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Message from the President

It is with great pride that I present the University of Calgary 2010 – 2011 Sustainability Report – a reflection of our institutional commitment to excellence and leadership in sustainability, and the significant progress we have made toward achieving our goals.

Our vision for on-campus sustainability spans the full breadth of our institutional endeavours, from the operational and facilities management perspective where we have had our greatest focus and thus most significant progress to date, to our academic programs and research. We have taken on this wide-ranging sustainability challenge because we believe we are uniquely positioned here to lead, to develop both interdisciplinary and systems-based solutions for the communities we serve, and to model sustainable development practices in our daily campus activities.

This report outlines the contributions of our passionate community of students, faculty and staff, whose innovative ideas and collaborative approach have fueled our progress towards a more sustainable campus.

Since the end of this reporting period (fiscal year 2010 – 11), we have strengthened our resolve and set our sights higher: our Eyes High strategic direction affirms sustainability as one of the University of Calgary’s core values and the accompanying 2012 Academic Plan identifies sustainability as one of seven institutional priorities. In the coming years we will coordinate our sustainability efforts in the academy to provide cutting edge research opportunities, leading curriculum and exciting co-curricular learning opportunities for students. In addition, our Institutional Sustainability Plan defines our path forward over the next four years. I invite you to read each of these plans, monitor and provide feedback on our progress, and join us as partners in this challenge.

The summary and full versions of the 2010 – 2011 Sustainability Report are available at: ucalgary.ca/about/sustainabilityreport. Please share comments and questions on this report at: sustain@ucalgary.ca.

Sincerely,

Elizabeth Cannon
President
About this Report

WHAT IS THE SUSTAINABILITY REPORT?

The University of Calgary Sustainability Report (SR) provides a report to the community on institutional progress in fulfilling the University of Calgary’s commitment to excellence and leadership in advancing the pursuit of sustainability. The report encompasses Planning, Administration & Engagement; Learning & Research; and Campus Operations. This 2011 SR – our first comprehensive report – includes this summary report and a detailed online report at www.ucalgary.ca/about/sustainabilityreport.

This report compiles available information about environmental, economic and social impacts from all sites within the University’s operational control up to the end of the fiscal year ending March 31, 2011. Sites excluded from the scope of this report are Calgary Technologies, Bamfield Marine Science Centre, and Downtown and Qatar Campuses. The report scope was determined using the Global Reporting Initiative’s boundary protocol (a more in-depth look at the Global Reporting Initiative follows on page 4).

The SR is based on the Global Reporting Initiative (GRI) framework and draws performance indicators from a number of relevant programs including GRI, the Sustainability Tracking, Assessment and Rating System (STARS) developed by the Association for the Advancement of Sustainability in Higher Education (AASHE), and the imagineCALGARY partnership. We have self-assessed our reporting to be GRI Application Level C.

The University intends to produce a Sustainability Report every second year. Please contact the University of Calgary Office of Sustainability for more information.

WHY REPORT ON SUSTAINABILITY PERFORMANCE?

Our Commitments

Sustainability Policy – The University of Calgary’s Sustainability Policy commits the institution to “excellence and leadership in advancing the pursuit of sustainability in teaching, research, campus operations and community service.” The policy also confirms a commitment to the publication of a biennial Sustainability Report.

Institutional Sustainability Plan (ISP) – The ISP sets goals and targets that were established through a comprehensive two-year consultation process involving a broad cross-section of campus stakeholders. This included key institutional governance councils such as General Faculties Council, the University Planning Committee, the Associate Dean’s Research Council, Deans’ Council as well as student groups, staff and faculty members and members of senior administration. As such, the ISP provides a robust guide to issues of material significance to the campus community.

Project Next Strategy Statement – The University of Calgary undertook a major campus-wide engagement initiative to develop an overarching strategy statement to tie together the suite of institutional strategic planning documents. The supporting document for the statement identifies sustainability as a core value of the institution.

Talloires Declaration – Signed in 2007, the University of Calgary joined over 400 universities from over 50 countries in a commitment to sustainability in higher education. It includes a ten-part action plan for incorporating sustainability and environmental literacy in teaching, research, operations and outreach.
University and College Presidents’ Climate Change Statement of Action – As a signatory, the University of Calgary is committed to demonstrate leadership in reducing greenhouse gas emissions and catalyzing solutions for climate change. 28 institutions in Canada have signed and nearly 700 American institutions have signed a similar declaration.

imagineCALGARY – A 100-year vision for the city of Calgary developed with input from more than 18,000 members of the community at large. The alignment of the institution's sustainability activities and reporting with imagineCalgary objectives is part of the University’s commitment to its home community.

TRENDS IN CORPORATE SOCIAL RESPONSIBILITY

Societal expectations for organizations to better manage their impacts on the environment, economy and communities are rapidly expanding, Corporate Social Responsibility (CSR) reporting is a mechanism for organizations to publicly communicate progress related to the integration of sustainability principles with core activities. In 2010 40% of companies undertook CSR reporting, up from 31% in 2009 (Pricewaterhouse Coopers LLP, 2010), and requests for CSR reports now outnumber financial reporting requests by 20 to 1. In a 2010 survey of 766 CEOs around the globe an overwhelming majority of CEOs stated that “sustainability will be critical to the future success of their companies” and that “within a decade, a tipping point could be reached the fully meshes sustainability with core business - its capabilities, processes and systems, and throughout global supply chains and subsidiaries.” (“UN Global Impact”, N.d.)

SUSTAINABILITY TRENDS IN HIGHER EDUCATION

Parallel to the growing trends in CSR, sustainability is growing as a key principle underpinning activities in higher education. Once associated primarily with operational practices, sustainability is now recognized as “a concept with tremendous opportunity for the kind of pedagogical applications that usher in broad and enduring social changes” (Sherman, 2008). There is a recognized need for research to address pressing societal challenges and stakeholders commonly expect sustainability to be a key focus of academic programs. Students increasingly seek careers with socially responsible organizations and subsequently look for universities to prepare them for those opportunities. Businesses are seeking graduates literate in sustainability principles and benefactors are turning their focus towards institutions that have aligned their mandate with society’s most pressing challenges. The 2010 launch of the Sustainability Tracking and Rating System (STARS), a North American tool for rating sustainability performance in higher education, saw close to 300 institutions sign on as Charter participants. Participation in STARS ratings across Canadian and American institutions continues to grow.

REPORT DEVELOPMENT PROCESS

The SR was developed by the Office of Sustainability (OS) in collaboration with the Haskayne School of Business. University staff worked with students from the MBA and Sustainability Energy Development programs and Haskayne faculty to conduct a preliminary review of best practices in sustainability reporting, to define the structure of the report and to compile available information. The Office of Sustainability then used this preliminary work to complete the report.

Structure

The structure for this report is based on the Global Reporting Initiative (GRI) Sustainability Reporting Framework (Global Reporting Initiative, N.d.), an international standard that provides organizations with a core set of principles and indicators for measuring and reporting their economic, environmental and social performance. We have self-assessed our reporting to be GRI Application Level C [link to index], which specifies a minimum level of disclosure as indicated in the table below.
A key function of the GRI is to provide a process with which to identify stakeholders and determine the materiality of aspects of an institution’s performance that stakeholders hold to be significant. There is a vast array of topics which could be reported; determining which are of material importance to stakeholders is necessary to help focus an institution’s tracking and reporting efforts.

### Materiality and Stakeholders

The University of Calgary’s stakeholders include faculty, students, staff, alumni, community, peer institutions and government. For the SR, a number of approaches were used to determine which issues are of material importance to each stakeholder group. In some cases, stakeholder groups self-identified these issues through independently released reports or frameworks. Additionally, the Haskayne students undertook a survey of the above stakeholder groups but the survey response rate was too low to be statically representative of stakeholder groups. Following publication of this report an alternate stakeholder engagement process will be undertaken to solicit comments on this report and institutional progress. Apart from engaging stakeholders directly, a number of established programs were consulted to determine the materiality of information to be included in the SR:

#### Sustainability Tracking, Assessment and Rating System (STARS)

STARS was developed by the Association for the Advancement of Sustainability in Higher Education (AASHE) to facilitate comprehensive and transparent measurement of sustainability performance by post-secondary education institutions. Since its launch in 2010, to date 22 Canadian institutions and a further 250 American institutions have registered to participate, establishing STARS as the post-secondary community’s consensus on material sustainability issues. The set of indicators used in the STARS program have been developed and accepted by the University of Calgary’s peer institutions as a comprehensive means to measure campus sustainability.

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### Table 1: Report Application Level

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<td>Report on each core G3 and Sector Supplement* Indicator with due regard to the Materiality Principle by either: a) reporting on the Indicator or b) explaining the reason for its omission.</td>
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*Sector supplement in final version
Institutional Sustainability Plan (ISP)

The University of Calgary’s ISP outlines a holistic approach to campus sustainability, identifying priorities and opportunities through a two-year consultation process involving a broad cross-section of faculty, staff and student stakeholders. While the ISP aligns with STARS and other sustainability programs, the plan’s context with the University of Calgary campus was shaped by contributors including:

- Staff from various campus Business Units
- Various student groups
- ISP Task Force
- The University of Calgary Executive Leadership Team
- Deans’ Council and Deans’ Forum
- University Planning Committee
- Associate Dean’s Research Council
- General Faculties Council
- Board of Governors Standing Committee: Environment, Health, Safety + Sustainability
- Board of Governors
- Students’ Union
- Graduate Student’s Association

Our Stakeholders

- Students
- Faculty
- Staff
- Alumni
- Local Community
- Business Community
- Government
- Government

The ISP framework supports the University’s commitments to advance sustainability as an organization, a university, and as member of the surrounding community. As a plan to guide the advancement of campus sustainability, the ISP is a living document that is intended to be regularly updated through continued stakeholder engagement.

imagineCALGARY

The imagineCALGARY project defined a 100-year vision for the city of Calgary with input from more than 18,000 members of the community at large. The plan covers goals for a number of systems that are important to shaping life in the city:

- Built Environment & Infrastructure
- Economic
- Governance
- Natural Environment
- Social

The University of Calgary is one of more than fifty community organizations that have partnered to support the imagineCalgary Plan, and alignment of the institution’s sustainability activities and reporting with imagineCalgary objectives is part of the University’s commitment to its home community.
Stakeholder Survey

A survey was conducted among various University stakeholders to identify priorities and topics of interest in the institution’s reporting of campus sustainability performance. The survey was intended to provide insight into the concerns of internal and external who were either part of the University community or were impacted by the University’s activities. Parties represented by the individuals approached include:

- Students represented by Student’s Union
- Faculty represented by Faculty Deans of all University faculties
- Non-academic staff from the following Departments:
  - Facilities Management
  - Facilities Management
  - Campus Planning
  - University Relations
  - IT
  - Planning and Resource Allocation
  - Supply Chain Management
  - Human Resources
  - Student and Enrolment Services
  - Administration
- NGO representatives
- Representatives of the Public Sector in Calgary
- Representatives of the Private Sector in Calgary

Data Quality and Integrity

The data used to measure and report the University of Calgary’s sustainability performance was compiled through a number of programs that the institution participates in. Much of the information presented in the SR was collected using sampling and data standards established for the STARS, GRI and other standard business reporting frameworks. Data regarding campus energy consumption and greenhouse gas emissions was sourced from the University of Calgary’s Greenhouse Gas Inventory Report that adheres to the Greenhouse Gas Protocol Corporate Accounting and Reporting Standards.

Both qualitative and quantitative information about institutional policies, practices and operations was used to characterize the University’s sustainability performance. Where possible, data from regular operational and business reporting processes was used to maintain consistency with the University’s other existing reporting commitments. Such data included energy consumptions from utility providers and the University’s own sub-meters, statistics from the University’s Office of Institutional Analysis, and information from other campus Business Units. In some instances where data was unavailable, estimates were made using widely-accepted methods and assumptions when a reasonable standard of quality could be maintained. The Office of Sustainability developed an inventory to assess the University’s curricular offerings using criteria based on industry standards. Transportation related metrics were drawn from consultant studies and University developed surveys.

Information was obtained directly from data sources and published material when possible. An information request protocol was developed to streamline and standardize the process with which data was collected from various campus Business Units. A tracking tool was also developed to monitor the data collection process and assist in managing the data set.

HOW ARE WE DOING?

While the University of Calgary has demonstrated leadership in campus sustainability, the institution recognizes that many opportunities for growth remain. A key aspect of the SR is to provide a snapshot of institutional progress, particularly with respect to our institutional commitments.

The SR aligns significantly with the Institutional Sustainability Plan as both draw heavily from the STARS framework. The University of Calgary submitted its first STARS report in July 2011, earning a Silver rating which reflects the work being done across the institution while also identifying areas for growth.
The Talloires Declaration contains high level goals which connect the University of Calgary to an international community of over 400 universities and colleges from over 50 countries. The activities reported in the SR demonstrate the University of Calgary’s commitment to the broader goals of the Talloires Declaration, especially with regards to campus operations and stakeholder engagement.

The SR also highlights progress towards fulfilling our commitment to the UCPCCSA, which focuses on work being done to catalyze solutions to climate change in learning and research, and on the reduction of greenhouse gas emissions in campus operations.

ImagineCALGARY provides broad urban sustainability goals for the whole Calgary community, and the University of Calgary’s is playing a leadership role by partnering with the City of Calgary, the Calgary Board of Education and others in developing relevant indicators for use by individual organizations.

Evaluating institutional progress against each of these commitments illustrates strengths and weaknesses throughout learning and research; campus operations; and planning, administration and engagement. Key strengths include the integration of sustainability in governance and planning processes and the dedicated focus given to select areas. Priority areas for improvement include applying a strategic approach to more sectors and areas as it is apparent greater progress is achieved when efforts are comprehensive and consistent. Additionally, stakeholder engagement has been incomplete to date, with consultation of administration and peer institutions being more consistent than the engagement of faculty, students, and the Calgary community at large.
Organizational Profile

The University of Calgary is a comprehensive research university, ranked one of Canada's top seven research universities and a member of the 15 most research intensive universities in Canada (the G15). Founded in 1966, the University of Calgary operates under the authority of Alberta’s Post-secondary Learning Act.

The university is home to 14 faculties offering over 100 academic programs and more than 85 research institutes and centres. 30,000 students are enrolled in undergraduate, graduate and professional degree programs and come from across Canada and around the world.

In 2010 4,719 undergraduate and 1,409 graduate degrees were granted. The University of Calgary has graduated 140,000 alumni.

Over 1,800 academic staff are actively engaged in research, scholarship and teaching in Canada and around the world, and are supported by about 2,200 staff. The university produces an economic impact of $1 billion in the Calgary area alone.

The University of Calgary’s campuses encompass 852,295 m2 of space, including Main Campus, Foothills Campus, University Innovation Park, Downtown Campus, Spy Hill Campus, West Campus and a site in Doha, Qatar.

Main Campus occupies a park-like setting covering more than 200 hectares, an area larger than Calgary’s entire downtown. It features over 100 buildings — many of which are interconnected by enclosed walkways. The MacEwan Student Centre is a hub of activity at the university, with a food court, wellness centre and large concert hall. There is also a museum and art gallery, four performance theatres, two childcare centers and residences for single students and students with families.

The University of Calgary has completed its largest capital expansion ever. Several new buildings will are increasing capacity for more students and a host of new teaching and research activities. These major developments – the Taylor Family Digital Library, Downtown Campus and Energy, Environment and Experiential Learning building – are fulfilling distinct academic strategies and creating progressive learning environments.
Planning, Administration & Engagement

Planning, administration and engagement processes determine the direction and capacity with which the University of Calgary addresses campus sustainability. This includes how the institution embodies sustainability in its governance and administrative, accessibility and diversity, human resources and investment management, and community engagement practices.

GOVERNANCE, PLANNING & COORDINATION

Description
Embedding sustainability in governance, planning & coordination provides the framework in which to act on the institution's commitments. This includes establishing sustainability as formal principle in governance, incorporating sustainability in planning, setting goals and establishing the necessary strategies to achieve them. The University of Calgary Sustainability Policy, adopted in 2009, provides a foundation for this process by establishing sustainability as a governing principle and the Institutional Sustainability Plan in turn supports that policy.

Goal
The 2010 ISP confirms the following goal:
The University of Calgary demonstrates leadership in sustainability in its institutional planning processes.

Performance
- Sustainability identified as one of four 2010 – 2011 institutional priorities by Executive Leadership Team
- Climate Action Plan adopted by Board of Governors in November 2010.
- Strategic Research Plan approved in 2010, identifying Energy and Environment as one of three institution-wide research priorities.
- Institutional Sustainability Plan adopted April 2011.
- Board of Governor’s Environment, Health, Safety and Sustainability sub-committee met quarterly to review and discuss progress.

Current Initiatives

Governance
The Board of Governors is a body established by the Post-secondary Learning Act, a statute of the Province of Alberta. The Act vests in the Board the duty to develop the University mandate and grants the authority to manage and operate the public post secondary institution in accordance with its mandate; develop, manage and operate, alone or in co-operation with any person or organization, programs, services and facilities for the educational or cultural advancement of the people of Alberta.

The Board of Governors’ Standing Committee on Environment, Health, Safety and Sustainability (EHS&S) advises the Board of Governors and makes recommendations on matters relating to environment, health, safety and sustainability, with respect to university policy and strategic direction. EHS&S meets quarterly.

General Faculties Council (GFC) is also a body established in the Post-Secondary Learning Act. The Post-Secondary Learning Act gives GFC authority over the institution’s academic affairs, subject to the approval of the Board, and as such is the senior academic decision-and policy-making body of the University. GFC may make recommendations to the Board of Governors on several other issues.

GFC is an effective voice for the academic community and as such its 98 members are elected from, and formally represent, university constituents including faculty, staff and students.

Planning
The university is governed by a number policies and strategic documents that guide research, education, operations and administration in support of the institutional mandate approved by the Board of Governors.

Over the past few years, the University of Calgary focused on integrating sustainability into its planning and governance processes.
Policies

The University of Calgary Sustainability Policy ("The University of Calgary Sustainability Policy", 2009) was passed in April 2009. It states, “The University of Calgary is committed to excellence and leadership in advancing the pursuit of Sustainability in teaching, research, campus operations and community service.”

The Sustainability Policy confirms the principles and accountabilities that will govern how the University of Calgary acts upon this commitment; and provides the authority to the President and Vice Presidents to approve supporting policies for research, teaching, community service and campus operations.

Environmental Health & Safety at the University of Calgary is conducted under the authority of the Occupational Health & Safety policy which states “The University of Calgary considers health and safety to be a priority and is committed to providing a safe and healthy work and study environment for the entire University community”.

Institutional Access Plan

The Institutional Access Plan (IAP) articulates the University of Calgary’s role within Campus Alberta and identifies the goals, strategies and indicators that will inform the University’s accessibility plans over the next three years. The IAP aligns institutional capacity and learner demand in order to provide a high quality learning environment and helps to ensure Alberta’s post-secondary system is able to meet learner, economic, and social needs while effectively and sustainably managing its resources.

Academic Foundations

Academic Foundation is a guide for the University of Calgary's broader planning framework and decision making processes. Resource allocation, administrative and support efforts, communications, fundraising and government relations align at all levels of the institution with the values and principles laid out by this document which include the following academic principles:

- Student success;
- Excellence in research, scholarship and creative activity;
- Interdisciplinary education and research; and
- Return to community

This document has been superseded by the newly released 2012 Academic Plan which includes sustainability as one of seven academic priorities.

Strategic Research Plan

The Strategic Research Plan (SRP) is the primary planning document for research at the University of Calgary. Approved in 2010, the SRP identifies key links between sustainability and the university’s research strategy.

Cornerstone Strategy two of the Strategic Research Plan identifies four priorities under which research relating to sustainability occurs:

- Advancing Health and Wellness
- Ethics, Social Responsibility, and Governance
- Sustainability of Energy and Environment
- Understanding Life on Earth

Cornerstone Strategy three is to build research bridges through interdisciplinary, collaboration, and partnership. All are essential strategies for advancing knowledge and change in support of sustainability.

Cornerstone Strategy four confirms the following Institutional Development Priorities the first two are elements of sustainability, and the last can be a tool to advance sustainability:

- Energy and Environment
- Biomedical Engineering
- Public Policy

The university’s research priorities have been updated in the newly released 2012 Strategic Research Plan.
Institutional Learning and Teaching Plan (ILTP)

The ITLP sets out priorities, goals, objectives and action recommendations to support excellence in learning and teaching at the University of Calgary. Goals and actions are established in six major categories:

- Leadership and Governance
- Teaching and Learning Support
- Evaluation and Accountability
- Student Experience
- Learning Environments

Institutional Sustainability Plan

Two years in the making, the Board of Governors formally adopted the Institutional Sustainability Plan (ISP), an institutional framework for acting on the University of Calgary’s sustainability policy. The ISP, which was developed by a task force comprising representation from each vice president, encompasses planning and administration, learning and research, and campus operations. In addition to confirming goals in twenty areas, it also identifies performance indicators in campus operations to support progress monitoring and reporting.

The ISP was developed in alignment with the Sustainability Tracking, Assessment and Rating System (STARS) (“STARS”, 2010) which is a sustainability performance measurement program developed for post-secondary institutions in Canada and the U.S. To date, over 260 institutions have registered to participate.

Eyes High: 2011 Vision and Strategy

The University of Calgary’s new strategic vision is anticipated to establish objectives to guide research, teaching and the development of relationships with community by the university’s 50th anniversary in 2016. The ISP is a supporting document referenced in the development of the Eyes High vision and strategy.

Institutional Priorities 2010 – 2011

Sustainability is identified as one of four 2010 – 2011 institutional priorities by the University of Calgary Executive Leadership Team, comprised of the President and Vice-Presidents, committing the university to “demonstrate excellence and leadership in the pursuit of sustainability initiatives (social, economic and environmental).” (“Institutional Priorities”, 2010)

Campus Master Plan

Approved February 2010, the Campus Master Plan (CMP) establishes a 25-year vision for the campus to support the academic and research missions of the institution. The CMP sets four key goals to link future physical development of the campus with the University’s mission, one of which is to, “Embrace the three pillars of sustainability, environmental, social and economic, in every aspect of the planning and implementation of the master plan” ( “Campus Master Plan”, 2010) . The CMP will also be aligned with the Institutional Sustainability Plan.

**Campus Master Plan** – “Embrace the three pillars of sustainability — environmental, social and economic — in every aspect of the planning and implementation of the master plan.”
Comprehensive Business Plan
The Comprehensive Business Plan, undertaken annually with a 3-year horizon, the 2010 – 2011 plan required all academic and business units to include a sustainability progress section in their annual plan and refers units to the Institutional Sustainability Plan for guidance on institutional priorities and portfolio accountabilities.

Coordination
The Office of Sustainability supports the University of Calgary in its efforts towards becoming a North American leader in sustainability in higher education. The primary purpose of the Office of Sustainability is to integrate sustainability broadly into campus operations, build participation across the university in sustainability stewardship, and enhance the understanding of sustainability in the context of teaching and learning, research, and service.

As part of effective governance, planning and coordination, the University of Calgary engages the campus community in a number of capacities. Below are some key engagement activities undertaken in 2010 – 2011.

Project Next – In 2011, the University of Calgary launched a multi-month institution-wide strategic planning process involving the consultation of thousands of students, faculty, staff and community stakeholders. The result of this process is the Eyes High: 2011 Vision and Strategy summarized above.

Evaluation
Strengths
Progress has been made integrating sustainability throughout core governance and planning processes with the adoption of the Institutional Sustainability Plan and the inclusion of sustainability principles in key strategic documents.

Opportunities
STARS provides a benchmark from which to assess progress in governance, planning and coordination. Using this benchmark, the University of Calgary has been successful incorporating sustainability in a broad spectrum of administrative processes.

CAMPUS ENGAGEMENT

Description
Taking sustainability from planning to action throughout all university activities requires that the campus community is engaged broadly and that sustainability efforts are open for all to connect with and take ownership of. Two major focuses of campus engagement include outreach programs to encourage the campus community to act together in making sustainable choices, and a sustainability working group model that facilitates collaborative planning and implementation of initiatives involving faculty, students and staff.

Current Initiatives
SustainabilityON – The University of Calgary has made a number of institutional commitments to demonstrating leadership in sustainability, and SustainabilityON is a campus-wide awareness, information and engagement program designed to promote the behavioral changes necessary to meet those commitments.

SustainabilityON Coordinators
SustainabilityON Coordinators are staff, faculty and students who participate in a campus wide network to exchange information and ideas that advance campus sustainability. They inspire others to make positive changes in commuting, energy and water use, waste reduction, responsible purchasing and more.
Coordinators are also communicators, sharing information about The University of Calgary’s sustainability policies, procedures, programs, services and events. They use tools and information provided to them by the Office of Sustainability to train others to advance sustainability initiatives in their respective faculties, business units and residences. Forty-three staff, faculty and students participated in the 2010 – 2011 academic year.

SustainabilityON Campaigns
As well as general information and awareness, SustainabilityON holds four specific engagement campaigns throughout the year that encourage actions to reduce the University of Calgary’s collective carbon emissions, energy use, water use and waste.

The Commuting campaign begins in September, and in 2010 the University of Calgary participated in the Campus Commuter Challenge, a week-long event in which universities and colleges across Canada encourage their campus communities to commute by sustainable means. The University of Calgary won, with the highest number of participants.

Power Off, the energy-use reduction campaign that begins in November, challenged students, faculty and staff to turn off lights, shut down computers when not in use and to make other simple choices to reduce the total energy consumption and greenhouse gas emissions for the university. The equivalent of 2,200 trees in emissions reductions was saved.

Erase the Waste runs in January and February. Each year, events are held to educate students, faculty and staff on waste diversion and responsible purchasing on campus. In 2010 – 2011 the University of Calgary participated in RecycleMania, and also ran the Photocopier challenge with department offices throughout campus. RecycleMania is a competition between colleges and universities in Canada and the United States to see who could reduce waste and recycle the most. By engaging students to participate, as well as through the roll-out of new recycling and waste infrastructure, the University of Calgary saw an increase in its diversion rate during the competition from 31% at the beginning to 37% at the end.

The Water Wise campaign runs during March and April and aims to engage students, faculty and staff in responsible water use and to provide education on water-use impacts. For this campaign “Report a Leak” stickers were developed to be placed on mirrors by water fixtures in the more than 2000 washrooms throughout the University of Calgary campus. The stickers include simple contact information for reporting leaks so that they may be repaired.

Sustainability Stewardship Working Group (SSWG) – The SSWG brings staff, faculty, and students together to develop projects about various portfolios of campus sustainability, build a culture of participation across campus and ensure cross fertilization of ideas and information.

Evaluation
Opportunities are offered to the campus community to be involved with sustainability efforts from inception to action. Governance and planning processes have been established to be inclusive, and increased input involvement from faculty and students on the SSSWG will be more actively sought. Looking forward, outreach programs will be further developed to better engage the campus community.

ACCESSIBILITY AND DIVERSITY
“Diversity enriches the educational experience... Education within a diverse setting prepares students to become good citizens in an increasingly complex, pluralistic society; it fosters mutual respect and teamwork; and it helps build communities whose members are judged by the quality of their character and their contributions.” (American Council on Education, 1995 – 2010)

Our Goals
The 2010 ISP confirms the following goal:
The University of Calgary supports diversity within the student population and strives to provide programs and services to support a diverse range of students.

Performance
- A range of committees and initiatives ongoing to address diversity and equality issues on campus
- Centres and programs to provide support to under-represented student groups
- $3.8 million in bursaries awarded to qualified students in need
- Over 80 awards and bursaries offered with consideration given to financial need
Current Initiatives

Workplace Diversity and Employment Advisory Committee
The purpose of the committee is to advise the associate vice-president (human resources) on plans and initiatives to support our commitment to diversity and employment equity. The associate vice-president (human resources) is the senior official responsible for employment equity at the University of Calgary, and will chair the Workplace Diversity and Employment Equity Advisory Committee.

President’s Advisory Committee on the Status of Women
The committee carries out activities relating to women on campus and makes recommendations to the President for action. Monitors the results of recommendations previously made to improve the status of women at the university. Receives and attends to any complaints of discrimination against any women students, support staff or faculty whenever normal channels are found to be insufficient.

March 21/Stop Racism Committee
The March 21/Stop Racism Committee is an ad hoc group of University of Calgary Volunteers composed of students, staff and faculty with a common interest in actively addressing racism and discrimination in society.

Women’s Resource Centre
The Women’s Resource Centre is a safe and supportive place to advance women’s equality and build community through sharing, learning and teaching where all experiences are valued, and everyone is offered the resources necessary to make informed choices. Our vision is to achieve equality at the University of Calgary and to create a more inclusive campus environment where each individual’s agency and voice are nurtured to contribute to the collective spirit of a community where citizenship and leadership is made possible for all, regardless of gender.

The Native Centre
The University of Calgary has a vibrant community of more than 400 self-identified Aboriginal students. The Native Centre is a culturally appropriate, welcoming and supportive learning environment for the University of Calgary’s Aboriginal students, and also provides important opportunities for cross-cultural learning for all members of the University of Calgary community. We offer services and programs that encourage and support the participation and success of Aboriginal students in their pursuit of knowledge and higher education.

Disability Resource Centre
The Disability Resource Centre works with students, faculty and staff to facilitate an accessible learning environment for students with disabilities. We work with students who have permanent disabilities (i.e., life-long or chronic) and those with temporary impairments (i.e., medical conditions) to identify reasonable academic accommodations that will support them in achieving their academic goals. Disability Resource Centre services are available to prospective students, undergraduate and graduate students.

Improving accessibility to education by offering awards and bursaries worth $3.8 million with consideration to financial need in 2010/2011.
Accessibility and Affordability Programs

Over 80 awards and bursaries offered with consideration given to financial need, 15 of which indicating financial need as the primary criteria.

1. University of Calgary bursary program which awarded $3.8 million to students last year
2. Emergency loan and bursary programs through which providing interest free loans and bursaries to students with identified financial need
3. Students’ Union hardship fund
4. Campus food bank through which available for use by students
5. Bookstore book loan program through which students can apply to have the bookstore lend them books at no cost (approximately 40 students/year)
6. Students with documented disabilities can be considered full time students while taking a reduced course load
7. We participate in provincial and federal student aid programs, including those for low and middle income students and repayment options for both programs aimed at reducing the impact of debt.

Evaluation

The University of Calgary offers a range of programs to support diversity and a number of under-represented groups on campus. This includes institutional policies, committees and centres that provide important support to students on campus. Using STARS as a benchmark to assess progress in accessibility and diversity, opportunities remain to further advance sustainability in this area. A particular opportunity exists in looking at support programs for future faculty from under-represented groups as described in STARS.

HUMAN RESOURCES

“This subcategory seeks to recognize institutions that have incorporated sustainability into their human resource programs and policies. This includes recognition for treating and remunerating their workers responsibly and fairly. An institution’s people define its character and capacity to perform; and so, an institution’s achievements can only be as strong as its community. An institution can bolster the strength of its community by making fair and responsible investments in its human capital. Such investments include offering benefits, wages, and other assistance that serve to respect fully and ethically compensate workers. Investment in human resources is integral to the achievement of a healthy and sustainable balance between human capital, natural capital, and financial capital.”(AASHE 2010, 232)

Our Goals

The 2010 ISP confirms the following goal:
The University of Calgary is an employer of choice.
Performance
An array of programs and initiatives are offered to staff to foster a supportive and productive workplace. While measures of program outcomes have not yet been established, the initiatives below give a summary of activity in this area.

Current Initiatives

Employee Satisfaction Survey: The University of Calgary conducted its first employee engagement survey this year, concluding April 5th. The survey collected feedback on how employees felt about the university, the work they do for the university and opportunities for improvement.

Results from the survey will be used to provide a baseline for measuring progress over the next several years and also contributed to the University of Calgary’s comprehensive strategic planning process currently underway.

Childcare
The University of Calgary offers accredited child care facilities on the Main campus. The University Child Care Center (UCCC) facilities are accredited by the Alberta Association for the Accreditation of Early Learning and Care Services, and provide full-day care and education for 164 children ages 3 months - 6 years.

Staff Professional Development

All university employees are eligible to receive full tuition support for 4 academic courses and 4 continuing education courses per year. Eligibility begins after 6 months of service. The University of Calgary offers an extensive roster of sustainability courses from a wide range of disciplines.

Employee Wellness Program

The Staff Wellness Centre offers confidential counseling services to faculty and staff of the University of Calgary – free of charge. The counselors offer individual, couple and family counseling services on site at the main campus and at the Health Sciences Centre. Off site, telephone and online services are also available if preferred.

The Employee Assistance Program is also offered, providing many resources and information packages on topics such as:

- Get legal clarity
- Get financial clarity
- Research child and elder care resources
- Tackle addictions
- Understand nutrition
- Achieve personal well-being
- Manage relationships and family
- Address workplace challenges

University Health Services provides quality health care and education in a reassuring friendly manner. The clinic is staffed by registered nurses, psychiatrists, family physicians, chiropractors, a nutritionist and massage therapists. Its primary focus is centered on students, but is open to faculty and staff. Health care specifically is available for faculty and staff on an emergency basis.

Eligible faculty and staff members also receive an annual credit allocation for their discretionary use to help support their overall health and wellness. The credits may be allocated to a Non-taxable Health Spending Account and/or Taxable Wellness Spending Account.

Reduced rates for the University of Calgary's extensive recreation centre to faculty and staff, which includes a fitness centre, gymnasiums, dance and activity studios, an Olympic-sized swimming pool, the rock climbing wall and other amenities.

An ergonomic consultant is available free of charge to provide individual workstation assessments, group information sessions, and renovation consultations.

Additionally, the Students' Union Wellness Centre takes a holistic approach to supporting student health by providing:

- Health Services – physicians, chiropractic, nutrition, massage therapy
- Dental Services – general and restorative dentistry
- Optometry Services – full eye exams, glasses and contact lenses
• Counseling Services – personal, academic and career development
• Faith & Spirituality Centre - multi-faith spiritual support and guidance

These services are provided to all full-time and part-time students or are available at affordable rates through the student benefit plan in which every student is enrolled.

Collective Bargaining Agreements
Collective bargaining agreements cover 84% of university employees, addressing compensation, benefits, consultation procedures, grievances, disciplinary action, promotion, and occupational health and safety, etc. The following table lists the overall employee categories and identifies which ones are covered by collective bargaining agreements:

<table>
<thead>
<tr>
<th>Headcount</th>
<th>Covered by Collective Bargaining Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior Administration</td>
<td>49</td>
</tr>
<tr>
<td>Academic</td>
<td>1767</td>
</tr>
<tr>
<td>Management and Professional Staff</td>
<td>715</td>
</tr>
<tr>
<td>Support Staff</td>
<td>2166</td>
</tr>
<tr>
<td>Total</td>
<td>4697</td>
</tr>
</tbody>
</table>

Evaluation
An array of programs and initiatives are offered to faculty and staff to foster a supportive and productive workplace. This includes engaging employees to assess satisfaction, providing opportunities for professional development in sustainability, the provision of a comprehensive health and wellness program and compensation that enables the large majority of employees to meet their basic needs. To offer a measure of success thus far, STARS provides a benchmark from which to assess progress in Human Resources. Using this benchmark, opportunities for progress remain in two areas including 1) considering compensation with respect to the small number of employees at who do not earn a living wage, and 2) offering a socially responsible investment option for retirement plans.

HEALTH & WELLNESS

Description
Recognizing the interconnectedness of people, lifestyles, environments and health advances multiple institutional aims. Healthy built environments, health and wellness support programs, and work-life balance have been shown to significantly increase productivity and effectiveness, improve academic performance, decrease student drop-out rates, and provide competitive advantage for recruiting and retaining staff and students.

Goal
The 2010 ISP confirms the following goal:
The University of Calgary promotes health and wellness for its campus community.

Performance
The university provides a variety of resources accessible to staff and students to support healthy lifestyles and a holistic approach to well-being.
Current Initiatives

Staff

Staff Wellness Centre - The Staff Wellness Centre offers confidential counselling services to faculty and staff of the University of Calgary free of charge. These services are also available to immediate family members. The counsellors offer individual, couple and family counselling services on site at the main campus and at the Health Sciences Centre. Off site, telephone and online services are also available if preferred.

The Employee Assistance Program is also offered, providing many resources and information packages on topics such as:

- Get legal and/or financial clarity
- Research child and elder care resources
- Tackle addictions
- Understand nutrition
- Achieve personal well-being
- Manage relationships and family
- Address workplace challenges

University Health Services – University Health Services provides quality health care and education in a reassuring friendly manner. The clinic is staffed by registered nurses, psychiatrists, family physicians, chiropractors, a nutritionist and massage therapists. Its primary focus is centered on students, but is open to faculty and staff. Health care specifically is available for faculty and staff on an emergency basis.

Health Spending Account – Eligible faculty and staff members also receive an annual credit allocation for their discretionary use to help support their overall health and wellness. The credits may be allocated to a non-taxable Health Spending Account and/or taxable Wellness Spending Account.

University Recreation Centre – Reduced rates for the University of Calgary's extensive recreation centre to faculty and staff, which includes a fitness centre, gymnasiums, dance and activity studios, an Olympic-sized swimming pool, the rock climbing wall and other amenities.

Ergonomics – An ergonomic consultant is available free of charge to provide individual workstation assessments, group information sessions, and renovation consultations.

Students

Students' Union Wellness Centre – The Students' Union Wellness Centre takes a holistic approach to supporting student health by providing:

- Health Services – physicians, chiropractic, nutrition, massage therapy
- Dental Services – general and restorative dentistry
- Optometry Services – full eye exams, glasses and contact lenses
- Counselling Services – personal, academic and career development
- Faith & Spirituality Centre – multi-faith spiritual support and guidance

These services are provided to all full-time and part-time students or are available at affordable rates through the student benefit plan in which every student is enrolled.

Evaluation

The University of Calgary has developed a variety of programs that are accessible to all campus constituents to support health and wellness. Although a comprehensive suite of initiatives are already in place, strategies to measure and evaluation efforts that may help guide continued progress have not yet been developed.
INVESTMENT

As noted in the ISP, which is generally aligned with the STARS, further discussion within the portfolio of the Vice President (Finance and Services) and the Board of Governors is required prior to confirming an appropriate goal and supporting actions for the Investment category. The principal action for the portfolio of the Vice President (Finance and Services) over the next year is to complete that discussion and to confirm appropriate ISP goal(s), indicator(s), baseline(s), targets and an action plan with a four year horizon.

COMMUNITY ENGAGEMENT

Collaboration with community and community service learning builds strong community connections, fosters civic engagement, accelerates the transfer of knowledge, and enables collective action for meaningful scales of change in support of sustainability. One of four guiding principles for the University of Calgary is Return to Community. The university provides “…highly qualified personnel and makes the results of its research, scholarship and creative activity publicly available. As a public university, the University of Calgary welcomes this service role as it attempts to respond to societal needs, not only locally and provincially, but also nationally and internationally. The University of Calgary contributes to the development of an increasingly interconnected society in the most effective ways possible, often in partnership with other institutions and corporate entities, public and private.” (The University of Calgary, “Business Plan, 2009, 19)

Community-engaged learning is a form of experiential education and is defined as, “an educational approach that integrates service in the community with intentional learning activities. Within effective [service-learning] efforts, members of both educational institutions and community organizations work together toward outcomes that are mutually beneficial”. (“About”, N.d.)

Community Service is defined by The President’s Higher Education Community Service Honor Roll as “Activities designed to improve the quality of life of off-campus community residents, particularly low-income individuals. Community service activities may include but are not limited to: academic service learning, co-curricular service learning (not part of an academic course, but utilizing service-learning elements) and other co-curricular student volunteer activities, as well as Work-Study community service and paid community service internships. Community service includes both direct service to citizens (e.g. serving food to the needy) and indirect service (e.g. assessing community nutrition needs or managing a food bank).”

Our Goals

The 2010 ISP confirms the following goal:

The University of Calgary is a community leader in advancing sustainability

Performance

- 667 students participated in community service programs
- 8520 hours were contributed to community service programs

Current Initiatives

imagineCALGARY

A long-term plan for a sustainable future that was developed with input from more than 18,000 Calgarians. The Plan includes a long-range vision for the city of Calgary and more than 100 targets that provide reference points for organizations and individuals to determine what action can be taken to build a sustainable community. The University of Calgary is proud to be one of more than 50 partners in imagineCALGARY and is leading a number of initiatives to help achieve the goals established in the plan. One such initiative involves the development of performance measurement tools that will enable collective measurement of progress made among all partners in imagineCALGARY.

Public Lectures

Faculties at the university host public lectures and other educational events throughout the year open to the greater community. Some examples include the Institute for Sustainable Energy, Environment and Economy (ISEEE) Distinguished Speaker Series which brings internationally renowned experts in energy and the environment to Calgary. Similarly, the School of Public Policy hosts frequent speaking events both on main campus, downtown campus, and other locations that are open to the public.
Centre for Community-Engaged Learning

The Centre for Community-Engaged Learning (CCEL) strives to integrate the learning experiences of University of Calgary students with the overall needs of our community. The Centre for Community-Engaged Learning fosters the development of enhanced civic consciousness and links university students, faculty and staff with community partners in the City of Calgary and elsewhere through curricular and co-curricular programming. (“About”, N.d.)

Calgary Serves

The Centre for Community-Engaged Learning also coordinates the Calgary Serves, a community service program for students that provides opportunities to engage communities at the local, national or international levels. Through Calgary Serves, students are able to explore topics such as food security or poverty through hands-on experience, often in an immersion environment. (“Calgary Serves”, N.d.) Last year 400 students participated in Calgary Serves and other community service programs at the University of Calgary, together contributing 8520 hours.

Students’ Union Volunteer Services

Volunteer Services is dedicated to advancing the distinct role of the community sector on campus. Its programs foster volunteerism, social innovation, collaboration, community/social enterprise and service learning to directly support of students on campus and to provide real world experiences in the greater Calgary community.

Evaluation

The University of Calgary is engaging its community in a range of sustainability related initiatives including community service, education opportunities for the greater community, and sustainability partnerships. Going forward, STARS provides a benchmark for progress in these areas and highlights areas for development. Currently, there is room for advancement in Continuing Educations, Community Service Participation, Sustainability Policy Advocacy, and Fair Trade Certification of Institutional Trademarked products.
Learning and Research

This section describes curriculum, research and co-curricular and student awareness programs related to sustainability underway at the University of Calgary. It provides a snapshot of progress to date and highlights the comprehensive efforts being made throughout the university.

Universities play a pivotal role in defining the path to a healthy, just, and sustainable future through preparing students to be community leaders in their personal and professional lives, undertaking critical disciplinary and interdisciplinary research, and participating in community partnerships and community service initiatives. (“2010 Institutional Sustainability Plan”, 2010, 1)

Located in Calgary, the energy capital of Canada, and a city with rich cultural diversity and treasured natural environments, the University of Calgary is ideally positioned to be a sustainability leader through its teaching and research. 275 courses in sustainability are offered to students and degree programs, minors, concentrations and specializations related to energy & environment are also offered. Sustainability of energy and environment is identified as a research strength in the University of Calgary’s Strategic Research Plan, and the programs in this area are forming interdisciplinary groups with the best researchers and universities in Canada and the world. (“2010 Climate Action Plan”, 2010, 13)

LEARNING

Description

A fundamental role of the University of Calgary is to educate our students to appreciate the complexities of the natural and human worlds in which they live and to prepare them to engage actively, thoughtfully and productively both in their careers and as citizens of their communities.

“The University of Calgary offers programs and experiences that meet society’s need for graduates in many areas, and that are meaningful and appropriate to the needs, aspirations and futures of our undergraduate and graduate students.” (“Academic Foundations”, 2009, 4)

The University of Calgary produces tomorrow’s leaders, in 2010 graduating over 6,000 students to join the ranks of now more than 140,000 alumni globally. As such the University of Calgary is in a unique position to develop tomorrow’s workforce with the expertise and knowledge needed to address society’s most important challenges.

Our Goals

Academic Foundations is a guide for the University of Calgary’s broader planning framework and decision-making processes. It establishes four academic principles:

- Student success;
- Excellence in research, scholarship and creative activity;
- Interdisciplinary education and research; and
- Return to community.

Additionally, the ISP confirms the need for discussion broadly within the academic community about how and where education about sustainability is appropriate and how priorities for sustainability should be articulated.

Performance

Over the past year the University of Calgary began to formally look at current sustainability offerings in teaching and learning programs and also committed through the ISP to launch an institutional stakeholder consultation regarding the role of sustainability in post-secondary education in the coming year.

- 275 of 4,241 courses related to sustainability
- At least 28 programs related to sustainability
- 33 of 50 departments offering at least one sustainability related course
- 2,760 of 6,128 students graduated last year from programs with required sustainability related content
- Haskayne School of Business announced the new Global Energy Executive MBA which addresses sustainability, climate change and stakeholder interests.
Schulich School of Engineering ranked #1 engineering program in Canada by Corporate Knights for integrating sustainability in curriculum.

Haskayne School of Business ranked by Corporate Knights #2 for integrating sustainability in its MBA program and #3 for its undergraduate program.

Current Initiatives

Faculties and Institutes harness their expertise in subject areas that directly relate to the pursuit of sustainability, offering 275 sustainability courses and several sustainability degree programs, specializations and concentrations.

a. Course Offerings

Last year 275 sustainability courses were offered in both undergraduate and graduate programs. A course inventory was conducted which identified 212 sustainability-related and 63 sustainability-focused courses according to the following categories:

Sustainability-Focused

“Sustainability-focused programs and courses concentrate on the concept of sustainability, including its social, economic, and environmental dimensions or examine an issue or topic using sustainability as a lens.” (AASHE 2010, 35)

Sustainability-Related

“Sustainability-related programs and courses incorporate sustainability as a distinct course component or module, or concentrate on a single sustainability principle or issue.” (AASHE 2010, 35)

There is also considerable breadth in the University of Calgary's sustainability curriculum, with 56 of 147 departments and programs offering at least one sustainability related course. Additionally, 2760 of 6128 graduates last year completed programs in which there was at least one course that had sustainability related learning outcomes.

b. Degree Programs

The University offers degree programs in sustainability from a range of disciplines.

B.Sc. Environmental Science

The Environmental Science Program emphasizes a multi-disciplinary approach to understanding environmental issues facing society. It is a Collaborative Program administered jointly by the Faculties of Science and Arts. For more information, please visit www.ucalgary.ca/ensc/

B.A. Development Studies

The Development Studies addresses social, economic and political change. Students examine issues such as poverty, hunger, environment and governance - in Canada and around the globe. Through courses, research, and experiential learning, students also study community development, sustainable and participatory development, colonialism, cultural beliefs, social justice, corruption and human rights. For more information visit www.arts.ucalgary.ca/departments-programs/development-studies

Global Energy Executive MBA

The Global Energy EMBA program was formally announced and will begin in 2012. The program will consist of five distinct learning modules each featuring intense 2- to 2.5-week residencies in five key energy centres around the world - Calgary, Houston, London, Abu Dhabi and Beijing. Program duration is 16 months. www.energyemba.com/

Master of Environmental Design (MEDes)

The Faculty of Environmental Design offers a graduate and post-professional Masters in Environmental Design (MEDes). The program emphasizes the importance of design, planning and management, in human interaction among the built and natural environments. The built, natural and social environments are becoming increasingly more intertwined, interdependent and indeterminate. This requires a new breed of professional, able to effectively design and manage change in an evolving world. www.evds.ucalgary.ca/content/program-overview
Interdisciplinary Master’s Degree in Sustainable Energy Development (SEDV)

This degree is the only Program of its kind in North America offering an integrated, comprehensive education relating to sustainable energy development in the broadest sense. This Program is designed to provide a technical background while giving a balanced education with instruction in the areas of law, business, engineering and environmental design. For more information visit www.ucalgary.ca/sustainableenergy/

c. Degree Specializations and Concentrations

In addition to the offerings above, students can enroll in a number of specializations and concentrations to complement their degree programs.

MBA Global Energy Management and Sustainable Development (GEMS) Specialization

Through this specialization, students develop an understanding of the context for decisions and planning within the global energy industry. Required and elective courses will allow students to examine the industry’s history, structure, technology, market forces and dynamics, legislative regimes, and political, environmental, and cultural sensitivities. For more information, please visit www.haskayne.ucalgary.ca/haskaynefaculty/centres/iris/programs/gems

Bachelor of Commerce Corporate Social Responsibility Sustainable Development (CSR-SD) Program

Coordinated by the Commerce Undergraduate Society in partnership with faculty advisors, this program provides core materials on Corporate Social Responsibility in Sustainable Development to all undergraduate students in the Bachelor of Commerce program and builds on these foundations. Requirements include completion of BSEN 291, participation in three annual CSR-SD weekend forums, and completion of one project from a list of CSR-SD project choices. www.people.ucalgary.ca/~cus/ProgramsCSR-SD.html

Bachelor of Engineering Energy and Environment Specialization

The Energy and Environment Specialization provides education and training necessary for understanding, avoiding, minimizing and (effectively and efficiently) solving industrial challenges related to the impact of energy utilization on the environment. It prepares high-quality undergraduate students for careers in engineering that link energy and the environment. www.schulich.ucalgary.ca/ceere/undergraduate

Graduate Studies in Environmental Engineering

A multi-disciplinary specialization offered through the MEng, MSc and PhD degree programs. Numerous courses are offered by CEERE faculty members that cover life cycle assessment, policy, alternate (renewable) energy systems, soil remediation, wastewater treatment, air pollution control and so on.

Energy and Environmental Systems (EES) Specialization

Masters or PhD students learn to integrate and apply the knowledge from many disciplines, including those in the applied, natural, and social sciences. Graduates are equipped with the systematic thinking, research tools and insights that deliver effective solutions for a sustainable energy future. The EES Specialization provides an interdisciplinary extension to existing graduate research programs at the University of Calgary. Students, working closely with ISEEE faculty and fellows, focus on problem-driven, interdisciplinary research. www.iseee.ca/for-students/

Bachelor of Science Energy Science Concentration

Students in the Natural Sciences Program have the opportunity to enter the Energy Science concentration which examines trends in alternative energy sources and how they can become viable means of energy for the future. www.ucalgary.ca/admissions/sc_natsci

d. Study Abroad

The University of Calgary also offers a number of study abroad opportunities with a focus on sustainability. The Schulich School of Engineering offers an exchange program in partnership with Shantou University in China called “Solving Global Problems: Innovation & Entrepreneurship in Renewable Energy”. Also two programs are offered in the Geography study area focusing on the social, political and environmental issues, one in the Mekong region (China) and one in the Mediterranean Region. Finally, the Urban and Regional Sustainability in the Pacific Northwest program explores the sustainability challenge in the urban context. To find out more about all of these programs visit www.ucalgary.ca/uci/abroad. Plus, The Sustainability and Environment of Mediterranean Europe: www.ucalgary.ca/uci/abroad/europegeography

Continuing Education

Several non-credit courses in sustainability are offered to the community, including the Environmental Management Certificate program.
Environmental Management Certificate

This program covers the most recent specialized knowledge and skills needed for effective practice in the dynamic field of environmental management. It explores uniquely Canadian problems within the global perspectives in which all environmental problems and solutions are measured. For more information about continuing education programs visit www.conted.ucalgary.ca/public/listCertificate.do?method=load

Evaluation

The University of Calgary offers a broad range of sustainability programs and courses which draw on the university’s considerable depth in a range of disciplines directly related to sustainability.

The goal in this category, as stated in the Institutional Sustainability Plan, “is to begin the discussion more broadly within the academic community about how and where education about sustainability is appropriate and how priorities for sustainability should be articulated in institutional planning documents. Essential to these discussions is ensuring that both faculty and student perspectives are included and that the discussion process supports broad engagement and multiple perspectives. The University of Calgary has a rich diversity of expertise available to foster meaningful discussion and many sustainability course offerings and sustainability research initiatives to draw upon.” (“2010 Institutional Sustainability Plan”, 2010, 9)

STARS can serve as a useful benchmark in these discussions. A strength STARS identifies is the diversity of sustainability programs and courses across the faculties. Areas for consideration, as highlighted by STARS is the overall availability of sustainability-related and focused courses, and the continued incorporation of sustainability learning outcomes in undergraduate and graduate degree programs.

RESEARCH

Description

“Conducting research is a major function of many colleges and universities. By researching sustainability issues and refining theories and concepts, higher education institutions can continue to help the world understand sustainability challenges and develop new technologies, strategies, and approaches to address those challenges.” (AASHE 2010, 58)

The University of Calgary is a research intensive institution. In 2010 - 2011 it had $272 million in sponsored research income, and ranked 8th in Canada among research Institutions. The University of Calgary has considerable depth in sustainability research, spanning many faculties and institutes.

Our Goals

The University of Calgary research goals are defined in the Strategic Research Plan. Additionally, the ISP confirms the need to understand how research fits into and supports sustainability, and how (institutional) research priorities inform future sustainability as the institutions seeks to develop a sustainability framework for research programs.

Performance

• Over 100 sustainability related research projects currently underway in the 2010 – 2011
• 24 of 50 departments with at least one faculty member engaged in sustainability research
• 109 of 1740 faculty members engaged in sustainability-related research

Current Initiatives

a. Strategic Research Plan

Adopted in 2010, the Strategic Research Plan serves as a planning document for the university and defines institution-wide research priorities. (The University of Calgary Publications, 2010) As one of the university’s institutional plans, it is aligned with the values and principles found within Academic Foundations. The Strategic Research Plan is organized under four Cornerstone Strategies that are designed to advance the research mission of the university in significant and measurable ways. (“Strategic Research Plan”, 2010)
Cornerstone Strategy two of the Strategic Research Plan confirms the following institutional research strengths which may support sustainability research:

- Advancing Health and Wellness
- Ethics, Social Responsibility, and Governance
- Sustainability of Energy and Environment
- Understanding Life on Earth

Cornerstone Strategy three, building research bridges through interdisciplinary, collaboration, and partnership, identifies essential strategies for advancing knowledge and change in support of sustainability.

Cornerstone Strategy four confirms the following Institutional Development Priorities the first two are elements of sustainability, and the last can be a tool to advance sustainability:

- Energy and Environment
- Biomedical Engineering
- Public Policy

b. Research Activity

Over 100 sustainability related research projects were underway in 2010 – 2011, representing a broad spectrum of disciplinary and interdisciplinary activity throughout the 14 faculties and a number of institutes. The following are some examples of the significant expertise many of faculties and institutes have in sustainability research:

- The Faculty of Environmental Design has a 40-year history in interdisciplinary work that runs to the heart of sustainability with all course offerings and research touching on diverse aspects of sustainable practices in Architecture, and Environmental Design.

- The Faculty of Social Work's Vision is creating social well-being and just societies and they are dedicated to promoting societies that respect human dignity and worth, meet basic human needs, are anti-oppressive, inclusive, and based on principles of social justice.

- The Institute of Energy, Environment and Economy coordinates and facilitates policy-relevant, problem-driven, multidisciplinary and interdisciplinary research and training in Energy and Environment and works closely with university faculties and schools and with stakeholders in the community.

- The Haskayne School of Management’s International Resource Industries and Sustainability (IRIS) Centre researches state-of-the-art innovative management practices and their impacts on societal issues, both environmental and social. IRIS has identified the development and implementation of successful climate change mitigation and adaptation strategies as one of their research priorities.

- The Faculty of Law facilitates research through the Natural Resources, Energy and Environmental Law Research group (NREELR). NREELR coordinates interdisciplinary collaboration and engages related institutions, the legal professions and the community. To advance research and education in these areas, the faculty is developing the Centre for Resources, Energy and Environmental Law (CREEEL) to serve as an umbrella for a range of existing programs and new Faculty initiatives in this critical legal field.

- The Faculty of Science has research foci in the areas of clean and efficient use of energy resources as well as exploring the environment and mitigating human impacts. In 2010, eighteen Science researchers and numerous on- and off-campus collaborators are involved in some 22 projects related to sustainability issues.
Undergraduate Research

At the 5th Annual Undergraduate Research Symposium in 2010, more than 35 presentations were related to sustainability. Two $1000 awards were given for excellence in sustainability research, one for environmental sustainability and the other for social sustainability. The following students were recognized for excellence in research in these two categories:

Environmental Sustainability

• “Researching Sustainability through Service Learning Courses,” Charlotte Langlois (Winner-tie)
• “The Economic and Health Impacts of Electronic Waste Recycling in Accra, Ghana,” Arunan Sivalingam (Winner-tie)

Social Sustainability

• “Carbon Dioxide Capture with Metal Organic Frameworks,” Isaac Martens (Winner)
• “Electronic tuning of the Anthraquinone Core,” Amy Murschell (Runner-up)

Evaluation

The University of Calgary is engaged in a diverse range of research connected to sustainability and is home to faculty offering considerable expertise in this area throughout the university’s 14 faculties. The university has a strategic advantage in sustainability-related research which is addressed in the Strategic Research Plan.

As confirmed in the ISP, “research can be carried out in a sustainable fashion and may itself foster and support sustainability through creation of new knowledge and innovation. Understanding how research fits into and supports sustainability, and how our research priorities inform future sustainability will be important considerations as we seek to develop a sustainability framework for our research programs. Ultimately, recognizing, rewarding and support for sustainability in learning and research will be critical to ensuring an ongoing commitment to the process.” (“2010 Institutional Sustainability Plan”, 2010, 10)

STARS can serve as a useful benchmark in these discussions. Performance measures in STARS identify the diversity of sustainability research across the faculties. Areas for consideration, as highlighted by STARS are incentives for sustainability research and continued support of interdisciplinary research.

CO-CURRICULAR AND STUDENT AWARENESS

Description

Co-curricular activities and community service activities outside of a formal curriculum provides opportunities for student leadership skill development and strengthens civic engagement. “Engaging in sustainability initiatives through co-curricular activities allows students to apply and deepen their understandings of sustainability principles. Institutional-sponsored co-curricular sustainability offerings help integrate sustainability into the campus culture and set a positive tone for the institution.” (AASHE 2010, 20)

This section addresses programs and initiatives aimed at providing students with co-curricular learning opportunities related to sustainability, engaging students as peer-to-peer educators and through outreach campaigns, including sustainability in new student orientation, and enhancing student learning about sustainability outside the classroom using outreach materials and publications. (AASHE 2010, 14, 19, 25, 28)

Our Goals

Recognizing the diversity and breadth of current institutionally led and student led co-curricular initiatives pertaining to sustainability awareness and learning, the ISP confirms the following: to formalize co-curricular priorities for the ISP including goals, identifying relevant performance indicators, benchmarking the current state and setting targets to ensure steady progress.

University of Calgary students designed, built and raced a solar car in the 2010 American Solar Challenge, placing 6th.
Performance

The performance indicators below provide a quantitative measure of student co-curricular activity. A significant level of additional service activity takes place through independent student-led initiatives which are not quantifiable.

- 667 students participated in community service learning programs
- 8,520 hours contributed by students to community service learning programs
- 6,000 students registered for co-curricular record, each contributing at least 20 hours annually
- Over 220 student clubs and faculty student associations of which over a dozen are related to sustainability.

Current Initiatives

a. Student Sustainability Educators Program

Engaging students as educators in peer-to-peer sustainability outreach helps “disseminate sustainability concepts and a sustainability ethic throughout the campus community. In addition, serving as an educator is a valuable learning experience for students that can deepen their understanding of sustainability while developing their outreach and education skills.” (AASHE 2010, 19)

SustainabilityON Coordinators are staff, faculty, and students who participate in a campus-wide network to exchange information and ideas that advance campus sustainability. They inspire others to make positive changes in commuting, energy and water use, waste reduction, responsible purchasing, and more.

Coordinators are also communicators, sharing information about University of Calgary’s sustainability policies, procedures, programs, services, and events. They use tools and information provided to them by the Office of Sustainability to train others to advance sustainability initiatives in their respective faculties, business units, and residences.

Last year the program was opened up to residence students to serve the residence population.

b. Student Sustainability Outreach Campaigns

“Sustainability outreach campaigns “engage the student body in sustainability issues and can help raise student awareness about sustainability. In addition, campaigns encourage students to adopt or try sustainable practices and lifestyles.” (AASHE 2010, 19)

Four campaigns are run annually, each for 2 months. The Commuting campaign begins in September. The University of Calgary participated this year in the Campus Commuter Challenge, a week-long event in which universities and colleges across Canada encourage their campus communities to commute by sustainable means. The University of Calgary won, with the highest number of participants.

Power Off, the energy-use reduction campaign that begins in November, challenged students, faculty, and staff to turn off lights, shut down computers when not in use and to make other simple choices to reduce the total energy consumption and greenhouse gas emissions for the university. The equivalent of 2,200 trees in emissions reductions was saved.

Erase the Waste runs in January and February. Each year, events are held to educate students, faculty, and staff on waste diversion and responsible purchasing on campus. In 2010-2011 the University of Calgary participated in RecycleMania, and also ran the Photocopier challenge with department offices throughout campus. RecycleMania is a competition between colleges and universities in Canada and the United States to see who could reduce waste and recycle the most. By engaging students to participate, as well as through the roll-out of new recycling and waste infrastructure, the University of Calgary saw an increase in its diversion rate during the competition from 31% at the beginning to 37% at the end.

The Water Wise campaign runs during March and April and aims to engage students, faculty, and staff in responsible water use and to provide education on water-use impacts. For this campaign “Report a Leak” stickers were developed to be placed on mirrors by water fixtures in the more than 2000 washrooms throughout the University of Calgary campus. The stickers include simple contact information for reporting leaks so that they may be repaired.

c. Sustainability in New Student Orientation

“Including sustainability in student orientation demonstrates that sustainability is an institutional goal and encourages students to adopt sustainable habits in their new school environments. Orientation sets the tone for the campus experience.” (AASHE 2010, 25)

In the academic year 2010-2011 sustainability was built into the delivery of tours for incoming undergraduate students. Student Leaders that deliver the tours were provided training on some of the green features of campus buildings, programs, and services supporting sustainability that are available to students, and the impact that everyday actions in support of sustainability they can make. When giving tours Student Leaders would relay this information to incoming students by, for example, stopping at a recycling station to mention the University of Calgary’s goal to become a net zero waste campus and let students know what types of items can go into an organics bin and that the organics are sent for composting.
A sustainability presentation is delivered as part of the Student Life portion of orientations. This presentation highlights institutional goals and actions in sustainability coupled with information on every day actions that students can take to step-up with the university in turning SustainabilityON and meeting these commitments. Students are invited to sign-up to participate in the SustainabilityON Coordinators program or Sustainability Street Team program.

Graduate orientations included the delivery of a sustainability presentation and Office of Sustainability staff on hand to connect with students interested in campus sustainability and share opportunities for involvement.

Both the undergraduate and graduate orientation committed to reducing waste by providing information and resources electronically to avoid providing paper-based packages.

d. Student Sustainability Outreach and Publications

“Outreach materials and publications... enhance student learning about sustainability outside of the formal classroom.” (AASHE 2010, 28)

Institutionally led initiatives include:

- **Website** – The University of Calgary of sustainability website serves as a comprehensive and up-to-date source of campus sustainability initiatives in Planning and Administration, Campus Operations, Curriculum, Research, and Student Leadership. It also provides resources to students on how they can get involved in campus sustainability, and includes interactive social media options (i.e. Twitter), active media (i.e. videos), and cross-institutional perspectives. ([www.ucalgary.ca/sustainability](http://www.ucalgary.ca/sustainability))

- **Green Bulletin** – a bi-monthly e-newsletter that provides links to campus sustainability initiatives, news, tips, opportunities for involvement, and more.

- **U magazine** – published 3 times per year. Goes out to 110,000 alumni, students, donors, civic leaders and community members

- **Signage across campus** promotes action at points of decision making e.g. “shut the sash”, “lights Off”, “Take the Stairs”, “Bring a Mug”, etc.

Student led initiatives include:

- **The Gauntlet** is the largest student newspaper on campus which is issued weekly. It often covers sustainability related stories; however, a regular column or reporter assigned to sustainability related stories is not provided.

- **The Buzz** is a weekly newsletter sent out to residence students. It includes the weekly campus sustainability related stories that are published in the *U-Today* which is distributed to staff and faculty.

e. Student Sustainability Groups and Activities

There are over a dozen sustainability related student groups active in different aspects of sustainability. Additionally the Students’ Union (SU) and the Graduate Students’ Association (GSA) are engaged in a number sustainability initiatives including, but not limited to, the elimination of polystyrene from food service operations in MacEwan Student Centre, implementation of pre-consumer food organics composting, and the continued reduction of paper in office operations. A few examples of the leadership student groups are demonstrating include:

- The Institute for Sustainable Energy, Environment & Economy Students’ Association (ISEEEESA) which offers the monthly Energy 101 series, a scholarship for sustainability leadership, and a number of site tours and speaker events.

- The Solar Decathlon Team which competes in the U.S. Department of Energy Solar Decathlon, an international competition to design, build, and operate solar-powered houses that are cost-effective, energy-efficient, and attractive.

- The Eco Club develops initiatives to reduce the University of Calgary’s negative impact on the Environment, and to encourage sustainable behaviours within the University. Initiatives last year included collaborating with the Students’ Union to eliminate the use of polystyrene from the MacEwan Student Centre food court.

- Engineers Without Borders at the University of Calgary is committed to building a world of opportunity for rural Sub-Saharan Africans. One project is Fair Trade Fridays, a booth hosted on campus each week to give out free fair trade coffee and chocolate, and to educate the campus community on fair trade principles.

- The Bike Root is a student run community bike shop committed to promoting environmental sustainability and healthy lifestyles. The shop is open 5 days a week, a 5 minute walk from campus.

Currently the volume of activity being collectively undertaken by student leaders is not reflected in the University of Calgary’s involvement in community service initiatives. Recognizing that 6000 students in the 2010 – 2011 academic year each contributed a minimum of 20 hours, many of which are actively engaged in the community, there may be considerable community service participation yet to be accounted for.
f. Other Student Co-Curricular Opportunities

The University of Calgary has an organic garden called the Campus Community Garden. It is open to university students, community professionals, retirees, and children. The Campus Community Garden employs organic restrictions.

The University of Calgary’s Outdoor Centre organizes a variety of outdoor activities in the surrounding area including hiking, backpacking, kayaking, canoe trips, rock climbing, winter sports, outdoor safety training and more. The Outdoor Centre follows “Leave No Trace” principles.

g. Sustainability Events

The Institute for Sustainable Energy, Environment and Economy (ISEEE) hosts several sustainability events series including the ISEEE Distinguished Speaker Series, the ISEEE Environment and Energy Seminar Series and the ISEEE Experts Series.

The International Resource Industries & Sustainability Centre (IRIS) hosts the ConocoPhillips IRIS Public Seminar Series which hosts regular events throughout the year with the aim of making research on sustainability accessible to the general audience.

ISEEEESA (Institute for Sustainable Energy, Environment and Economy Students’ Association) holds an annual Networking Dinner, which features a keynote address on sustainability by a guest speaker. This Networking Dinner is an opportunity for students to meet with industry professionals and to learn.

ISEEEESA also holds the E3DP Program (Energy, Environment, and Economy Development Program). This is a four session seminar that provides students with the chance to learn about energy, the environment, and economy from industry experts and academia. The fourth session is a case study competition in which students apply the knowledge they have learned during the previous seminars to solve a given case.

Evaluation

Sustainability is being integrated in a comprehensive array of co-curricular programs and student awareness activities. This includes new student orientation, sustainability campaigns on campus, the SustainabilityON Coordinators program, sustainability themed speaker events, co-curricular programming and an active community of student groups offering a number of sustainability programs and events.

Given this significant activity, there is an opportunity for strategic coordination and alignment of the array of programming currently underway.

As stated in the ISP, the immediate goal in this category is to formalize co-curricular priorities, including confirming goals, identifying relevant performance indicators, benchmarking the current state and setting targets to ensure steady progress.

Looking at the benchmarking provided by STARS, further progress could be made with respect to continuing development of the SustainabilityON Coordinators program, considering a sustainability model room in student residences, sustainability themed housing, supporting sustainable student enterprises and looking at the possibility of a themed semester or year.
**Operations**

**GREENHOUSE GAS EMISSIONS**

**Description**

The University of Calgary is responsible for the emission of greenhouse gases (GHG) resulting from a number of institutional activities. This section describes institutional commitments to reduce GHG emissions and ongoing actions to achieve those commitments.

Reductions are measured against a defined baseline as established in the Fiscal Year 2008/2009 Greenhouse Gas Inventory Report which categorizes institutional emissions under three “scopes” in accordance to the World Resources Institute’s (WRI) Greenhouse Gas Protocol. These scopes are described as follows:

- **Scope 1: Direct GHG Emissions**
  Emissions from sources that are owned or controlled by the University of Calgary. Includes on-campus stationary combustion (natural gas, propane etc.) and university fleet vehicles.

- **Scope 2: Indirect GHG Emissions**
  Emissions from sources not owned or controlled by the university, but that are a direct result of its operation. Includes emissions resulting from electricity and steam generated off-campus, and purchased by the University of Calgary.

- **Scope 3: Other Indirect GHG Emissions**
  All other indirect emissions. Includes commuting, institutionally financed travel, paper purchasing, and organic waste emissions.

The University of Calgary’s greenhouse gas emissions are expected to increase over time due to increased campus population and the resulting increase in building space, consumption and transportation needs. A “business as usual” (BAU) projection of future greenhouse gas emissions was estimated based on historical growth trends and current operational practices.

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Projected BAU GHG Emissions (tonnes CO(_2)e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>328,570</td>
</tr>
<tr>
<td>2015</td>
<td>352,540</td>
</tr>
<tr>
<td>2020</td>
<td>369,690</td>
</tr>
<tr>
<td>2050</td>
<td>475,260</td>
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</tbody>
</table>

In 2008 the University of Calgary became a signatory to the University and College President’s Climate Change Statement of Action for Canada (UCPCCSAC), which commits the institution to demonstrating leadership, sharing knowledge, undertaking research and best practices in pursuing responsible solutions to the climate change challenge. The University of Calgary was the first to sign outside of the six founding institutions and took a leadership role in inviting peer institutions in Alberta to also sign. Twenty-two Canadian institutions have now signed the commitment.

As part of its commitment to the UCPCCSAC, the University of Calgary committed to developing an institutional Climate Action Plan (CAP) within two years of signing the document, which was completed and formally adopted in November 2010. The CAP outlines institutional GHG emission reduction targets and the strategies to reach these targets.

The Government of Canada and Alberta requires reporting of greenhouse gases by facilities with single site emissions exceed 50,000 tonnes of CO\(_2\) equivalent (CO\(_2\)e) annually. Additionally, the Province of Alberta requires that facilities emitting over 100,000 tonnes of CO\(_2\)e annually to implement measures to reduce emissions intensity, purchase offset credits or contribute to the provincial Climate Change and Emissions Management Fund (currently at a rate of $15 / tonne CO\(_2\)e).

The University of Calgary is anticipating reaching these legislative program thresholds in 2012.

---

**Reduced total scope 1 (direct) and scope 2 (indirect) GHG emissions to 238,420 tonnes of CO\(_2\) equivalent.**
Goal

The University of Calgary strives to attain net carbon neutrality.

Climate Action Plan (CAP) Targets

<table>
<thead>
<tr>
<th>Target</th>
<th>Percent Reduction from Baseline</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline</td>
</tr>
<tr>
<td>Scope 1 &amp; 2 GHG Emissions</td>
<td>240,000 tonnes CO2e (2008)</td>
</tr>
<tr>
<td>Scope 3 GHG Emissions</td>
<td>88,600 tonnes CO2e (2008)</td>
</tr>
</tbody>
</table>

Performance Highlights

<table>
<thead>
<tr>
<th>Indicator</th>
<th>GHG Emissions (tonnes CO2e)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline</td>
</tr>
<tr>
<td>Scope 1 &amp; 2 GHG Emissions</td>
<td>240,000 (2008)</td>
</tr>
<tr>
<td>Scope 3 GHG Emissions</td>
<td>88,600 (2008)</td>
</tr>
</tbody>
</table>

Current Initiatives

The University of Calgary is in engaged in reducing institutional greenhouse gas emissions within the built environment including energy supply strategies, new and existing building practices, education and engagement initiatives; within transportation related emissions including fleet management, institutionally financed travel options and commuting options; and within procurement practices.

Initiatives that specifically target reducing GHG emissions include:

Climate Action Plan – The University’s Climate Action Plan was adopted in 2010 and identifies actions for reducing operational greenhouse gas emissions, proposes emission reduction goals, and underscores related research, teaching, and co-curricular activities.

Greenhouse Gas Inventory – The University of Calgary developed and published its first comprehensive greenhouse gas inventory encompassing Scope 1, 2 and 3 emissions and all activities under operational control for the 2008/2009 fiscal year as part of its commitment to the University and College Presidents’ Climate Change Statement of Action for Canada (UCPCCSA). The university released an update for the 2009/2010 fiscal year, and intends to produce a GHG inventory biennially thereafter. The university’s GHG inventory methodology follows the internationally accepted Greenhouse Gas Protocol developed by the World Resource Institutes (WRI) with emissions factors for power that are specific to grid-supplied electricity in Alberta.

Cogeneration Facility – Being built as part of retrofits to the Main Campus Central Heating and Cooling Plant, the cogeneration facility uses Combined Heating and Power (CHP) technology to more efficiently provide energy, heating and cooling to main campus. The new plant will use combined heat and power from the combustion of natural gas to supply campus buildings with 60% of thermal (heat and hot water) energy needs, 80% of the power load, and an 80,000 metric tonne annual reduction in GHG emissions. Annual energy cost savings are estimated at $3.5 million, giving a 5 year ROI. The plant is expected to be completed in fiscal year 2011 – 2012.

Alternative Energy Fleet Vehicles – The University’s fleet includes a small contingent of vehicles that are gasoline-electric, non-plug-in hybrid vehicles or are fuelled with B20 or higher biofuel as alternatives to conventional gasoline.

Organic Waste Diversion – The University of Calgary continues to compost 100% of leaf & lawn materials and is working to dramatically expand its food organics composting program. A pilot program launched two years ago to compost pre-consumer and post-consumer organics diverts 30 tonnes of material from the landfill. A comprehensive expansion of the university’s compost program involves new standardized organics collection units and the hiring of a commercial composting operation is anticipated. These efforts are expected to divert up to 25% of the total 1200 tonnes of organic material from generated on campus.

Purchasing – Using post-consumer recycled content paper reduces the greenhouse gas emissions related to the university’s office paper consumption as paper made with recycled content has less embodied carbon than paper made with virgin-fibre.
Evaluation

Strengths
The University of Calgary has developed a comprehensive strategic Climate Action Plan to reduce greenhouse gas emissions related to campus activities, and is committed to regular monitoring through biennial GHG inventories. The university is also in the process of implementing an array of initiatives that will reduce campus greenhouse gas emissions by reducing building energy use, increasing composting of organic waste, and providing the main campus with less carbon–intense energy.

Opportunities
Despite growth in the campus built environment and population, there has been a net decrease of GHG emissions from a 2008 baseline. Continued commitment to programs that are currently being developed will facilitate realizing potential reductions in Scope 1 and 2 emissions, but Scope 3 greenhouse gases represent a significant amount of emissions that need to be addressed comprehensively.

ENERGY

Description
Energy is used in the University of Calgary’s buildings to service heating, cooling, lighting, humidification and plug loads needed to support the education, research and operational activities on campus. The main campus has a distributed heating and cooling system with a Central Heating and Cooling Plant that burns natural gas to generate steam and hot water for heating and uses electricity to generate chilled water for cooling. A small amount of the steam is used for humidification, and a limited amount of natural gas is used in select buildings for direct heating. Consumption of natural gas and electricity from the provincial power grid is utility metered only at main supply points to campus. Building-level consumptions of electricity, steam, hot water and chilled water are tracked by university sub-meters. The campus is generally used year-round, though the occupancy of some buildings may vary seasonally due to fewer class offerings during the summer.

The university continuously seeks to reduce costs and greenhouse gas emissions associated with campus operations. The institution has developed and adopted a Climate Action Plan that defines targets and strategies to reduce GHG emissions by improving building energy performance through conservation and efficiency, and by switching to cleaner and renewable energy supplies. These measures help reduce costs, support local economic development, and hopefully will help shape market demand for cleaner and renewable sources of energy.

Goal
The University of Calgary is one of the most energy efficient campuses in North America.

Institutional Sustainability Plan (ISP) Targets

<table>
<thead>
<tr>
<th>Campus</th>
<th>Target Average Energy Use Intensity (EUI) – GJ/m²/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2005 (Baseline) 2012 2015 2020</td>
</tr>
<tr>
<td>Main</td>
<td>1.7 1.6 1.4 1.3</td>
</tr>
<tr>
<td>Foothills</td>
<td>3.6 3.1 2.7 2.3</td>
</tr>
</tbody>
</table>

Climate Action Plan (CAP) Targets

<table>
<thead>
<tr>
<th>Target</th>
<th>Energy Demand Serviced by Site-Based Renewable Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Energy Demand Serviced by Site-Based Renewable Sources - %</td>
<td>0.5 1</td>
</tr>
<tr>
<td>Total Energy Demand Serviced by Site-Based Renewable Sources - kWh</td>
<td>775,000 1,650,000</td>
</tr>
<tr>
<td>Average EUI for New Buildings - % reduction</td>
<td>70% 80%</td>
</tr>
<tr>
<td>Average EUI for New Buildings – GJ/m²/yr</td>
<td>0.47 0.32</td>
</tr>
</tbody>
</table>
Performance Highlights

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2005</th>
<th>2010 / 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Gas (GJ)</td>
<td>1,621,300</td>
<td>1,621,300</td>
</tr>
<tr>
<td>Electricity (MWh)</td>
<td>199,900</td>
<td>199,900</td>
</tr>
<tr>
<td>Total Energy Consumption (MWh)</td>
<td>420,629</td>
<td>444,520</td>
</tr>
<tr>
<td>Total Clean / Renewable Electricity Generated On-Site (MWh)</td>
<td>65</td>
<td>65</td>
</tr>
<tr>
<td>Total Building Floor Area (m²)</td>
<td>756,302</td>
<td>852,300</td>
</tr>
<tr>
<td>Average EUI (GJ/m²/yr) – Main Campus</td>
<td>1.7</td>
<td>1.7</td>
</tr>
<tr>
<td>Average EUI (GJ/m²/yr) – Foothills Campus</td>
<td>3.5</td>
<td>3.5</td>
</tr>
<tr>
<td>Average EUI (GJ/m²/yr) – Total</td>
<td>2.43</td>
<td>1.88</td>
</tr>
</tbody>
</table>

Current Initiatives

Energy Performance Initiative (EPI)

The EPI is a holistic operating model that supports the reduction of operating costs and greenhouse gas emissions through a continuous approach to energy optimization. The program acknowledges the continuous cycle of managing energy in the built environment through addressing issues with energy supply, new and existing buildings, systems operations and maintenance, user demand management and engagement, and analysis and evaluation. The EPI model encompasses the following:

Energy Supply

The University of Calgary has begun developing and integrating renewable energy resources into its building energy systems. A recently completed cogeneration facility will service almost all of main campus’ energy needs with cleaner energy than what is available from the Provincial power grid and save approximately $3.5 million in operational costs. While the cogeneration facility currently operates using natural gas, there is the potential to use other renewable fuel sources such as biomass to further reduce the carbon footprint related to the campus’ energy needs. Additionally, the Child Development Centre has a 65,000 kWh photovoltaic array which is among the largest building based installations in Canada.

New Buildings & Major Projects

Efforts have been made to improve and align energy performance standards for buildings on campus with LEED (Leadership in Energy and Environmental Design), the Model National Energy Code for Buildings (MNECB) and the Architecture 2030 Challenge. Procurement and project delivery processes have also been improved to facilitate better performance upon the completion of new buildings. This commitment can been seen in the Child Development Centre, which is 70% more efficient than the MNECB, and all other new buildings will target 25% to 50% higher performance than MNECB standards. More stringent energy performance standards have been integrated with new design standards for new buildings and major retrofits which will affect planned improvements to MacKinnie Library Tower, Science A and the Engineering Complex. Energy efficiency has also been incorporated into institutional standards for energy-use metering, ozone protection and Green IT.

Existing Buildings

The first three phases of the EPI program took a strategic approach to retrofitting and optimizing the campus’ existing buildings and infrastructure. The first phase of the program (EPI I) was implemented nearly a decade ago, seeing HVAC and controls upgrades, lighting retrofits and power factor corrections in a number of buildings. The second phase (EPI Phase II) involved energy saving retrofits in a larger portfolio of buildings and was completed in the Spring of 2011. Optimization of controls and operating hours was addressed in EPI III, adjusting and aligning building occupancy loads with class schedules to realize benefits without any capital requirements. Net capital investment for the EPI I, II and III was $21 million over a span of approximately ten years, resulting in net GHG emissions reductions of approximately 46,000 tonnes CO₂e and saving at least $5 million in annual operational costs. As part of EPI IV, 35 energy performance audits and 22 building envelope studies are being conducted on buildings with the highest energy intensity on campus. These studies will help confirm baseline performance, prioritize building specific opportunities for improvements, and develop energy use intensity targets and strategies.

Recommissioning

A program is being developed to have the university's buildings recommissioned on continuous five-year cycles. Recommissioning ensures that buildings are operating as intended and the program will focus on low-cost operational improvements.
Energy Management

Building level energy metering is largely complete, improving the consistency and accuracy of the university's energy monitoring systems. The University is in the process of implementing an enterprise energy management system to centrally monitor, analyze, and report on Main and Foothills Campuses energy systems. The new system allows for the real-time monitoring each building’s energy use, benchmarking building performance, and identifying when a building is under performing. The system will also feature an interactive dashboard which allows users to see how their building is performing.

User Demand Reduction

Efforts to address plug and process loads such as vending machines, IT infrastructure, freezers and fume hoods continue to be considered and implemented. User engagement is a key element of strategy as behaviour change is critical to achieving and maintaining energy and cost savings.

The program is supported by the Energy Efficiency Fund (EEF), a revolving fund that uses energy savings to support future projects that reduce campus energy consumption and/ or greenhouse gas emissions. Potential projects may be proposed for the EEF by eligible business units across the campus but access to the EEF requires participation in the SustainabilityON program.

New capital projects such as the Taylor Family Digital Library (TFDL); Energy, Environment, and Experiential Learning (EEEL) and Yamnuska Hall use energy efficient LED site lighting instead of conventional high-pressure sodium alternatives.

Engagement

SustainabilityON is a campus-wide engagement program that seeks to inform and consult a broad spectrum of the campus community about ongoing sustainability initiatives. The program is supported by a network of coordinators and volunteers that are imbedded in various university departments and communities. Five themed campaigns run through the year to promote behavioural changes in support of campus sustainability, including one on energy conservation and efficiency.

Evaluation

Strengths

Building energy use has been and continues to be a priority area that the University of Calgary is focused on improving. The University has established short and long-term goals in its Institutional Sustainability Plan and Climate Action Plan with regards to building energy use intensity and cleaner and renewable energy sources. Energy and design standards have been revised to more stringent energy performance requirements, and building retrofit projects have been implemented to some existing buildings to improve energy efficiency.

Opportunities

While more stringent energy standards have made new buildings more energy efficient and retrofits have improved the energy performance of some existing buildings, the net energy consumption on campus has increased as a result of significant growth of the built environment. A new cogeneration plant on campus will supply the Main Campus with a significant amount of energy that is cleaner than the Provincial grid, and reductions in energy consumption and greenhouse gas emissions are anticipated as programs to improve building systems and reduce user demand continue to be implemented.

BUILT ENVIRONMENT

Description

Sustainability performance of the University of Calgary’s built environment includes the design, construction, operation and maintenance of its buildings, grounds and infrastructure. The environmental performance of the university’s buildings can have significant impacts on campus energy consumption, greenhouse gas emission and potable water consumption. The quality to which the institution designs, builds, operates and maintains its buildings reflects the degree to which it provides safe and healthy indoor environments for the campus community. Furthermore, high performance green buildings have been shown to enhance learning outcomes and workplace productivity as well as reducing operating costs. Similarly, the manner with which campus grounds are planned, planted, and maintained has significant impacts on the university’s ability to prioritize and control movement on campus, minimize the use of toxic chemicals, protect wildlife habitat, and conserve water and resources.

The Clinical Skills Building, home to our Faculty of Veterinary Medicine, is LEED® Gold Certified.
Goal

The University of Calgary is a North American leader in high performance green buildings.

Institutional Sustainability Plan (ISP) targets:

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<tr>
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</thead>
<tbody>
<tr>
<td>Percentage of new buildings / major retrofits with minimum LEED Silver Certification</td>
<td>0</td>
<td>75% minimum LEED Silver</td>
<td>100% minimum LEED Gold</td>
<td>TBD</td>
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<tr>
<td>Number of existing buildings with LEED EBOM Certification</td>
<td>0</td>
<td>1</td>
<td>TBD</td>
<td>TBD</td>
</tr>
</tbody>
</table>

Performance

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Baseline</th>
<th>2010 / 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of new buildings and major retrofits with minimum LEED Silver Certification</td>
<td>0</td>
<td>100%</td>
</tr>
<tr>
<td>Building space constructed to date that is LEED Certified (m²)</td>
<td>0</td>
<td>3,000</td>
</tr>
<tr>
<td>Building space constructed to date that is LEED Silver Certified (m²)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Building space constructed to date that is LEED Gold Certified (m²)</td>
<td>0</td>
<td>7,430</td>
</tr>
<tr>
<td>Building space constructed to date space that is LEED Platinum Certified (m²)</td>
<td>0</td>
<td>12,000</td>
</tr>
<tr>
<td>Occupied building space maintained in accordance with sustainable building operations &amp; maintenance guidelines (m²)</td>
<td>0</td>
<td>845,170</td>
</tr>
<tr>
<td>Area of campus grounds maintained using a four-tiered Integrated Pest Management Plan (m²)</td>
<td></td>
<td>3,188,900</td>
</tr>
</tbody>
</table>

Current Initiatives

Building Design & Construction

*Design Standards* – The university’s Design Standards outline practices for new construction, renovation, renewal, and maintenance projects. These standards ensure that all projects are designed and built to green building standards with respect to site impacts, energy performance, environmentally preferable materials, indoor environmental quality and water consumption. Refinements to the procurement and project delivery processes have also improved the resulting performance of new buildings. A number of recently completed buildings and projects under construction are pursuing LEED certification including the Taylor Family Digital Library (TFDL), Energy Environment Experiential Learning Building (EEEL), Yamnuska Hall and the High Density Library (HDL). The recently completed Veterinary Medicine Clinical Skills Building was awarded LEED Gold certification in 2010. See Section 4.1.2 Building Energy for more information.

Building Operations & Maintenance

*Building recommissioning* – A program is being developed to implement a five year cycle of building recommissioning to enable continuous optimization the performance of building systems. See Section 4.1.2 Building Energy for more information.

*Healthy High Performance Cleaning Program* – Caretaking staff now use scent-free and biodegradable cleaning products and equipment that use less water. The green cleaning program provides a higher quality environment for building occupants and improves caretaking staff efficiency.

*Indoor Integrated Pest Management (IPM)* – The entire campus follows a four-tier Integrated Pest Management system that prioritizes preventative and non-chemical methods of controlling pest populations. Interior IPM programs focus on preventing opportunities of ingress and eliminating or controlling food and water sources, and using only least-toxic pesticides if necessary.

*Engagement and Outreach* – The SustainabilityON program raises awareness of occupant opportunities to support high performance building operations by distributing information through coordinators embedded in departments and communities throughout campus.
Infrastructure

Integrated Resource Recovery – Wetland storm-water retention and treatment systems have been installed in the Taylor Family Quad and at the Veterinary Medicine Clinical Skills Building.

Campus Master Plan – The Campus Master Plan provides a guide to developing a campus environment based on functional landscapes and climate appropriate design. Ensuring a distinctive and high quality street character and way-finding signage facilitates the integration of pedestrian and cyclist circulation into streets in a manner that prioritizes an enhanced pedestrian and cycling experience and safety.

Grounds

Outdoor Integrated Pest Management (IPM) – The entire campus follows a four-tier Integrated Pest Management system that prioritizes preventative and non-chemical methods of controlling pest populations. Exterior IPM programs focus on avoiding landscaping features that may harbour pests, maintaining healthy landscapes to prevent pest infestation, ensuring potential food and water sources are appropriately situated, and using only least-toxic pesticides if necessary.

Native Plants – Approximately 85% of planted trees and shrubs are native to the Calgary area. Other species being planted are mainly cultivars of Native species that have preferred growth patterns or characteristics. Native grasses such as Blue Gamma are used in locations with little foot traffic, while a mixture of hardy grasses is used in high traffic areas.

Snow and Ice Removal – The university uses a variety of strategies to minimize the environmental impacts of snow and ice removal. When conditions permit, snow is shoveled onto plantings to help add moisture in the spring and mitigate the impacts of melt and freeze cycles and false spring occurrences. Ice and hard-packed snow is removed manually by chipping as soon as possible, and sand is applied at entrances. A magnesium chloride solution is used on high traffic walkways only when necessary as an alternative to conventional salts.

Leaf & Lawn Waste – All of the university’s leaf and lawn waste are compost on campus grounds.

Evaluation

Strengths

The University of Calgary is developing a comprehensive approach to the development of new buildings that will facilitate continued improvements in sustainability performance in the campus built environment. The maintenance of campus grounds is done in a manner that minimizes impacts on the natural environment.

Opportunities

While early steps have been made to transition the maintenance and operations of buildings to LEED EBOM standards, the university’s STARS rating identifies existing buildings as an area for improvement. The ISP also commits the institution to continued implementation of the Campus Master Plan and integrated resource recovery principles.

TRANSPORTATION

Description

Transportation activities are a major source of greenhouse gas emissions and other pollutants at the University of Calgary, and the institution aims to reduce its impact on the environment by fostering modes of transportation that have a reduced impact. The University of Calgary’s main campus is largely a commuter campus that generates approximately 95,000 trips daily. The institution also maintains an operational fleet of more than 150 cars, trucks, tractors and buses distributed between Facilities Management and various faculties. Greenhouse gas emissions related to commuting and the university’s fleet vehicles amount to nearly 71,000 tonnes CO₂e.

“Transportation is a major source of greenhouse gas emissions and other pollutants that contribute to health problems such as heart and respiratory disease and cancer.” Modes of transportation like cycling and walking provide health benefits and combined with effective public transportation reduce parking infrastructure demands and traffic impacts on surrounding communities.
Goal

The University of Calgary is committed to low emission commuting and campus operations transportation practices.

<table>
<thead>
<tr>
<th>Targets</th>
<th>2012</th>
<th>2015</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commuting – Percent of students using alternatives to single occupant vehicles</td>
<td>75%</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>Commuting – Percent of employees that use alternatives to single occupant vehicles</td>
<td>50%</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>Fleet – Percent of institutionally owned vehicles that employ alternative fuel and power technologies</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>Institutionally Financed Travel – Percent reduction in institutionally financed travel greenhouse gas emissions</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
</tr>
</tbody>
</table>

Performance

Commuting

Based on a 2008 Survey, 49% of university employees and 74% of students use alternatives to single occupant vehicles for the majority of their commuting trips. These alternatives include public transportation, carpooling, biking or walking.

Employee Commute Modes of Transportation

- Drive as primary method of transportation
- Van or Carpool
- Walk, Bicycle or other non-motorized
- Campus Shuttle or Public Transportation

Student Commute Modes of Transportation

- Campus Shuttle or Public Transportation
- Drive as primary method of transportation
- Walk, Bicycle or other non-motorized
- Van or Carpool

Fleet

The university has right-sized some of its fleet vehicles, introducing smaller cars and trucks when appropriate to replace larger vehicles that have reached the end of their service lives. Alternative fuel and power technologies have also been introduced with three gasoline-electric, non-plug-in hybrid vehicles, and B20 or higher biofuel now powers one vehicle and a number of grounds equipment.

Institutionally Financed Travel

Information regarding institutionally financed travel for the 2009/2010 fiscal year was not available.

Current Initiatives

U-Pass – Since 2002, the University of Calgary has provided all full-time undergraduate and graduate students with the UPass. UPass holders have full access to available transit services during terms that they are enrolled in classes, which includes unlimited bus and CTrain travel. The UPass is funded in part through a compulsory fee for all full-time students in order to provide transit access to all students at a rate that is significantly lower (currently approximately a 70% discount) than regular price. Initially only available to undergraduate students for Fall and Winter terms, the program will be extended to include Spring and Summer semesters beginning in 2012. For more information about the program, visit www.ucalgary.ca/UPASS/.

Carpool – The “Top of the Lot” program gives preferred parking spots and substantially reduced rates to vehicles with 3 or more passengers. Usage increased from 19,158 entries in 2009 – 2010 to 26,524 entries in 2010 – 2011.

Car-share – The campus car-share program was introduced to provide the campus community with access to vehicles when needed while reducing the overall number of cars on campus. The program was updated in September 2010, increasing the number of vehicles offered
from one to four and increasing the accessibility of the program to the majority of the campus community by lowering the minimum age of vehicle operators to 18 years. Vehicles are located in strategic areas of campus, including two at residence halls in an effort to reduce residence students’ need to bring a vehicle to campus.

Idle-Free – A no-idling vehicle was formally launched Fall 2010 that encourages vehicle operators (fleet, commercial and personal) to turn off engine when idling for more than 3 minutes when ambient temperature is equal to or greater than -10C and when vehicle is left unattended. Exceptions are made for defined emergencies and repair circumstances or any situation in which the health or safety of a driver, passenger or animal requires the idling of the vehicle. A comprehensive engagement campaign is in place to educate fleet vehicle operators and the program is being integrated with institutional service contracts. Idling became a fineable offense beginning January 1, 2011.

Education & Outreach – The University of Calgary participated in the 2010 Canadian Commuter Challenge. In this one week challenge, participating businesses and organizations encourage their employees to try an alternative mode of transportation for their daily commute: carpooling, transit, cycling and walking, essentially anything besides driving alone. The University of Calgary had the third highest number of participants in the nation. Also in 2010, the University of Calgary placed first in Canada’s first Campus Commuter Challenge, which is specifically for university and college campuses.

Evaluation

Strengths

As a commuter campus, travelling to and from campus is an important issue for the campus community. Alternatives to driving single-occupancy vehicles comprise the majority of student trips and almost half of employee trips to and from campus. The university’s commitment to reducing idling is demonstrated by efforts to ensure compliance with the program by all vehicles on campus.

Opportunities

The STARS framework covers a broad variety of transportation related topics. While the university has supported a wide range of alternatives to using single-occupancy vehicles, areas for improvement include developing a comprehensive plan for transportation demand management, enhancing facilities and infrastructure to encourage bicycle usage, housing more students and staff on or near campus, and expanding fleet management practices.

WASTE

Description

A broad array of material is managed on campus including general day-to-day waste, hazardous waste, e-waste, and construction and demolition waste. These comprise over 20 material streams that have multiple points of management. The U of C maintains tracking of all waste streams and diversion. The indicators in this category measure the percent of waste diverted from landfill and the percent of construction and demolition waste diverted from landfill.

Rethinking, reusing, reducing, recycling and composting mitigates the impacts of extraction and processing of virgin materials, keeps resources in productive use, and reduces the environmental impact from our landfills.

Goal

The University of Calgary is a net zero waste campus.

<table>
<thead>
<tr>
<th>Target</th>
<th>2005 Baseline</th>
<th>2012</th>
<th>2015</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual volume of waste generated in metric tonnes1</td>
<td>3,092</td>
<td>2600</td>
<td>2150</td>
<td>1040³</td>
</tr>
<tr>
<td>Percent of waste diverted from landfill1</td>
<td>35%</td>
<td>50%</td>
<td>65%</td>
<td>80%</td>
</tr>
<tr>
<td>Percent of construction and demolition waste diverted from landfill2</td>
<td>Less than 5%</td>
<td>75%</td>
<td>80%</td>
<td>80%</td>
</tr>
</tbody>
</table>

In the University of Calgary composting pilot program food organics are composted and used on campus grounds.
Progress

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Waste Generated (tonnes)</th>
<th>Waste Diverted (tonnes)</th>
<th>Waste Diverted (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Waste</td>
<td>5744</td>
<td>1870</td>
<td>33</td>
</tr>
<tr>
<td>Construction &amp; Demolition Waste</td>
<td>1570</td>
<td>1073</td>
<td>68</td>
</tr>
</tbody>
</table>

Current Initiatives

**Solid Waste Working Group** – Comprised of stakeholders from Facilities Management, Facilities Development, Supply Chain Management, Environmental, Health & Safety, Residence Services, Students’ Union, Residence Students’ Association and the Office of Sustainability. The group works collaboratively to develop and implement initiatives in support of the University of Calgary’s waste goal, to become a net-zero waste campus. This past year the working group met quarterly, focusing on strategic planning (Recycling and Waste Management Plan), capacity building (Data Management with ARCHIBUS), expanding existing programs (composting) and introducing new programs (Paper Recycling Pilot in Residences).

**Recycling and Waste Management Plan** – this recently completed plan supports the University of Calgary’s strategic goals of achieving zero waste and encompasses all University recycling and waste streams. Within its ultimate strategic goal of becoming a net zero waste campus, the University of Calgary is committed to reduce the University’s solid waste contribution to landfills to 80/20 (80% diversion / 20% disposal) by 2020.

**Recycling Infrastructure Standard** – This document establishes the campus standard for recycling, compost and waste collection units for all areas of campus. The improved coverage throughout campus and consistent graphics provide visual cues for all occupants will support increased diversion of materials from the landfill by. Over 1200 new bins compliant with the new standard were deployed in this reporting period.

**Data Management and Reporting** – Facilities Management & Development initiated project to review operational process and to implement an integrated data management system with ARCHIBUS which includes an environmental module with tracking and reporting capabilities for recycling and waste. The project will expand on the waste tracking tool currently used to track and maintain data for over 20 material streams managed on campus. When completed, the project will better enable evidence-driving sustainability programs within recycling & waste.

**Education and Outreach** – As part of the SustainabilityON engagement program, a two month Waste Reduction & Responsible Purchasing campaign was held to engage students, faculty and staff. As part of the campaign the University of Calgary participated in RecycleMania, a competition between colleges and universities in Canada and the United States to see who could reduce waste and recycle the most. By engaging students to participate, as well as through the roll-out of new recycling and waste infrastructure, the U of C saw an increase in its diversion rate during the competition from 31% at the beginning to 37% at the end. At the same time a 7 week Photocopier Challenge was also held, during which over 60 photocopiers were tracked to see which department offices could reduce paper consumption the most. Over 47,000 sheets were saved over the duration of the competition.

**Waste Diversion** – Programs are ongoing to reduce, reuse and recycle waste generated on campus, addressing more than 20 material streams. Examples of just a few of these programs include the reduction of paper usage from 72 to 56 million between 2007 and 2010 by replacing desktop printers with multifunction print devices; the elimination of plastic bags in the University of Calgary Bookstore, making it the first campus bookstore in North America to do so; coffee discounts offered by many vendors to people using reusable cups; and the weekly surplus sale open to the public that sells furnishings and equipment in good condition.

**Composting Programs** – Organics composting on campus is comprised of leaf & lawn material and food organics. The University of Calgary continues to compost 100% of leaf & lawn materials and is working to dramatically expand its food organics composting program. A pilot program launched two years ago introduced to the university to pre-consumer and post-consumer organics composting, processing about 30 MT annually. Now, with up to 1200 MT of the total waste stream comprised of organics, the university’s compost program is being expanded. The new organics collection units deployed as part of the Recycling Infrastructure Standard is expected to increase diversion significantly from 30 MT to between 200 to 300 MT. With the on-campus in-vessel composter at capacity, focus is on pursuing an external service provider for commercial scale composting.

**Construction & Demolition** – The University of Calgary continues to divert Construction & Demolition waste in both retrofit and new construction projects. The Olympic Oval roofing retrofit currently underway is projected to be waste free. The University of Calgary Design Standards (June 2010) include the Construction Waste Management (CWM) Guidelines which establish performance standards for the management of construction and demolition waste related to new building construction, major renovations and minor renovations. The guidelines include procedures to used in achieving a minimum end-of-project diversion rate of 75%, ensure measures
are taken to reduce the volume of waste generated on site, and ensure the handling and disposal of hazardous materials comply with regulations. On major projects exceeding $2,000,000 materials are separated into different bins on site and are then transported to processors. On minor projects less than $2,000,000 materials are sent to a transfer station on campus.

**Hazardous Waste** – The continued development of Chematix™, a chemical management program which includes a chemical inventory and tracking system, is anticipated to facilitate the sharing of surplus chemicals; reducing the need for one lab to procure a chemical another lab may have in excess. The program has been launched on both Main Campus and Foothills Campus and a full inventory is currently being completed for all buildings. The Faculty of Veterinary Medicine also manages animal waste processing and carcass disposal on-site.

**Electronic Waste** – E-waste is recycled in partnership with an external contractor. If collected electronics are still in good condition, they are sold at the university’s weekly “Surplus Sale”. The remaining materials are then received by the contractor which has a 98% recovery rate for all collected electronic materials. No waste is sent to non-OECD countries. Cell phones and rechargeable batteries can be recycled at various locations across campus where drop boxes are available. Materials are sent to a non-profit organization that makes rechargeable batteries into new batteries and stainless steel products, and refurbishes and resells or recycles cell phones.

**Residence Services** – Launched a 2 month paper recycling pilot program that coincided with the university’s RecycleMania competition. The pilot was run with 66 suites on two floor of a traditional residence building to assess for occupant participation. The project was successful and is now being expanded residence-wide to service all 2600 tenants.

**Evaluation**

**Strengths**

Comprehensive programs are underway in support of the University of Calgary's waste reduction and diversion goals. Further programs are being developed or scaled up to accelerate progress towards meeting the university’s targets. To date, the programs have collectively achieved a cost avoidance of approximately $200,000 per year through diversion of materials from the landfill. The current organics composting pilot has provided a better understanding of composting programs and will support the successful rollout of large scale food waste composting.

**Opportunities**

There are opportunities to continue progress towards the University of Calgary’s waste goals by expanding diversion opportunities for the campus community, including ongoing deployment of infrastructure with consistent signage to collect multiple streams. As recycling is the most visible demonstration of organizational commitment to sustainable operations, expediting completion of new recycling and composting infrastructure rollout has strategic advantages.

STARS also provides a benchmark for progress in waste management. The university is successfully diverting part of its total generated waste, but absolute reductions in overall waste have not yet been accomplished. This is subject to the growth in enrollments, employees and space, but will still be addressed moving forward.

**WATER**

**Description**

The University of Calgary uses a considerable amount of water to service a wide variety of uses and activities on campus. The population of students, staff and faculty on campus requires substantial volumes of potable water. The size of the university’s campus translates into significant water issues regarding site irrigation and storm-water management.

**Potable water consumption reduced by 33%**
Goal
The University of Calgary demonstrates exemplary stewardship of water quality and use.

Institutional Sustainability Plan (ISP) targets:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual volume of potable water use per weighted campus user (m³)</td>
<td>47</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>Number of storm drains with rate of release control and/or water quality improvements</td>
<td>0</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>Annual volume of river water used for building cooling (m³)</td>
<td>8,531,635</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
</tr>
</tbody>
</table>

Performance

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Baseline</th>
<th>2010 / 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual volume of potable water use (m³)</td>
<td>1,540,627</td>
<td>1,026,595</td>
</tr>
<tr>
<td>Number of storm drains with rate of release control and/or water quality improvements</td>
<td>0</td>
<td>N/A</td>
</tr>
<tr>
<td>Annual volume of river water used for building cooling (m³)</td>
<td>8,531,635</td>
<td></td>
</tr>
</tbody>
</table>

Current Initiatives

Potable Water

*New Building Design Standards* – The university has developed a suite of water efficiency design and operational standards that include using non-potable water for toilet/urinal flushing, considering green roofs and the harvesting and storage of rain water for non-potable uses.

*Water Metering* – All buildings on the Main and Foothills Campuses are metered at the building level.

*Site Irrigation* – Process water for the Central Heating and Cooling Plant is drawn directly from the Bow River and a portion is reused for irrigation of campus grounds. Xeriscaping using indigenous and drought tolerant plants and grasses reduces the need for watering and weeding. The university also uses weather data and sensors to automatically control and adjust irrigation water usage as needed.

*Water Efficient Fixture Retrofits* – Existing buildings are currently in a multi-year process of being retrofitted with water efficient fixtures to achieve at least 50% reductions in potable water flows.

*Bottle Filling Fixtures* – Drinking fountains across campus are being retrofitted with fixtures to fill reusable water bottles, reducing the demand for bottled water. All new drinking fountains that are installed on campus will also have these bottle filling fixtures.

Engagement and Outreach – The university has an annual campaign to raise awareness about point of use water reduction. The SustainabilityON Water Wise campaign is typically a two-month long program that targets staff, students and faculty.

Storm-water

*Erosion & Sedimentation Control (ESC) Plan* – Targets the prevention of storm-water runoff and erosion from new construction sites.

*Storm-water Retention* – Storm-water retention and treatment ponds have been installed in the Taylor Family Quadrangle and on West Campus.

*Bioswales* – A vegetated bioswale has been installed in Parking Lot 10 to improve the quality of storm-water that returns to the Bow River.

Evaluation

Strengths

The University of Calgary has demonstrated leadership with a variety of initiatives addressing potable water use and storm-water management on campus, and the university’s performance in STARS for this area reflects this excellence.
Opportunities
The development of a water management master plan for all campuses using an integrated resource recovery model will support future efforts to optimize water conservation, storm-water management, water quality and utility costs.

PURCHASING

Description
As a major post-secondary institution, The University of Calgary has significant purchasing power and can influence the goods and services provided to it. Each purchasing decision represents an opportunity for institutions to choose environmentally and socially preferable products and services and support companies with strong commitments to sustainability.

Goal
The University is a leader in sustainable supply chain management.

Institutional Sustainability Plan (ISP) targets:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of Electronic Product Environmental Assessment Tool (EPEAT) “Gold” certified desk top equipment purchasing</td>
<td>Silver (minimum performance standard)</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>Percentage of Green SealTM or EcoLogoTM certified cleaning products</td>
<td>0%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Percentage of post-consumer recycled content consumable paper purchasing (toilet paper, etc.)</td>
<td>0%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Percentage of post-consumer recycled content office paper purchasing</td>
<td>&gt;1%</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>Percentage reduction of office paper use</td>
<td>0%</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>Percentage of recycled content in business cards, institutional promotonal materials</td>
<td>0%</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>Percentage of furnishing purchases (by dollar) that employ recycled and/or rapidly renewable material content and/or regional materials and/or manufacturing, and/or GreenGuard Indoor Air Quality Certification</td>
<td>0%</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
</tr>
</tbody>
</table>

Performance

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Baseline</th>
<th>2010 / 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of Electronic Product Environmental Assessment Tool (EPEAT) “Gold” certified desk top equipment purchasing</td>
<td>Silver</td>
<td>0%</td>
</tr>
<tr>
<td>Percentage of Green SealTM or EcoLogoTM certified cleaning products</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>Percentage of office paper purchasing with at least 30% post-consumer recycled content</td>
<td>&gt;1%</td>
<td>29%</td>
</tr>
</tbody>
</table>

Current Initiatives

Desk Top Purchases – The university currently maintains a minimum EPEAT “Silver” rating for 100% of institutional desk top purchases.

Cleaning Supplies – The Healthy High Performance Cleaning program uses scent-free and biodegradable products, and incorporates equipment that uses less water. The number of chemicals was reduced from 50 to six Green Seal labelled products, improving cleaning efficiency and effectiveness.

Office Paper – The university was able to negotiate lower rates for recycled-content paper with its preferred vendor. The price of 30% recycled-content copy paper is now lower than that of virgin-fibre paper. Paper with at least 30% post-consumer recycled content currently comprises 29% of all office paper purchases.
Sweat-Free Apparel – University of Calgary branded apparel and gifts available at the bookstore are produced with fair labour practices. Suppliers are asked to voluntarily submit written confirmation of adhering to acceptable codes of conduct.

**Evaluation**

**Strengths**
The university of Calgary has made key early steps regarding sustainable practices in institutional purchases of desk top technology, cleaning supplies and office paper.

**Opportunities**
Assessing against the STARS framework, opportunities for improvement may target expanding on efforts to promote the purchasing of recycled paper and EPEAT certified desk top technology, exploring ways to reduce office paper usage, considering implementation of a vendor code of conduct, and increasing the proportion of purchasing from local and historically underutilized businesses.

**DINING**

**Description**
Dining and food services are offered by a number of organizations on campus, but the university has contracted Chartwells Dining Services as its primary food service provider. Chartwells Dining Services operates the Dining Centre, the university’s catering service and a number of retail food outlets across campus. The Students’ Union oversees food service operations at the MacEwan Conference & Events Centre, The Den, and independent food vendors in the MacEwan Student Centre. A small number of independent retail food outlets, such as Good Earth Cafes, are distributed throughout campus in addition to those operated by Chartwells Dining Services and the Students’ Union.

Universities can help build a sustainable food system and reduce their ecological footprint by supporting local food producers and offering Food Alliance-certified, certified Organic and Fair Trade-certified products. They can also provide campus divers with healthy and diverse dining options.

**Goal**
The University of Calgary utilizes sustainable and healthy dining service practices.

Institutional Sustainability Plan (ISP) targets:

<table>
<thead>
<tr>
<th>Target</th>
<th>2012</th>
<th>2015</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chartwells Dining Services - Percentage of total food expenditures that are sustainably sourced</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>Chartwells Dining Services - Percentage of coffee and tea that is Fair Trade certified</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
</tr>
</tbody>
</table>

**Performance**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Baseline</th>
<th>2010</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chartwells Dining Services - Percentage of total food expenditures that are sustainably sourced</td>
<td>TBD</td>
<td>24%</td>
<td>TBD</td>
</tr>
<tr>
<td>Chartwells Dining Services - Percentage of coffee and tea that is Fair Trade certified</td>
<td>TBD</td>
<td>N/A</td>
<td>TBD</td>
</tr>
</tbody>
</table>

**Current Initiatives**

*Vegan Dining* – Chartwells Dining Services provides vegan meal options in each meal period including complete proteins.

*Trans Fats* – Chartwells Dining Services does not use trans-fat frying oil nor does it include foods that contain trans-fats.
Composting – Currently 60% of all campus food vendors are composting pre-consumer food organics, with the remaining 40% confirmed to begin participation in 2011/2012. Post-consumer food waste is composted in an in-vessel composter called the “Earth Tub”. The Earth Tub can process up to 18 tonnes of organics annually and the compost produced is used as fertilizer to be applied on university grounds. As part of the new recycling and waste infrastructure, the University of Calgary is rolling out new organics bins in order to increase post-consumer food waste collection.

Waste Diversion – The Students Union has worked with its food vendors to remove all polystyrene foam containers. Chartwells Dining Services is starting to use compostable coffee cups and promoting reusable serving ware. Both food service providers have implemented a pre-consumer kitchen composting program and are considering piloting a post-consumer food waste composting program. Napkins are served from one-at-a-time dispensers and are 100% compostable and chlorine-free. Also a number of vendors on campus offer discounts for customers who use reusable mugs.

Evaluation

Food service providers have been actively pursuing sustainable sourcing and waste diversion initiatives on campus. While different food service providers have been able to achieve different accomplishments with regards to sustainability performance, the university’s STARS rating indicates that there is opportunity for improvement in food purchasing, developing guidelines for independent vendors, and continued reductions in food service related waste. The ISP identifies strategies that may support these efforts through collaborative development of strategies and initiatives.

ENVIRONMENT, HEALTH & SAFETY

Description

Environment, Health and Safety (EHS) programs support the physical protection and well-being of people at the workplace, and the environment in which they operate. The university works to maintain compliance with environmental and occupational health and safety standards and to ensuring the safety of students, faculty, staff and campus visitors.

Goal

The University meets or exceeds applicable environment, health and safety standards, regulation and industry best practices.

Institutional Sustainability Plan (ISP) targets:

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Performance

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<td>Liquid waste chemicals recycled</td>
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Current Initiatives

Chemical Inventory – The university is currently implementing an electronic chemical inventory and tracking system, ChematixTM, to optimize the management of chemical stocks, improve recycling efficiencies and reduce waste.
**EHS Job Accountabilities** – Environment, health and safety accountabilities are being added to staff job profiles to improve staff awareness of EHS issues and ensure compliance at the individual level. Duties are outlined for all management and support positions, highlighting that EHS on campus is everyone’s responsibility.

**New Staff EHS Orientation** – All new university staff are now required to attend EHS orientation sessions. Material covered includes institutional EHS regulations and standards, and the various roles and responsibilities of different positions in the organizational structure. Employees may also be required additional EHS orientations with more information specific to their respective department and job.

**OHS Agreements** – Occupational Health and Safety is addressed in the collective agreement with all support staff through membership in the Alberta Union of Provincial Employees. The agreement contains a Safety and Health section which addresses representation on Health and Safety committees, training, worksite analysis and uniforms and protective clothing.

**Evaluation**

The University of Calgary has developed a number of comprehensive programs to provide direction and guidance to the campus community with respect to specific health and safety issues. Indicators to measure progress in this area are under development, with consideration of alignment with the ISP and GRI guidelines.
List of References


Content Index

The Sustainability Report (SR) provides a snapshot of progress towards the goals confirmed in the Institutional Sustainability Plan (ISP), incorporating indicators that were drawn from a number of sources including the Global Reporting Initiative (GRI), the Sustainability Tracking, Assessment and Rating System (STARS) and imagineCALGARY. Table 1 below shows the contents of the SR and how each section addresses the ISP, GRI, STARS and imagineCALGARY. It provides a view of how the University of Calgary’s sustainability initiatives are simultaneously addressing each framework.

**GRI** – This report has been prepared using the Global Reporting Initiative’s (GRI) G3 Sustainability Reporting Guidelines. We self-declare this report as achieving Application Level C. Table 3 below confirms the required disclosures for each Application Level. For more information on GRI visit [www.globalreporting.org](http://www.globalreporting.org).

**STARS** – The data and information in this report was collected largely through the implementation of the Sustainability Tracking, Assessment and Rating System (STARS). The University of Calgary completed its STARS submission in July 2011, achieving a Silver rating. For more information on STARS visit [stars.aashe.org](http://stars.aashe.org).

**imagineCALGARY** – The University of Calgary is a partner in the imagineCALGARY Plan for Long-Range Urban Sustainability, which was developed with the input of over 18,000 Calgarians. As a partner institution in the plan, our activities contribute to imagineCALGARY’s goal of creating a vibrant, sustainability city and this report addresses many of the targets which that plan establishes. For more information on imagineCALGARY visit [www.imaginecalgary.ca](http://www.imaginecalgary.ca).

**TABLE 1**

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Table 2 below summarizes additional disclosures required by GRI for Application Level C that are addressed outside of the SR, including the University of Calgary’s Annual Report (AR) and the www.ucalgary.ca website (Web). Where appropriate, the disclosure is made directly in this table.

**TABLE 2**

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### TABLE 3

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*Sector supplement in final version
Credits

Thank you to Dr. Irene Herremans from the Haskayne School of Business, as well as students Rosa Rivero, Roberto Hernandez, Elizabeth Romo, Naeema Byhat, and Mwansa Nyemba for their work in developing this report.

Thank you also to all members of the campus community who contributed the data and information compiled in this report, and for your ongoing efforts that made the achievements of this report possible. Thank you also to our community partners who continue to work with us in support of more sustainable future.
Contact Us

For more information on sustainability at the University of Calgary please visit:
ucalgary.ca/sustainability