mission to improve the food environment at the University of Alberta and contribute to a more sustainable food system on campus. They focus on action-oriented projects, advocacy, awareness, research, and networking. The Sustainable Food Initiative is guided by the National Student Food Charter ([http://studentfood.ca/index.php/resources/the-national-student-food-charter](http://studentfood.ca/index.php/resources/the-national-student-food-charter)).

[http://www.sustainablefooduofa.ca](http://www.sustainablefooduofa.ca)

**Healthnuts**
Healthnuts is a student group committed to reducing food insecurity on campus by offering free group kitchens, where students are taught the skills required to prepare healthy and affordable meals at home.
6. Findings, Assessment, and Recommendations

There is no doubt that while modern food systems have brought a number of benefits for world populations, in their current state, conventional systems present formidable challenges to the long-term sustainability of communities of all scales. Specific global and local challenges to the sustainability of our current food systems include increasing demand, natural resource scarcity, environmental degradation, economic concerns, and a myriad of social issues – ranging from access to affordable food to obesity and other preventable chronic diseases. Pursuing initiatives that enhance sustainability in food systems offer important opportunities for contributing to the long-term economic, social and environmental sustainability of an institution.
This Sustainable Food System Opportunity Assessment was initiated with the goal of determining whether or not current or potential opportunities exist for enhancing campus sustainability through the development of an overall sustainable food system strategy. In seeking to answer this question, interviews were conducted with stakeholders from across campus, background research into the relationship between food and campus sustainability was undertaken, and comparative best practices and initiatives related to sustainable food systems at other institutions were researched. The outcome of these actions forms the basis of the assessment and recommendations below.

Overall, support for developing and implementing a sustainable food system strategy at the University of Alberta is strong. Broad stakeholder interviews identified that not only are there a number of initiatives related to sustainable food systems already underway, but there are also a considerable number of partners interested in contributing to building from these early actions to develop an integrated and focused initiative that addresses the sustainability of food on campus. Many interviewees stressed that work in this area provides an important opportunity for demonstrating leadership as an institution, and from their perspective, many specific sustainable food system opportunities (outlined in this document) are directly in line with the institutional priorities of the University of Alberta. Indeed, the proliferation of sustainable food system initiatives at comparative institutions highlights the strategic value a multidisciplinary and universal issue like food may lend to innovative academic and outreach and engagement programs. Finally, the relatively large universe of possibilities identified for food system initiatives – spanning facilities and operations, academics, and outreach and engagement – means there is large potential to further tailor outcomes and strategies to the specific goals and requirements of the University of Alberta.

This Sustainable Food System Opportunity Assessment has demonstrated that a campus food system initiative is not only feasible and warranted, but that the University of Alberta is also very well positioned to become a leader in the area of sustainable food systems on its campuses. As this study highlights, a number of sustainable food initiatives are already in place at the University of Alberta and it is clear that staff and faculty have an impressive body of knowledge and experience in this area. Stakeholder consultations have indicated there is strong support and enthusiasm for this type of initiative and that many willing partners are already evident, with more partners and champions expected to emerge as this initiative progresses. More broadly, the University of Alberta Sustainability Plan (2012-2016) identifies Food and Dining Services as one of its Key Priorities, indicating strong recognition of food as being important for campus sustainability.
Recommendation

Based on the findings from the stakeholder interviews, background research, and on the actions of other institutions it is recommended that the University of Alberta proceed with the implementation of a Campus Food System Initiative tailored to the University of Alberta. The CFSI should develop a sustainable food system strategy that is broad in scope, encompassing all areas of the institution and that sets high level goals and targets over the long-term. In the near term, the CFSI should focus on early, achievable actions that seek to plant the seeds for enabling and inspiring further action among the students, faculty and staff at the University of Alberta.

Moving Forward

The last section of this report outlines possible steps for moving forward that are informed by the activities undertaken during this assessment. Moving forward with establishing a Campus Food System Initiative will position the university to contribute in a meaningful way to the development of sustainable food systems on its campuses, in the community, the province, and globally, for the benefit of society as a whole.
7. Moving Forward: Potential Strategic Directions & Opportunities

The results of stakeholder consultations and research into other post-secondary institutions highlighted a wide variety of possible food system initiatives that could be considered for further investigation and implementation by UAlberta. Based on this research, two key categories of next steps presented themselves: 1) The process for developing the Campus Food System Initiative and 2) The strategies that could be included in the sustainable food system strategy, quick wins and options for building momentum.
7.1. Growing the Campus Food System Initiative

Based on what was learned in this assessment, the following seven key phases are proposed for developing the UAAlberta Campus Food System Initiative. While these phases loosely follow chronological order, various activities will likely occur in tandem. The following section provides more detail around possible specific activities in each phase. These phases are presented here as a starting point for further discussion and work on the CFSI.

01 ASSESS OPPORTUNITIES IN THE CAMPUS FOOD SYSTEM
Assess the current status of global trends in food systems, post-secondary benchmarks in facilities and operations, academics, and community outreach. Inventory current initiatives at UAAlberta, and identify potential strategic directions and opportunities for the university.

02 INITIATE THE DEVELOPMENT OF THE CAMPUS FOOD SYSTEM INITIATIVE
Support the development of the CFSI and form a working group to guide, plan, advance, and further develop the CFSI.

03 COMMUNICATE
Develop a communications strategy and create communications to announce and launch the CFSI and to generate interest in and awareness of the initiative. Provide ongoing communications from point of initial announcement related to progress, events, activities, successes, and to promote engagement and participation.

04 ENGAGE WITH STAKEHOLDERS
Continue to engage and follow up with a broad range of university and non-university stakeholders in developing the strategy and implementing the overall initiative. Engage key stakeholders in creating a vision, goals, and prioritized action list for the strategy and initiative.

05 PRIORITIZE AND TEST FEASIBILITY OF IDEAS
Develop a prioritized list of early actions, medium, and long-term activities. Identify collaboration ideas and potential partnerships. Test feasibility and uptake potential of ideas where appropriate. Assess benefits, costs, and impacts of feasible activities.

06 DEVELOP THE CAMPUS SUSTAINABLE FOOD SYSTEM STRATEGY
Develop a Sustainable Food System Strategy to support the overall food initiative on campus. Identify strategic actions, order of priority, and how the university will undertake the tasks. Create a plan for how the university will share and promote the strategy and overall initiative.

07 GROW AND NURTURE COLLABORATIONS AND STRATEGIC PARTNERSHIPS
As part of strategy implementation, grow, establish and nurture partnerships with key players in government, business, and community sectors.
The specific suggestions and ideas identified through this assessment provide a constellation of possible ways the university could focus and develop the CFSI while still allowing a great deal of flexibility for ideas to emerge and change. It is important to emphasize that suggestions raised during stakeholder consultations and identified during research exercises are generally stated to inform the reader and are not necessarily best suited to the UAlberta’s institutional context. The implementation of any sustainable food system idea will need to be subject to further assessment with respect to its suitability to the university. Phases and possible activities are presented below.

Possible phases and activities for launching a campus food system initiative...

<table>
<thead>
<tr>
<th>Phase</th>
<th>Activities</th>
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<tbody>
<tr>
<td>01</td>
<td><strong>Assess the Campus Food System</strong> <em>(As contained in this SFSOA report)</em></td>
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<tr>
<td></td>
<td>- Assess current UAlberta Campus Food System</td>
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<td>- Research global food system trends and impacts on university food systems</td>
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<td></td>
<td>- Scan and provide post-secondary examples in developing campus food system initiatives.</td>
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<td></td>
<td>- Provide potential strategic directions and initiative opportunities.</td>
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<tr>
<td>02</td>
<td><strong>Initiate the Development of the CFSI</strong></td>
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<td></td>
<td>- Identify a small working group to guide, plan, advance, and further develop the campus food system initiative. This group could include representatives from, but is not limited to: operations (e.g., EMSO, Dining/Hospitality Services), outreach (e.g., the Office of Sustainability), academia (e.g., the Office of Sustainability Academic Advisory Committee [OSAAC]), and students (e.g., the Students’ Union and the GSA).</td>
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<td>- Plan and Clarify next steps.</td>
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<td>03</td>
<td><strong>Communicate</strong></td>
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<td>- Develop a communications strategy to announce and launch the CFSI and to generate interest in and awareness of the initiative. Determine key messages, communication needs and timelines, key audiences, and communications mediums (e.g. web, social, print).</td>
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<td>- Provide ongoing communications from point of initial announcement related to events, activities, successes, and to promote engagement and participation.</td>
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<td></td>
<td>- Identify, promote, and celebrate existing sustainable food system, accomplishments and successes (e.g. Augustana Campus food themed year, SUB Farmers’ Market, Green and Gold Garden, Sustain SU Reusable Dish Program, and organics collection program).</td>
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<td>- Host an event, or series of events, (e.g. a “Year of Food”) to promote and celebrate local, organic, sustainable, healthy and culturally diverse food and to promote the CFSI.</td>
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<td></td>
<td>- Disseminate communications materials (print, web, and social media).</td>
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<td>- Consider using social media to monitor fun and creative ways the initiative is being implemented.</td>
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</tbody>
</table>
Engage with Stakeholders

- **Initially engage key stakeholders** in developing a vision, goals, actions, and prioritization for the strategy.
- **Continue to engage and follow up with a broad range of university and non-university stakeholders** in developing the strategy and implementing the overall initiative. These groups include but are not limited to:
  - **Internal**
    - Office of Sustainability
    - Energy Management and Sustainable Operations
    - Office of Sustainability Academic Advisory Committee
    - ALES and other university academic departments
    - Faculty of Extension
    - City Region Studies Centre
    - Student Groups such as Sustain SU
    - Students’ Union
    - Dining Services
    - Ancillary Services
    - ARAMARK
    - Campus Food Bank
    - On campus food vendors
  - **External**
    - Government of Alberta
    - City of Edmonton
    - Northlands
    - Community groups such as the Edmonton Food Bank
    - Shaw Conference Centre
- Identify additional stakeholders that should be engaged early-on.
- **Work with the Office of Sustainability** and others to identify and implement education, awareness, and community engagement opportunities around sustainable food systems.

Prioritize and Test Feasibility of Ideas

- **Determine a prioritized list of actions**, based on what the university is already doing, background research, and what was heard from stakeholders.
- **Further test feasibility**, applicability, required actions, timelines and resource needs to implement for prioritized activities.
- **Identify further opportunities** to achieve early successes and to build momentum.
Possible phases and activities for launching a campus food system initiative...

### 06

**Develop the Sustainable Campus Food System Strategy**

- **Crystallize a long-term vision, goals, and actions** for a Campus Food System Initiative.
- **Consolidate all background information** and rationale.
- **Address the uniqueness** and specific challenges and opportunities of each campus.
- **Provide a clear path forward** in terms of prioritized actions and steps/responsibilities for implementing the CFSI.
- **Engage stakeholders** as needed in vetting and revising the strategy.
- **Create and implement a plan** for sharing and promoting the strategy on campus.
- **Communicate and share the strategy** with university and non-university stakeholders through print, web, and social media as well as special events and celebrations.

### 07

**Grow and Nurture Collaborations and Strategic Partnerships**

- **Identify early champions within UAlberta** to lead specific actions or initiatives, or for ongoing engagement and collaboration.
- **Continue discussions with representatives from the City of Edmonton** for further input, to assess alignment with *fresh:* Edmonton’s Food and Urban Agricultural Strategy, and to identify opportunities for collaboration and partnership.
- **Continue discussions with representatives from the Province of Alberta** (Alberta Agriculture, Alberta Health Services) for further input and to identify opportunities for collaboration and partnership.
- **Initiate discussions with the UAlberta Hospital and Public Health Canada** around potential collaboration opportunities.
- **Continue learning collaborations** with University of British Columbia
- **Engage regional food processing incubators** in identifying industry-university collaboration opportunities.
7.2. Potential Strategic Directions and Opportunities

The potential strategic directions and opportunities presented below bring together the findings from the research and outcomes from stakeholder engagement. They provide a high-level view of key possibilities and opportunities for UAlberta. Future phases of this project will further vet, prioritize, and test the applicability and feasibility of these ideas.

The seven themes from the post-secondary initiative examples are represented in the potential strategic directions below. An additional seven potential strategic directions identified by stakeholders are also included. These early directions and initiative options form an initial basis for further development of the Campus Food System Initiative. The fourteen potential strategic directions are:

- Academic Programs and Research Facilities
- Applied Learning Opportunities
- Local Sustainable, and Fair Trade Food Procurement
- Healthy Eating on Campus
- Farmers Markets and Food Trucks
- Growing Food
- Living Laboratories
- Engagement, Communications and Celebration
- Food Waste Reduction, Recovery, and Management
- Plans and Strategies
- Building Design
- Knowledge Mobilization
- Building Culture and Community Around Food and Increasing Access to Sustainable Food
- Education and Awareness

The following section describes these potential strategic directions and provides a range of possible opportunities to address these directions. Quick start options have been offered for building momentum behind the CFSI. The potential strategic directions and opportunities broadly consider the areas of facilities and operations, academic programs, and community building and outreach.
### POTENTIAL STRATEGIC DIRECTIONS

**Academic programs and research facilities**

Food system related research, facilities, and degree programs in areas such as agriculture, horticulture, landscape architecture, planning, urban design, culinary, economics & business, nutrition, and food policy, among others.

### OPPORTUNITIES

#### QUICK STARTS

- Continue discussions with the Dean of Agriculture, Life, and Environmental Sciences (ALES) and obtain input on the sustainable food systems strategy from various faculty members within ALES involved in food systems.
- Interview UAlberta faculty members who conduct research related to food systems to determine potential areas of strength for sustainable food systems research.
- Provide support for the Prairie Urban farm to have more curriculum and research linkages.

#### MEDIUM AND LONG TERM

- Build capacity to deliver programs in sustainable agriculture, food security, food sovereignty, and food justice within the agriculture, food science, and nutrition programs.
- Assess the potential to create interdisciplinary programs in sustainable food systems, especially given the new sustainable food systems stream in the Environmental Studies BA program at UAlberta, and the growing strength in food-related research in the Resource Economics and Environmental Sociology department in the Faculty of Agriculture, Life, and Environmental Sciences.
- Establish an interdisciplinary certificate program on food systems.
- Establish a formal course on sustainable food systems.
- Develop programs or facilities that enable commercial product development of value-added food products. This could include a variety of processing facilities including commercial test kitchens, livestock storage facilities, dairies, etc.
- Develop a field course or research program around alternative models of agriculture (urban agriculture, hydroponics).
- Explore the feasibility of a research park. Unlike living laboratories, research parks have more of a business/industry focus and are often...
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<tr>
<th>POTENTIAL STRATEGIC DIRECTIONS</th>
<th>OPPORTUNITIES</th>
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<tr>
<td>Applied learning opportunities: Increasingly, universities are developing hands-on learning opportunities for post-secondary students. Opportunities range from sustainable horticulture to innovations in local food processing.</td>
<td>aligned with objectives around technological commercialization. Food systems are a key opportunity to focus research agendas on sustainability and would benefit from the research and development that would occur in a research park.</td>
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**QUICK STARTS:**
- Experiment with compact, urban agriculture projects on our campuses, including garden boxes, adopt-a-garden, edible landscaping and/or vertical farms.
- Ask students to evaluate what they eat in a day to increase awareness of what portion is sustainable, local, fair trade, and/or healthy food choices.
- Host a theme year of food, like Augustana campus.

**MEDIUM AND LONG TERM**
- Enable creation of student owned and operated food outlets.
- Create a world seed bank at the Devonian garden.
- Bring the farm to the classroom through videos.
- Implement program that teaches gardening and other food production skills to students.
- Develop a processing facility on campus for dairy, which provides milk and cheese to campus.
- Create a market garden on campus that is operated by students.

**Local Sustainable, and Fair Trade Food Procurement:** Food produced locally or certified as sustainable by a recognized third-party (i.e. Fair Trade, Marine Stewardship Council, Certified Organic, etc.). Food operators on campus may consider prioritizing the procurement of local or sustainable food. In particular, they may

**QUICK STARTS**
- Explore what UAbera’s connection could be to the Fairtrade Edmonton/Fairtrade Town initiative.
- Improve and promote Sustainable Catering options (Aramark, L’Express, others).
- Collaborate further with Northlands and the City of Edmonton on the Local Food Procurement initiative to increase the amount of local food purchased at the university and beyond.
- Continue to work with Dining Services and Aramark to integrate local
CFSI Possibilities

**POTENTIAL STRATEGIC DIRECTIONS**

* choose to set up supplier contracts that include local food procurement targets so that over time, the food that is served at universities maximizes the use of sustainable and local foods.

**OPPORTUNITIES**

* food targets into the procurement contract
  * Continue to work with Dining Services and Aramark to enhance operational sustainability in a phased manner over a multi-year period. This could include leveraging such programs as Aramark’s “Red-Yellow-Green” food nutrition labeling system that began implementation by Dining Services in early 2013.
  * Continue to work with Aramark on organic waste reduction, recovery, and diversion.

**MEDIUM AND LONG TERM**

* Create a map or other user-friendly interface to promote where to access healthy food sources, including local, on campus.
* Collaborate with on campus food providers (e.g., Aramark, Engrained, Lister Market, RATT, L’Express, and others) regarding the availability and promotion of local, organic, sustainable, and healthy food options.
* Further explore the Farm to Cafeteria Program (see: http://www.farmtocafeteriacanada.ca).
* Follow up with Local Food Policy & Planning, Alberta Agriculture and Rural Development regarding opportunities for collaboration.
* Provide independent vendors with incentives to green their operations.
* Have one day a week sustainable food specials that are composed of seasonal food, served at a relatively low cost to other options.
* Develop a Sustainable Food Purchasing Policy.

**Healthy eating on campus:** Healthy eating campaigns that are connected to dining services and foods available on campus will help to create a demand for local foods.

**QUICK STARTS**

* Conduct an audit of food re-heating facilities/amenities; consider providing additional facilities where needed to support students who wish to bring their own lunch
* Increase the number of water fountains and bottle refill stations on campus
### CFSI Possibilities

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<th>POTENTIAL STRATEGIC DIRECTIONS</th>
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<tr>
<td><strong>MEDIUM AND LONG TERM</strong></td>
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<tr>
<td>- Encourage contractors to pilot nutritious/healthy options in vending machines in late night study areas</td>
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<td>- Create more opportunities for a variety of food trucks.</td>
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<td>- Increase the amount of nutritionally balanced vegetarian, vegan, reduced dairy/meat choices</td>
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<td>- Increase the number of independently branded vendors on campus</td>
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<tr>
<td>- Continue to develop a teaching kitchen in the PAW Centre</td>
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<td>- Improve access to kitchenettes for students living on campus</td>
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<tr>
<td>- Provide space for a vendor to open a campus grocery store that has increased sustainable and/or international offerings</td>
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<tr>
<td>- Consider providing grocery facilities through Dining Services, with fresh food inside student residences</td>
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<tr>
<td>- Ensure ingredient information is made available on food products.</td>
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</tbody>
</table>

**Farmers’ markets and food trucks:** Movable markets such as farmers’ markets and food trucks can provide diverse healthy food options while also providing local economic opportunities. Movable markets also provide excitement and interest that draws a wide range of customers.

**QUICK STARTS:**

- Identify viable food truck locations on all campuses
- Collaborate with students to enhance the current Farmers’ Market on campus.

**MEDIUM TO LONG TERM:**

- Identify vendors that provide for healthy and diverse food options.
- Promote the farmers’ market(s) and food trucks on and off campus.
### POTENTIAL STRATEGIC DIRECTIONS

<table>
<thead>
<tr>
<th>CFSI Possibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Growing food:</strong> Open space on campus including streets, parks, and rooftops are key opportunities for growing food on campus for faculty, students and staff to enjoy. Landscape plans and management may consider edible landscaping involving street fruit trees, berry shrubs, and other climate appropriate food-productive plants that offer grazing opportunities and potentially substantial inputs to cafeteria operations and/or university food festivals. Growing food also commonly involves allotment gardens. Gardening, and community gardening in particular, has many well-established physical, social, economic and overall health benefits. Universities can enable their students, staff and faculty members to access these benefits through the provision of space for allotments and associated programming.</td>
</tr>
</tbody>
</table>

### OPPORTUNITIES

<table>
<thead>
<tr>
<th>QUICK STARTS:</th>
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</thead>
<tbody>
<tr>
<td>• Explore and implement opportunities to incorporate edible landscaping as part of each campus (e.g. edible planting guidelines and management strategies, special edible landscaping projects at locations such as Education Garden, water features, and Alumni Walk, among others.)</td>
</tr>
<tr>
<td>• Consider developing Edible Landscaping Guidelines within campus Open Space Plans.</td>
</tr>
<tr>
<td>• Collaborate with the Prairie Urban Farm on South Campus.</td>
</tr>
<tr>
<td>• Collaborate further with the Faculty of Education on the development of the Indigenous Teaching Garden.</td>
</tr>
<tr>
<td>• Allow people to use the ‘Adopt a Planter’ program to grow food on campus.</td>
</tr>
</tbody>
</table>

### MEDIUM AND LONG TERM

<table>
<thead>
<tr>
<th>QUICK STARTS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Collaborate with campus, industry and government partners to explore and implement an energy efficient greenhouse (possibly using solar panels and waste heat, hydroponics and aquaponics) to provide year round locally grown and organic food for Dining Services, SU owned outlets, and other campus food outlets.</td>
</tr>
<tr>
<td>• On main campus, collaborate with the SU &amp; BGS to develop a garden to support the PAW Kitchen. Include in the Campus Open Spaces Plan.</td>
</tr>
<tr>
<td>• Explore feasibility of an edible green wall.</td>
</tr>
<tr>
<td>• Demonstrate vertical food production (in vertical pipes or on green walls) in the spring with fast growing spring crops (e.g. lettuce, strawberries).</td>
</tr>
<tr>
<td>• Establish urban agriculture demonstration projects.</td>
</tr>
<tr>
<td>• Establish box plot gardens around East Campus (Garneau) buildings.</td>
</tr>
<tr>
<td>• Organize and host seedling days or adopt a garden programs targeting students.</td>
</tr>
</tbody>
</table>
### POTENTIAL STRATEGIC DIRECTIONS

#### Living Laboratories:
Living laboratories are areas where faculty and students have a “hands-on” experience with food and agriculture research. This may involve testing new crops for biofuel or food, urban agriculture, market farming, integrated pest management strategies, among many others. Often large contiguous parcels of land and associated research, storage and processing facilities are required. Community is often invited in various ways to participate in the farm.

#### Food Waste Reduction, Recovery and Management:
Interconnected systems are those where output from one system can be used as input to another. The university has already started taking actions in this area. Examples include continuing to make compost from food scraps and using rainwater or grey water for irrigation. Build on existing efforts to integrate infrastructure and operational processes into a closed loop system to achieve long-term campus sustainability.

### OPPORTUNITIES

#### QUICK STARTS:
- Continue to learn from UBC Farm advisors in the development of a UAlberta as a living laboratory.
- Further collaboration with the Prairie Urban Farm on South Campus

#### MEDIUM AND LONG TERM
- Collaborate to develop and deliver Gardening 101 skill development courses to students, faculty, and staff. Consider collaboration with the Prairie Urban Farm.
- Provide land and facility assets focused on the development of sustainable production methods.

#### QUICK STARTS:
- Develop and disseminate communication material on progress in decreasing organic waste over time.
- Increase organic collection from SUB, Lister, and HUB
- Increase number of water bottle fill stations on campus to reduce reliance on bottled water.

#### MEDIUM AND LONG TERM
- Continue to work on organic waste diversion campus-wide.
- Continue partnership work with the City of Edmonton on the implementation of an organic waste to energy high solids anaerobic digestion facility to generate renewable energy and produce compost.
- Develop a waste reduction strategy specifically targeting food packaging, which is a substantial proportion of our waste stream.
- Move SUB and HUB to a Styrofoam free environment.
## POTENTIAL STRATEGIC DIRECTIONS

### Engagement, Communications, and Celebration:
Ongoing engagement, communication and celebration of success are central to the development of the Campus Food System Initiative. Also, campus experience is a key reason why students choose universities. By celebrating cultural diversity through food, new students are engaged and made to feel welcome and that they are part of a campus community.

### Plans and Strategies:
Sustainability plans allow universities to coordinate efforts towards meeting food system goals. These plans may contain criteria for tracking performance in areas such as GHG emission reductions associated with purchasing more local foods or purchasing plans for dining services. The UAlberta Sustainability Plan (2012-2016) is another step in this direction.

### Building Design:
Buildings, where possible, could seek opportunities to integrate food systems elements, such as production, education, processing, and waste recovery. Buildings and sector plans can be designed in a way that contributes to health outcomes.

## OPPORTUNITIES

### QUICK STARTS:
- Create a campus calendar of cultural events (including information about food-related customs, fasts, etc.)
- Create a space for international students to exchange information about culture and food

### MEDIUM AND LONG TERM:
- Organize food-themed events to celebrate cultural diversity (e.g., a Festival of Breads (every culture has their own unique bread), and a ‘A Taste of the U of A’ feast).

### QUICK STARTS:
- Integrate food systems into upcoming campus planning exercises including *The UAlberta Sustainability Plan (2012-2016)*, Update to *UAlberta Sustainability Plan*, the *North Campus Open Spaces Plan*, and other campus open space plans.
- Work with Aramark on local and organic purchasing and targets.
- Continue to score points around food in the STARS rating system.

### MEDIUM AND LONG TERM
- Complete the UAlberta Sustainable Food System Strategy.
- Begin to track GHGs associated with food on campus.

### QUICK STARTS:
- Create food system design and construction guidelines to be a resource to contribute to a healthy built environment during planning and design phases of a new buildings and sector plans.

### MEDIUM AND LONG TERM
- Design buildings that consider places to grow, process, store, buy, sell,
### CFSI Possibilities

<table>
<thead>
<tr>
<th>POTENTIAL STRATEGIC DIRECTIONS</th>
<th>OPPORTUNITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>conviviality and community food production/self-sufficiency.</td>
<td>eat and recover waste from food and are conducive to physical activity.</td>
</tr>
<tr>
<td></td>
<td>• As part of placemaking on campus, create a ‘spill out’ effect with cafes, restaurants, pubs, and food retail on wide sidewalks with patios, tables and chairs.</td>
</tr>
<tr>
<td></td>
<td>• Redevelop a true eco-house on campus</td>
</tr>
<tr>
<td></td>
<td>• Increase capacity of food and waste storage facilities on Augustana campus</td>
</tr>
<tr>
<td></td>
<td>• Create a full-scale kitchen facility at CSJ to allow that campus to return to self-operation.</td>
</tr>
</tbody>
</table>

**Knowledge mobilization:** Sharing successes and lessons learned as the CFSI grows will help UAlberta establish a leadership role as well as share information with other universities to support their process of addressing food systems.

**QUICK STARTS:**
• Create a listserv that links scholars interested in food with food-focused community groups/student groups who have research questions.

**MEDIUM AND LONG TERM**
• Showcase sustainable ranching practices on the university’s lands
• Host a UAlberta Western Canadian Conference on Food Security
• Develop a public seminar series on sustainable food

**Building culture and community around food and increasing access to sustainable food:** Food provides a great reason to gather and celebrate. Campus wide community-building activities around different aspects of the food system, creates community around specific projects and initiatives that are connected to a broader effort. Increasing access to healthy and sustainable food can occur on the demand side (e.g. creating a map of where to buy)

**QUICK STARTS:**
• Participate in Farm to Table Harvest Celebrations

**MEDIUM AND LONG TERM**
• In conjunction with the open space plan, co-create an urban Aboriginal garden with Aboriginal people from the Edmonton community.
• Encourage food-related land uses, such as food retail or food gardens, to soften edges and increase integration between neighboring communities and university campuses.
• Create opportunities for demonstrative learning (e.g., demonstration kitchens or gardens)
### POTENTIAL STRATEGIC DIRECTIONS

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<tr>
<th>POTENTIAL STRATEGIC DIRECTIONS</th>
<th>OPPORTUNITIES</th>
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</table>
| local food) and the supply side (e.g. providing incentives and education on providing more healthy food options) | • Demonstrate local eating on campus (e.g., a 100 mile diet meal)  
• Create a lunch hour, where less courses are scheduled to encourage more students to take a break and eat lunch  
• Explore the potential for establishing campus community kitchens. Community kitchens can complement food system and public health educational programs by providing a forum for teaching students and community members how to grow, process, prepare, and maximize fresh, healthy local food.  
• Foster a culture of sharing and openness with the community by providing space for events throughout the year, especially ones that celebrate local and sustainable food.  
• Plan for cafes, pubs, and restaurants, as they are often the busiest part of a street or campus corner. Having specialty foods such as U of A micro-brew beer with hops grown on site, could draw people from on and off campus to these locations. |

### Education and Awareness

Education and Awareness. As the understanding and complexity of campus food systems evolves, providing general education and awareness opportunities around general concepts and specific activities is a key element of increasing participation in the initiative.

### QUICK STARTS:

- Grow and better promote and communicate the eco-discounts offered across campus.  
- Integrate information about nutritional value of food offerings on campus into U of A smart phone Apps  
- Expand on the list of nearby restaurants and grocery stores developed by the Office of Sustainability to include caterers that have sustainable options.  
- Promote sustainable catering options on campus.  
- Evaluate whether Meatless Monday concept or related promotion of alternative diets employed on other campuses would be appropriate at the university.  
- Continue to deliver regular Farm to Fridge workshops.

### MEDIUM AND LONG TERM:

- Create a Sustainable Food Labeling System for the U of A as a tool to
### CFSI Possibilities

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<tr>
<th>POTENTIAL STRATEGIC DIRECTIONS</th>
<th>OPPORTUNITIES</th>
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<tbody>
<tr>
<td></td>
<td>help people prioritize food options. Also enhance labeling around nutritional content, ingredients and possible allergens.</td>
</tr>
<tr>
<td></td>
<td>• Create guides for making sustainable food choices (that consider point of origin, seasonality, ranking of options)</td>
</tr>
<tr>
<td></td>
<td>• Partner with Community Programs (mentorship, community health, youth): Nurture close ties with the larger community through food-related activities and programs that serve a community need while promoting sustainable food education. These programs could target all age and ability groups. For example a lecture series on food politics or an iron chef competition would create community and culture around food.</td>
</tr>
<tr>
<td></td>
<td>• Promote local food luncheons, potlucks in offices on campus</td>
</tr>
<tr>
<td></td>
<td>• Host sustainability-themed cooking classes (Augustana has held 100 mile cookie contest to illustrate for people in real life what eating local means)</td>
</tr>
</tbody>
</table>
8. Conclusion

This report has provided an assessment of the feasibility and supportability of a Campus Food System Initiative at the University of Alberta. Through an examination of initiatives from other institutions, an assessment of trends in sustainable food systems, engagement with university and non-university stakeholders and a scan of current UAlberta activities, this assessment concludes that a CFSI is not only feasible and well supported, but it is a clear leadership opportunity for the university.

It is recommended that the University of Alberta proceed with the implementation of a Campus Food System Initiative and the development of a sustainable food system strategy tailored to the University of Alberta. The notable level of enthusiasm and support that was recorded during meetings with stakeholders indicates the great potential for uptake of a diverse range of activities that will form the CFSI.

This assessment provides a starting point and an important baseline for future phases of the growth of a CFSI. This assessment has also provided early strategic directions and a wide range of options and ideas for how the university can grow the CFSI.

As the farmer and scholar Wendell Berry notes, people living in cities are farmers by proxy; they can eat only if land is farmed on their behalf by somebody, somewhere, in some fashion. Berry’s point is critical and creates a strong impetus for examining this relationship and how the sustainability of modern food systems can be improved. As sustainable food systems continue to be addressed through public policy, community activities, the private sector, and in universities, regions and countries are better able to link cities and the rural hinterlands that feed them.

Implementation of a CFSI will position the University of Alberta to contribute in a meaningful way to the development of sustainable food systems on our campus, in our community, our province, and globally, for the benefit of society as a whole.

“The modern state university has sprung from a demand on the part of the people themselves.... The people demand that knowledge shall not be the concern of scholars alone. The uplifting of the whole people shall be its final goal. This should never be forgotten.”

-- Henry Marshall Tory, the University of Alberta’s First President
Appendices

Appendix A: Assessment Participants

The engagement phase of this project was completed in 2011 and included the following departments and organizations (listed alphabetically by department/organization).

<table>
<thead>
<tr>
<th>Department/Organization</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural, Life and Environment Sciences (ALES)</td>
<td>✓ Dean</td>
</tr>
<tr>
<td>Alberta Agriculture and Rural Development</td>
<td>✓ Rural Extension and Industry Development Division, Local Market Expansion Branch</td>
</tr>
<tr>
<td>Aramark</td>
<td>✓ Resident District Manager, Regional Manager, National Director, Wellness and Sustainability</td>
</tr>
<tr>
<td>Augustana Campus</td>
<td>✓ Dean, Director, Student &amp; Resident Services, Manager, Food Services, Facilities &amp; Operations Manager, Sustainability Coordinator</td>
</tr>
<tr>
<td>Campus St. Jean</td>
<td>✓ Dean, Senior Advisor, Public Relations</td>
</tr>
<tr>
<td>City of Edmonton</td>
<td>✓ Social Worker, Neighborhood and Community Development, Principal Planner, Sustainable Development</td>
</tr>
<tr>
<td>Facilities and Operations</td>
<td>✓ Vice President, Associate Vice President, Executive Director, Planning &amp; Project Delivery, University Architect, Office of the University Architect, Associate Director, Planning &amp; Project Delivery, Executive Director, Operations &amp; Maintenance, Associate Director, Buildings and Grounds Services, Executive Director, Ancillary Services, Director, Hospitality Services, Support Services Coordinator, Hospitality Services</td>
</tr>
<tr>
<td>Faculty of Extension</td>
<td>✓ Dean, Assistant Professor</td>
</tr>
<tr>
<td>Faculty of Physical Education and Recreation</td>
<td>✓ Dean, Director, Operations</td>
</tr>
<tr>
<td>GSA</td>
<td>✓ Vice-President</td>
</tr>
<tr>
<td>Lister Hall Students’ Association</td>
<td>✓ President</td>
</tr>
<tr>
<td>Office of Sustainability</td>
<td>✓ Academic Coordinator, Director, Office of Sustainability, Program Leads, Outreach and Engagement</td>
</tr>
<tr>
<td>Office of the Provost and VP Academic</td>
<td>✓ Deputy Provost, Vice-Provost and Dean of Students</td>
</tr>
<tr>
<td>Department/Organization</td>
<td>Position</td>
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<tr>
<td></td>
<td>✓ Provost’s Special Advisor on Aboriginal Issues</td>
</tr>
</tbody>
</table>
| Students’ Union         | ✓ President  
|                         | ✓ Director, Sustain SU (formerly ECOS)  
|                         | ✓ Sustainability Audit Coordinator |
## Appendix B: STARS Operations Credit 6: Food and Beverage Purchasing Points Criteria

<table>
<thead>
<tr>
<th>OP Credit 6: Food and Beverage Purchasing (STARS v1.2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 points available</td>
</tr>
<tr>
<td><strong>A. Credit Rationale</strong></td>
</tr>
<tr>
<td>This credit recognizes institutions that are supporting sustainable food systems through their food and beverage purchases. Institutions can do this by prioritizing the purchase of local, organic, Fair Trade, and sustainably harvested food and beverage items. These actions help foster robust local economies, healthier soils and streams, and secure livelihoods for farmers.</td>
</tr>
</tbody>
</table>

| **B. Criteria**                                       |
| This credit includes food and beverage purchases for on-campus dining services operated by the institution or the institution’s primary on-site contractor. Institution purchases food and beverages that meet at least one of the following criteria: |
| • Grown and processed within 250 miles of the institution |
| • Third-party certified (USDA Certified Organic, Marine Stewardship Council Blue Ecolabel, Food Alliance, Fair Trade, Certified Humane Raised and Handled) |
| Food and beverage purchases that meet multiple criteria listed above should not be double-counted. This credit includes food and beverage purchases for on-campus dining operations and catering services operated by the institution or the institution’s primary dining services contractor (e.g. Aramark, Bon Appétit Management Company, Chartwells, Sodexo). Onsite franchises, convenience stores, vending machines, or concessions are excluded from this credit unless they are operated by the institution or the institution’s primary onsite contractor. |

| **C. Applicability**                                  |
| This credit applies to all institutions that have on-campus dining services operated by the institution or the institution’s primary on-site contractor. |

| **D. Scoring**                                        |
| Institutions earn the maximum of 6 points when food and beverages that meet at least one of the criteria outlined above comprise 50 percent or more of food and beverage purchases. Incremental points are available based on the percentage of food and beverage expenditures devoted to sustainable food. For example, an institution that spent 25 percent of its food and beverage budget on sustainable food would earn 3 points (half of the points available for this credit). |