# UNIVERSITY OF WATERLOO

**Sustainable Development Report 2010** 

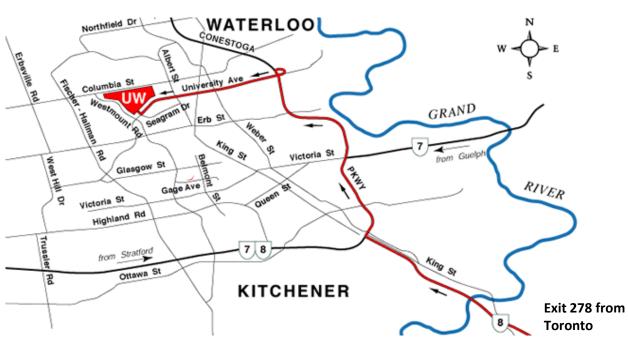
# **About the University of Waterloo**

The University of Waterloo is located at the heart of Canada's Technology Triangle and is one of Canada's leading comprehensive universities. Founded in 1957, the university is now home to 30,000 students, 3,000 staff and faculty members and the largest post-secondary co-operative education program in the world. The University of Waterloo supports enterprising partnerships in learning, research and discovery and has been named Canada's most innovative university in the *Maclean's\** annual university rankings for 19 years in a row since 1991.

#### University of Waterloo Main Campus

200 University Avenue West, Waterloo, Ontario, N2L 3G1, Canada [1 hour 20 minutes drive west of Toronto]





<sup>\*</sup> Maclean's is Canada's weekly current affairs magazine. Since 1991, the magazine has produced annual rankings of all Canadian universities.

# Message from the President

In 2009, the University of Waterloo signed the Council of Ontario Universities sustainability pledge, *Ontario Universities: Committed to a Greener World*. By signing this pledge, the university accepted the responsibility "to assist in finding solutions to the challenges of environmental sustainability; to share knowledge about sustainability and climate change; and to incorporate, wherever possible, principles of sustainability into our own operations."

For us, sustainable development means pursuing strategies and activities that meet the needs of our students, employees, alumni and the communities in which we operate, in a manner that enhances both the independent and the integrated relationships of the environment, society and the economy today and into the future.

Consistent with Council of Ontario Universities sustainability pledge commitments, the *University of Waterloo Sustainable Development Report 2010* documents the university's sustainable development performance according to the following four areas:

**Environmental responsibility:** minimize adverse environmental impacts and identify means to protect and enhance the biophysical environment.

**Social leadership:** promote a healthy, equitable, diverse and just environment that supports the well-being of our community.

**Economic health:** manage university resources for both short- and long-term prosperity and contribute to the economic health and vitality of the communities in which we operate.

**Academic excellence:** spearhead exemplary teaching and research to contribute to the advancement of knowledge.

We commit to review and benchmark sustainable development performance congruent with the *Ontario Universities: Committed to a Greener World* pledge and to share findings publicly. We welcome your feedback on the report and encourage an open, participatory, and responsive decision-making environment that engages all members of our community.

Feridun Hamdullahpur President, University of Waterloo August 2, 2011



# **About the Report**

### **Report Scope**

**Reporting period:** January 1 to December 31 2010, or 2009/10 fiscal year, as specified.

**Reporting boundary:** the University of Waterloo main campus, including federated university and affiliated colleges, unless otherwise noted.

**Performance benchmarking:** internal trends over a five-year period from 2006 to 2010 calendar years, or from 2005/06 to 2009/10 fiscal years, where applicable.

NOTE: all monetary values expressed in the report are in Canadian dollars (\$)

#### **Contents**

- 4 Environmental Responsibility
- 15 Social Leadership
- **21** Economic Health
- **28** Academic Excellence
- 36 Future Directions
- 37 Appendix

### **Advisory Committee**

The Sustainable Development Advisory Committee profiled below provided input on the report's format and contents. The committee consisted of experts from industry, nongovernmental organizations (NGOs), consultancy, government and academia:

- Amelia Clarke, *Assistant Professor*, Faculty of Environment, University of Waterloo
- Ashlea Hegedus-Viola, *Undergraduate Student*, University of Waterloo
- Blair Feltmate, *Associate Professor*, Faculty of Environment, University of Waterloo
- Danielle Avila, *Coordinator*, University of Waterloo Sustainability Project
- David Roewade, *Environmental Sustainability Planner*, Region of Waterloo
- Jonathan Pinto, *Master's Student*, University of Waterloo
- Mike Morrice, *Executive Director*, Sustainable Waterloo
- Nelson Switzer, *President and Chief Sustainability Officer*, Asherleaf Consulting Inc.
- Peter Johnson, Corporate Consultant, Johnson and Associates
- Sandi Stride, President and CEO, EcoStride Group

# **Key Performance Highlights**

#### Success Stories

- **Annual water consumption** at the University of Waterloo main campus decreased by 35 per cent between 2005/06 and 2009/10 fiscal years.
- Annual energy consumption per m<sup>2</sup> of heated and cooled space decreased by three per cent, although nearly 89,000 m<sup>2</sup> of new building space requiring heating and cooling was added between 2005/06 and 2009/10 fiscal years.
- **LEED platinum** design of the Environment 3 building makes the University of Waterloo one of only two places in Waterloo Region to demonstrate such commitment to green building design and construction.
- National leadership in research activity was recognized by Research Infosource's "Canada's Top 50 Research Universities" survey that ranked the University of Waterloo as the number one comprehensive research university in Canada for the third year in a row since 2008.
- Canada's oldest co-operative education program continues to grow at the University of Waterloo, now assisting more than 16,000 students annually in finding co-op employment.
- Student Leadership Certificate Program offered through the University of Waterloo Organizational & Human Development (OHD) office provided more than 5,000 undergraduate and graduate students with leadership learning since its inception in 2008.

### **Outstanding Challenges**

- Individual building energy and water metering could aid the University of Waterloo in assessing the effectiveness of efficiency improvements per building.
- Undertaking a new waste audit could provide details on the effectiveness of the recycling efforts since the Region of Waterloo assumed the blue box recycling program in 2008.
- **Reducing CO<sub>2</sub> emissions** would minimize the university's environmental footprint.
- Lowering employee injury frequency and injury severity rates through improved internal processes would advance the university's health and safety track record.
- **Increasing student engagement** could help maintain higher student retention rates and ensure a more substantive university experience.
- Ongoing sustainable development reporting and planning could help fulfil the *Ontario Universities: Committed to a Greener World* pledge.

The University of Waterloo's commitment to sustainable development is reflected in its effort to minimize adverse environmental impacts from operations, while accommodating a growing student population and ongoing campus expansion. Reducing energy and water consumption, ensuring environmentally responsible land use, striving to improve waste management and lowering CO<sub>2</sub> emissions are key areas of the university's environmental focus.

### **Key performance areas:**

- Energy
- Water
- · Land use
- Waste management
- CO<sub>2</sub> emissions

**Energy** | Water | Land Use | Waste Management | CO<sub>2</sub> Emissions

Annual energy consumption at the University of Waterloo main campus rose 14 per cent over 2005/06 and 2009/10 fiscal years (Figure 1). However, nearly 89,000 m<sup>2</sup> of new building space requiring heating and cooling was added over the same period. On a per m<sup>2</sup> basis, three per cent less energy was used to heat and cool university buildings in the 2009/10 fiscal year when compared to 2005/06 (Figure 2). University of Waterloo Plant Operations attributes this performance to the following:

- An advanced building automation system, which allows for real-time adjustments to the ventilation and temperature in buildings based on room occupancy
- A heat recovery system at the central utilities plant, which captures the heat that otherwise would be vented up the stack and uses it to reduce the overall energy use of the steam plant
- Ongoing campus-wide energy retrofits, which include energy-efficient lighting fixture installations and air conditioning systems upgrades
- Requirement that all newly constructed buildings conform to the Leadership in Energy & Environmental Design (LEED)\* silver standard for mechanical and electric systems

Figure 1: University of Waterloo Annual Energy Consumption (Main Campus)

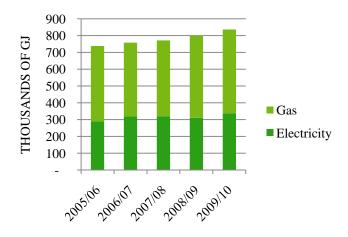
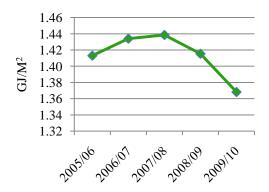


Figure 2: University of Waterloo Annual Energy Consumption per m<sup>2</sup> (Main Campus)



<sup>\*</sup> Leadership in Energy and Environmental Design (LEED) is a globally recognized building certification system. Administered by the Canada Green Building Council (CaGBC), the system assesses how well the building measures up in terms of sustainable site development, water efficiency, energy efficiency, choice of materials and indoor environmental quality, as well as "innovation and design process." There are four levels of certification: certified, silver, gold and platinum.

**Energy** | Water | Land Use | Waste Management | CO<sub>2</sub> Emissions

### **Energy Metering**

Individual building energy metering has been implemented at St. Jerome's University and Conrad Grebel, Renison, and St. Paul's university colleges located on the University of Waterloo main campus. Individual building energy metering helps monitor energy efficiency improvements and makes residence energy reduction competitions possible across these institutions.

### **Ring Road Lighting Retrofit**

To further reduce energy consumption on the University of Waterloo main campus, a retrofit to the lighting system along the Ring Road was initiated in 2010. All 150-watt high-pressure sodium lights that circle 2.65 km of main campus along the Ring Road will be replaced by more efficient 70-watt induction lights. When completed in 2011, the retrofit will not only save energy, but will also result in a better-quality white light along the Ring Road.

### **CASE 1: Solar Grebel**

In December 2010, three thermal solar arrays were installed on the roof of Conrad Grebel University College to preheat its domestic hot water supply (see photo to the right).

A student-led group called Solar Grebel spearheaded this initiative. The students gained valuable experience from ensuring the support of Grebel administrators for the project, researching the idea, writing the Request-for-Proposals, selecting a supplier of the water heating system, and applying for grants.

The three panels will produce the equivalent of 7.8 megawatt hours of energy, which will lead to savings of 940 cubic metres of gas annually about 14 per cent of Grebel's current load. Additionally, Grebel's CO<sub>2</sub> emissions will be reduced by 1,981 kilograms per year.



Energy

Water

Land Use

Waste Management

CO<sub>2</sub> Emissions

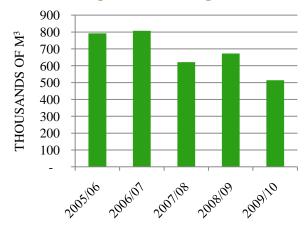
The University of Waterloo's annual water consumption on main campus has declined by 35 per cent between the 2005/06 and 2009/10 fiscal years (Figure 3). The following factors explain this trend:

- Ongoing campus-wide water retrofits, which include water-saving fixture installations
- Closed-loop re-circulating systems in the cooling towers and laboratories
- Biology 1 fish laboratory retrofit in 2008, which resulted in average annual water savings of 19,000 m<sup>3</sup>

### Water Metering

Individual building water metering has been implemented at St. Jerome's University and Conrad Grebel, Renison, and St. Paul's university colleges at the University of Waterloo main campus. Individual building water metering could be instrumental going forward to monitor individual water conservation efforts.

Figure 3: University of Waterloo Annual Water Consumption (Main Campus)



NOTE: the university assumes the amount of waste water discharged is equivalent to the amount of water consumed as per Figure 3.

Energy | Water | Land Use | Waste Management | CO<sub>2</sub> Emissions

### The University of Waterloo Main Campus

The University of Waterloo has a total of 1,100 acres in land holdings, with the majority of academic buildings, residences and administrative offices concentrated on the 300-acre south portion of the main campus. The University of Waterloo Campus Master Plan illustrates the university's commitment to sustainable land use. The plan was updated in 2009 to provide direction on ways to accommodate new growth while preserving, enhancing, and expanding the quality and integrity of campus and its natural environment.

The main campus boasts such environmental features as Laurel Creek, perennial gardens, and abundant natural green spaces. All new trees and shrubs planted on the main campus are species native to southern Ontario. To protect natural habitats from harmful chemicals, cosmetic pesticides are no longer used on university property, except for occasional applications on sports fields. Aeration, irrigation and fertilization ensure healthy turf and a hot-water spray system is used to eliminate weeds from the university's sidewalks, parking lots and roads.

#### David Johnston Research and Technology Park

Named after the university's former president, the David Johnston Research and Technology Park is one of the newest research parks in Canada. Located in the northern portion of the main campus, the Research and Technology Park was

designed to accommodate 1.2 million square feet of office space on a 120-acre lot. Enterprises like Sybase, Open Text Corporation, and AGFA, as well as the Accelerator Center that houses local technology start-ups, are housed at the park.

### The University of Waterloo Environmental Reserve

Also located in the northern portion of the main campus, the 109-acre University of Waterloo environmental reserve is home to birds and wildlife. Columbia Lake, redesigned to allow for cooling of Laurel Creek, serves as a year-round warm-water sportfish habitat. Riparian buffer, bioswales (vegetated open channels specifically designed to attenuate and treat stormwater runoff), detention ponds and stormwater management ponds further enhance the area's environmental attributes.



Perennial garden outside Biology 1 Greenhouse, University of Waterloo Main Campus

Energy | Water | Land Use | Waste Management | CO<sub>2</sub> Emissions

### **CASE 2: Environment 3 LEED Construction**

Scheduled to open for classes in September 2011, the 57,000-square-foot Environment 3 building will serve as a model of green design and construction on the University of Waterloo main campus. Expanding over the existing Environment 2 building, the facility will house the School of Planning and the School of Environment, Enterprise and Development (SEED).

The Environment 3 building is on track to achieve the highest LEED certification with its comprehensive environmental design features, including:

- Energy efficiency: extensive insulation, highefficiency lighting, and in-floor heating that recycles heat from computers
- Water conservation: rainwater recycling systems and high-efficiency washroom fixtures
- **Air quality**: two-storey living wall, connected to the HVAC system
- **Green roof:** accessible native species garden to serve as a relaxing space for students, staff and faculty



The Construction of the Environment 3 Building, University of Waterloo Main Campus



Environment 3 Atrium Ceiling

Energy | Water | Land Use | Waste Management | CO<sub>2</sub> Emissions

### **On-Campus Recycling**

The University of Waterloo participates in the Region of Waterloo blue box recycling program. As a participant, the university has designated recycling areas within every building on the main campus, equipped with two types of blue box containers to separate:

- Newsprint, magazines, boxboard, other paper fibres (except corrugated) and plastic retail bags
- Glass, aluminum, plastics, tinfoil, rigid plastic containers, tetrapak and other materials

### **Organic Waste**

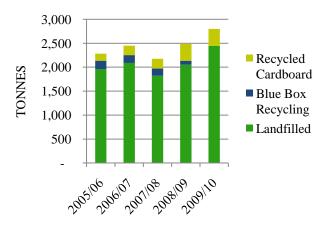
The Region of Waterloo green bin program was introduced at the Conrad Grebel University College cafeteria in 2010. The cafeteria was chosen as a pilot site by the region to determine the feasibility of a food waste collection program within a campus setting. In 2010, St. Jerome's University was the only other campus participant that has implemented an organic waste collection program.

#### **Diversion Rates**

A waste audit performed by Waste Services Inc. determined that the university's annual diversion rate was 24 per cent in 2008. The audit found that this rate could be increased to 39 per cent through

additional student and staff education and improvements in internal processes. For example, the university may wish to reduce the growing amount of cardboard waste produced on the main campus (Figure 4) and the amount of organic waste being landfilled.

Figure 4: University of Waterloo Annual Waste Production (Main Campus)



NOTE: Figure 4 does not reflect the diversion of electronics and office paper through the white box program (discussed on page 13), as the university is reimbursed for recycling of these materials.

The apparent reduction in blue box recycling is due to the university no longer tracking the amount of recyclables diverted through the program since the Region of Waterloo assumed the collection of blue box recycling in November 2008.

Energy Water

Land Use

**Waste Management** 

CO<sub>2</sub> Emissions

### White Box Program

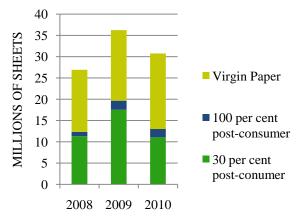
The white box program is focused solely on the collection of office paper used for the university's photocopiers and printers. In 2010, 153 tonnes of office paper were sent from the University of Waterloo Central Stores to the Metro Waste Paper Recovery plant in Scarborough for reprocessing. This is a closed loop\* Recovery Plus program offered through a subsidiary of Cascades Inc., the supplier of the majority of office paper used on campus.

#### **Procurement**

There are several ways in which the University of Waterloo Procurement and Contract Services office practices environmentally responsible purchasing decisions:

- **Request-for-Proposals** specify sustainability and environmental considerations as part of the vendor selection process
- **Post-consumer recycled paper content** was present in 42 per cent of the university's fine paper purchases in 2010 (Figure 5)

Figure 5: University of Waterloo Annual Office Paper Consumption (Main Campus)



- Washrooms across campus are stocked with 100 per cent post-consumer recycled paper towels and toilet tissue
- A cost-benefit study was distributed by the University of Waterloo Procurement and Contract Services office to encourage the purchasing of "green" products. The study found "green" products financially comparable to the "nongreen" products.

<sup>\*</sup> Production system in which the waste or by-product of one process or product is used in making another product.

Energy

Water

Land Use

**Waste Management** 

CO<sub>2</sub> Emissions

### CASE 3: Green IT

In March 2010, the University of Waterloo Executive council approved the Green Information Systems and Technology Statement (Green IT). Green IT Guiding Principles and Suggested Strategies promote sustainable acquisition, ongoing use and disposal of IT devices on campus. Below are some of the Green IT initiatives implemented at the University of Waterloo Faculty of Applied Health Sciences (AHS) and Faculty of Environment.

### **Power-Saving Initiatives:**

- Computer laboratory machines automatically shut down at 11 pm if the machines are idle; machines automatically start up the following morning before classes begin
- Laboratory printers are set to go into sleep mode

#### **Paper-Saving Initiatives:**

- 100 per cent post-consumer recycled paper is used in the computer laboratory printers; default double-sided printing settings have been implemented
- **Signs** are posted in the laboratories to encourage responsible printing

• Annual paper consumption is tracked within the Faculty of Environment to evaluate the effectiveness of paper-saving initiatives; a total reduction of seven per cent was achieved between 2009 and 2010

# ecofont

• Developed by SPRANQ, Ecofont is a font that uses up **20 per cent less ink** during printing. AHS Computing has made Ecofont available for download on their website: <a href="http://ahsco.uwaterloo.ca/green/printing.html">http://ahsco.uwaterloo.ca/green/printing.html</a>

NOTE: Ecofont was used for the headers of this report.

Other Green IT initiatives already occurring at the University of Waterloo main campus include double-sided printing at the university libraries, which was implemented in 2004. The university may encourage document scanning as opposed to photocopying and printing to further promote paper conservation. Currently, Media.doc centres offer document scanning services on the University of Waterloo main campus.

Energy

Water

Land Use

**Waste Management** 

CO<sub>2</sub> Emissions

### **CASE 4: St. Paul's Environmental Leadership**

### St. Paul's Compass Award

In 2010, St. Paul's cafeteria, Watson's Eatery (see photo below), received the Green Dining Award from Compass Group Canada\* for its commitment to sustainability. Watson's Eatery offers a "balanced choices" menu to promote healthier eating, serves Planet Bean fair-trade organic coffee and does not permit the sale or use of bottled water anywhere on its premises. Staff working at Watson's Eatery keep temperature logs on the equipment, turn it off when not in use, and report on the weekly amount of waste produced in the kitchen. Furthermore, single-use utensils and plates were eliminated from Watson's Eatery catering services.

\* Compass Group Canada is one of Canada's Top 100 Greenest Employers and has more than 2,000 food service provider accounts. To date, only five accounts were recognized with the Green Dining Award.

### **Residence Reduction Challenge Winner**

Organized in 2008 by Sierra Youth Coalition's Sustainable Campuses Project, the Residence Reduction Challenge competition aimed to encourage students living at the University of Waterloo, University of Guelph and Queen's University residences to conserve energy and water and to reduce waste. St. Jerome's University and Conrad Grebel. Renison, and St. Paul's university colleges represented the University of Paul's Waterloo. St residence won competition, reducing its water and energy use by 62 and four per cent respectively.



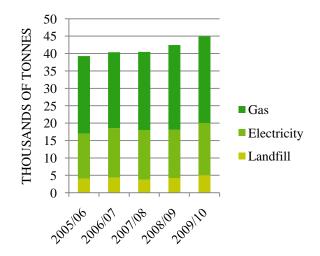
Energy | Water | Land Use | Waste Management | CO<sub>2</sub> Emissions

Since 2005, the University of Waterloo has participated in the Region of Waterloo Partners for Clean Air program to improve outdoor air quality by reducing harmful emissions. Annual carbon dioxide (CO<sub>2</sub>) emissions from purchased electricity, the burning of natural gas at the boiler plant, and landfilling of waste produced on campus are reflected in Figure 6.

Examples of initiatives to reduce atmospheric emissions on the University of Waterloo main campus include:

- **Replacing air conditioning units** with those that are high-efficiency and CFC-free
- **Introducing a universal bus pass** for all registered students, thus lowering CO<sub>2</sub> emissions through greater transit use
- **Encouraging bicycle use** by providing bicycle racks throughout the main campus

Figure 6: University of Waterloo Annual CO<sub>2</sub> Emissions by Source (Main Campus)



NOTE: The data above was estimated using emission factors from Environment Canada:

- 1,879 grams of  $CO_2$  per  $m^3$  of natural gas
- 160 grams of CO<sub>2</sub> per kWh of electricity
- 83 kilograms of methane per tonne of municipal solid waste, with every kilogram of methane equivalent to 25 kilograms of  $CO_2$

#### Please refer to:

- <u>http://www.ec.gc.ca/ges-ghg/default.asp?lang=En&n=AC2B7641-1</u>
- <a href="http://www.ec.gc.ca/ges-ghg/default.asp?lang=En&n=CAD07259-1">http://www.ec.gc.ca/ges-ghg/default.asp?lang=En&n=CAD07259-1</a>

University of Waterloo students, staff and faculty all have distinctive backgrounds, values and experiences, which collectively comprise a multicultural and diverse community. In 2010, there were close to 3,000\* staff and faculty members working at the university. More than 28,000\* students, including approximately 3,500\* graduate and 3,400\* international students were enrolled at the university the same year. Commitment to health and diversity, as well as promotion of equity and personal development, is pivotal for the well-being of the University of Waterloo community today and in the future.

### **Key Performance Areas:**

- Health
- Diversity
- Employment equity
- Personal development

<sup>\*</sup> Full-time equivalent

Health

Diversity

**Employment Equity** 

Personal Development

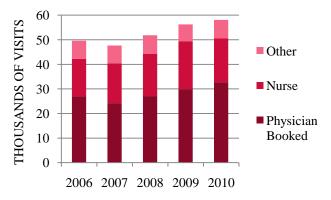
#### **Student Health**

Health Services is located on the University of Waterloo main campus. It serves as the first aid station for university employees and visitors, a public health flu immunization clinic open to the community during the flu season, and a primary destination for all registered students requiring medical care. In 2010, there were more than 58,000 visits recorded at Health Services (Figure 7), with most patients seeking attention from a physician or a nurse. Other services sought were allergy injections, birth control pill pick-ups, mental health services psychiatric and consultation.

While the main focus of Health Services is to provide medical care for students, the occupational health nurse provides support to university staff and faculty. Assistance with returns to the workplace after an illness or injury, referrals to the Employee Assistance Program, individual counselling and immunization recommendations are among the services available to staff and faculty.

To enhance patient profiling and to reduce its environmental footprint, Health Services has implemented an electronic medical records system. The new system allows for a comprehensive view of patients' medical history and reduces the amount of paper stock at the clinic.

Figure 7: University of Waterloo Annual Visits to Health Services by Destination



NOTE: Figure 7 does not reflect visits to the laboratory and dietitian consultations. Cancellations are included under Other.

A change underway in 2011 is the construction of a state-of-art extension to Health Services that will double the size of the facility's functional space. A family clinic for students and local community members with dependents will be one of the services added.



Health Services, University of Waterloo Main Campus

Health

Diversity

**Employment Equity** 

Personal Development

### **Employee Health**

The Workplace Safety and Insurance Board (WSIB) injury frequency and injury severity rate information provides a benchmark against which the state of the University of Waterloo's employee health can be compared to persons working in similar occupations\*. The university belongs to the WSIB Rate Group 817, comprised of other universities, libraries and museums in Ontario. Generally, universities have the highest injury frequency and injury severity rates in this rate group.

The University of Waterloo tends to have proportionally more employees in higher-risk areas such as food operations and custodial services than other universities that contract these services out. For this reason, its injury frequency rates (Figure 8) and injury severity rates (Figure 9) have been higher than the rate group's average. Slips and trips, burns, repetitive strains and bumps from heavy objects are among the most common incidents.

It is also important for the university to maintain a good health and safety record compared to the rate group to earn rebates on WSIB insurance premiums and to avoid assessed surcharges for poor performance. The university aims to reduce injury frequency rates by providing employees with extensive health and safety training and to lower injury severity rates by helping employees to return to work seamlessly after an injury.

Figure 8: University of Waterloo Annual Injury Frequency Rates

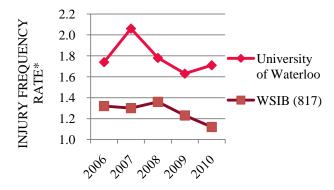
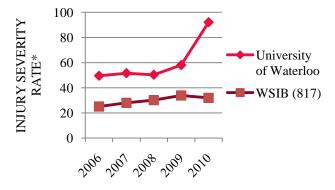


Figure 9: University of Waterloo Annual Injury Severity Rates



\* The WSIB injury frequency rate is measured as the number of injuries for each 200,000 hours worked by employees. The injury severity rate counts the work days lost, regardless of injury date, per 100 full-time equivalent workers or 200,000 hours worked.

Health

**Diversity** 

**Employment Equity** 

Personal Development

### The One Waterloo Campaign

Created in 2005 and managed by the Federation of Students, the University of Waterloo's One Waterloo Campaign offers events and programs designed to educate students about diversity, promote inclusivity on campus and create a safe space for students to dialogue and learn about problems of discrimination and intolerance. The campaign envisions a campus where differences are not just recognized, but celebrated. The One Waterloo Campaign is the host for annual events such as International Celebrations Week, Black History Month, and Ability Awareness. Additional activities are developed each year based on input from students, the campaign's steering committee and the campaign's student leaders.

# **GLOW - The Queer and Questioning Community Centre**

Established in 1971 at the University of Waterloo, GLOW is the "longest-running campus queer organization in Canada." GLOW is committed to promoting inclusion and providing safe spaces to the campus community regardless of sexual orientation or gender identity.

#### **Aboriginal Services Centre**

In 2010, St. Paul's University College began the construction of a dedicated space for the University of Waterloo's Aboriginal students and Aboriginal programs. The new space will house Aboriginal Services, a lecture hall, staff offices and meeting rooms, as well as the Aboriginal Services Centre (ASC). A large seminar room, kitchen, storage, small library with computer work stations and offices for staff and the visiting Elders In Residence program will be available at the ASC.

### The SHADOW Program for International Students

The SHADOW Program works by pairing up a new international student with a University of Waterloo student volunteer who is accustomed to the university campus, services and local community. International students usually meet with their "shadow" for the first time at the beginning of the academic term, maintain weekly telephone contact and get together in person at least two times each month. The aim of the program is to help international students get familiar with the services on campus and the local areas and make friends.

18

Health

Diversity

**Employment Equity** 

Personal Development

The University of Waterloo is a voluntary complier under the Federal Contractors Program established under the Canadian Employment Equity Act to achieve workplace equity for Aboriginal peoples, persons with disabilities and members of visible minorities. The Waterloo Human University Resources department collects equity information from new employees at the time of hire. Currently, information on staff and faculty employment by gender and age is being reported. In 2010, over 60 per cent of staff and 25 per cent of faculty employed at the university were female. In the same year, 46 per cent of staff and 42 per cent of faculty were 50 years of age or older (Figure 10 and Figure 11). This is consistent with Ontario's aging population trend.

Figure 10: University of Waterloo Staff Gender and Age Distribution (2010)

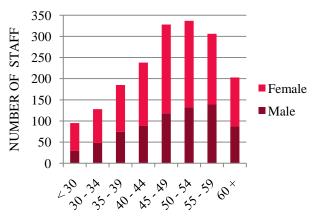
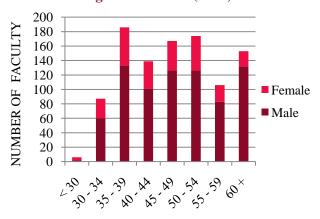


Figure 11: University of Waterloo Faculty Gender and Age Distribution (2010)



In 2010, the Human Resources department has implemented a new recruitment module, enabling the university to monitor such equity data as the percentage of Aboriginal peoples, persons with disabilities and members of visible minorities employed at the university on a level not possible in the past.

Health

Diversity

**Employment Equity** 

Personal Development

#### The Centre for Career Action

The for Career Action provides Centre confidential career advising to all University of Waterloo staff, students and alumni. Workshops and an online Career Development Manual (CDM) provide help with self assessments, researching occupations, career decision-making, work search and networking, obtaining interview skills and negotiating job offers. The centre also assists University of Waterloo students and alumni to obtain part-time, summer, and full-time jobs.

#### Staff and Faculty Training

All University of Waterloo staff and faculty are required to complete Employee Safety Orientation Workplace Violence and Harassment Awareness training. In addition, staff and faculty are also required to fulfill customer service training offered through the persons with disabilities office as part of the Ontarians with Disabilities Act requirements.

In May 2010, the Vice-President Academic & Provost, along with Deans' Council, mandated a two-day workshop on budget-keeping, compliance, faculty policies, and performance measurement for all new department chairs and heads. Moreover, Policy 18 was updated in September 2010, to specify that all university staff are entitled to up to 30 hours of training annually for personal and professional development. Supervisors are expected to encourage staff to use

the 30 hours offered. The annual Staff Conference. University of Waterloo hosted by the Organizational & Human Development (OHD) office in April, is one avenue to receive such training. In 2010, more than 1,000 staff participated in a series of workshops and lectures offered at this conference.

#### **Student Leadership Certificate Program**

The Student Leadership Certificate Program (SLP) also offered through the OHD office, provides leadership development opportunities for all currently registered undergraduate and graduate students at the University of Waterloo. The ultimate goal of the program is to increase students' leadership capacity within the classroom and the campus community, while on co-op employment and after graduation. This is achieved through a series of two-hour workshops that feature personal assessments, group activities, reflection exercises and goal setting opportunities. of teamwork and collaboration, Principles succession planning and dealing effectively with conflict are among the various topics addressed at the workshops.

Students who complete the 12 workshop sessions receive an e-certificate. Since the program's inception in 2008, more than 5,000 students participated and more than 180 students earned the e-certificate at the end of 2010.

The University of Waterloo is regarded as a key factor in the development and growth of the technology cluster in the Region of Waterloo. It is crucial to the region's continued prosperity, accounting for more than \$1.1 billion of its economic activity\*. The health of the university's own financial standing is essential in delivering quality service to students, adequately supporting staff and faculty members, and enhancing community outreach programs. To maintain the university's financial well-being today and in the future, strong fundraising efforts, effective competition for research awards and responsible asset management are important.

### **Key Performance Areas:**

- Fundraising
- Research awards
- Asset management
- Community outreach

<sup>\*</sup> According to the 2001 PriceWaterhouseCoopers Regional Economic Benefits Study.

**Fundraising** 

Research Awards

**Asset Management** 

**Community Outreach** 

### **Campaign Waterloo: Building a Talent Trust**

Launched in 2000, Campaign Waterloo: Building a Talent Trust raised \$1.05 billion for the University of Waterloo as of September 2010. Of this sum, the university raised \$613.2 million, while an additional \$444.9 million was received from government, private and matching sources for campaign priorities (Figure 12). More than 500 new student awards were established as a result of the campaign, providing hundreds of students with scholarships and bursaries. Additionally, a total of 2.5 million square feet was added, increasing campus square footage by 48 per cent since 2000 (see Figure 13 for designations).

Figure 12: Campaign Waterloo Constituencies (Millions of Dollars, May 2000 to September 2010)

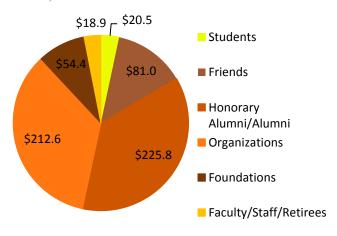
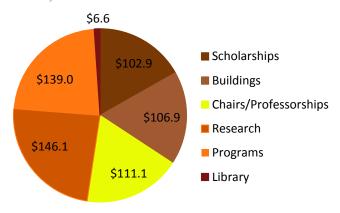


Figure 13: Campaign Waterloo Designations (Millions of Dollars, May 2000 to September 2010)



*NOTE:* \$0.6 million in unrestricted funding designation are not shown on the graph.

Fundraising

**Research Awards** 

**Asset Management** 

**Community Outreach** 

High research activity at the University of Waterloo helps attract graduate students and professors to join the campus community. In the 2009/10 fiscal year, \$170 million was raised to support the university's research (Figure 14). Nearly 50 per cent of this funding came from the federal government (Figure 15). Tri-Council awards from the Natural Sciences and Engineering Research Council (NSERC), the Canadian Institutes for Health Research (CIHR) and the Social Sciences and Humanities Research Council (SSHRC) comprised a significant proportion of this funding.

Figure 14: University of Waterloo Sponsored Research Awards (by Award Year Ending)

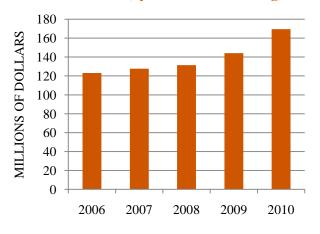
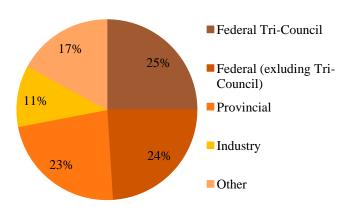


Figure 15: University of Waterloo Sponsored Research Awards by Source (2009/10)



**Fundraising** 

Research Awards

**Asset Management** 

Community Outreach

University of Waterloo Finance Investment Committee oversees the university's endowment fund management and assists the Board of Governors in the determination of the university's overall investment policies, objectives and strategies. The University of Waterloo Pension and Benefits Committee is responsible the overall design, modification administration of the university's pension plan, including its investment objectives, investment managers retention and performance monitoring. Overall, a conservative investment approach is preferred at the University of Waterloo to protect its assets from negative market fluctuations. This explains why fixed-income investments comprise 56 and 49 per cent of the pension and the endowment funds respectively (Figure 16 and Figure 17).

Figure 17: University of Waterloo Endowment Fund Allocation (2009/10)

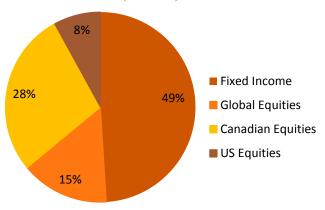
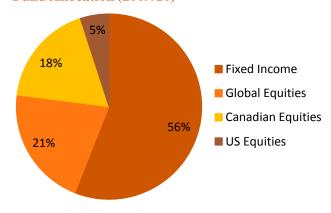


Figure 16: University of Waterloo Pension Fund Allocation (2009/10)



The University of Waterloo currently does not subject its investments to socially responsible investment (SRI) screening.

**Fundraising** 

Research Awards

**Asset Management** 

**Community Outreach** 

### **Endowment Fund Management**

In the 2009/10 fiscal year, the University of Waterloo endowments amounted to \$226.7 million. Fundamental the university's to philosophy on endowment fund management is the general principle of maintaining the purchasing power of all endowment funds by limiting the amount made available for spending, and reinvesting any income not made available for spending in a particular year. Such an endowment fund philosophy ensures the university's financial needs are met today and in the future.

### **Pension Fund Management**

The University of Waterloo's \$1-billion defined benefit pension plan pays benefits that are indexed to inflation, and provides university staff and faculty with a defined pension income. On a yearly basis, actuarial analysis of both present and future pension commitments is performed to ensure the fund's solvency, or its ability to meet long-term liabilities. At the end of 2010, the University of Waterloo pension fund solvency ratio, or the market value of its assets to long-term liabilities, was 0.96. The university aims to achieve a solvency ratio of one, equating the ratio of market value assets to long-term liabilities by 2015.

#### Waterloo Commercialization Office

Effective protection and commercialization of intellectual property (IP) is essential in driving innovation, start-up creation and economic growth.

The Waterloo Commercialization Office (WatCo) works with the University of Waterloo creatorowners to provide IP protection and achieve commercialization. The revenues from commercialization efforts are split 75 per cent to the creator-owners and 25 per cent to the University of Waterloo to recover the IP protection costs. In situations where the creatorowners wish to commercialize independent of WatCo's involvement, they are free to do so further requirement without share commercialization revenues with the university.

An example of WatCo's success was \$750,000 secured for a University of Waterloo spin-off, Tyromer, in 2009. The start-up converts scrap tires into a new, high-quality recycled polymer product.

**Fundraising** 

Research Awards

**Asset Management** 

**Community Outreach** 

### **Enrichment Programs**

The University of Waterloo offers a number of enrichment programs for youth, from day camps for six- and seven-year-olds to month-long residence programs for high school students. For example, to introduce more females to the opportunities available in engineering and computer science fields, the university hosts two programs for younger girls:

- **CS Girls Rock** for girls in grades 9-10
- **Go Eng Girl** for girls in grades 7-10

Other programs, summer camps and events are held regularly. For example, the World Town Planning and Kinesiology Lab Days are hosted at the university in November and December respectively every year.

### **Team-Up Community Outreach Program**

Administered by the University of Waterloo Department of Athletics, the Team-Up Community Outreach Program brings volunteer student athletes into local communities to speak to elementary school students about the Six Keys to Success (setting goals, working hard, maintaining positive attitudes, being team players, having positive role models, and making the right choices). In 2010, 42 student-athlete speakers different schools in Kitchener. visited 58 Cambridge, Waterloo, Elmira, St. Jacobs, Breslau,

New Dundee, Floradale and Maryhill, Ontario. They spoke to more than 4,600 students, sharing personal stories of accomplishment and perseverance.

#### **Electronic Equipment Recycling Day**

In 2010, University of Waterloo Central Stores partnered with Research In Motion and GreenTec Recycling Services Inc. to organize the Electronic Equipment Recycling Day. This one-day event made it possible for interested local community members to dispose of unwanted computers, printers, cartridges, cell phones, and other electronic items. Three truckloads of equipment were brought to the GreenTec processing plant for dismantling and recycling; unwanted cell phones were taken to a local women's shelter. Central Stores aims to continue hosting similar events.

### Waterloo Public Interest Research Group (wpirg



Founded in 1973, the Waterloo Public Interest Research Group (WPIRG) is a student-run social justice, environmental and leadership action centre at the University of Waterloo. WPIRG volunteers organize leadership skills-building workshops, work with both local and global organizations to spread awareness about social and environmental issues, and bring prominent speakers such as David Suzuki, Stephen Lewis and Ralph Nader to locally held public lectures.

Fundraising

Research Awards

**Asset Management** 

**Community Outreach** 

### **Engineers Without Borders**



Two graduates of the University of Waterloo, Parker Mitchell and George Roter, founded Engineers Without Borders Canada (EWB) in 2000. Today, the organization has nearly 50,000 members working to harness the skills and creativity of the Canadian engineering sector to combat extreme poverty in Africa. At EWB's University of Waterloo chapter, students from engineering and other disciplines work together to educate the public about the challenges of poverty and available solutions. Every summer, a University of Waterloo student is sent to work for four months with community members in western and southern Africa. The university also supports long-term volunteers, who work overseas for as long as several years.

### University of Waterloo Sustainability Project



The University of Waterloo Sustainability Project (UWSP) is a student-run organization involved in advocating for, and implementing, sustainability initiatives on campus and in the local community. UWSP projects include waste management, natural landscaping, sustainable transportation, and climate change education and awareness campaigning, as well as organization of events such as Earth Hour and Buy Nothing Day.



George Roter (left) and Parker Mitchell, co-founders of Engineers Without Borders

From the earliest days, when community leaders in southern Ontario created a university that would combine experience with classroom learning, Waterloo has answered the educational demands of the nation

Just 54 years after its first engineering classes were offered in a tin-roofed portable, Waterloo has grown to become known as Canada's most innovative university and Canada's best overall university, according to the *Maclean's* national reputation survey.

Waterloo's incoming first-year students have the highest average grades of students at any comprehensive university in the country. And it's widely known for the excellence of its academic offerings across a range of disciplines.

For example, the Faculty of Arts clinical psychology program ranks number two in North America. The Centre for Environment and Business has ranked first among institutions across Canada for the last three years in *Corporate Knights*' ranking of business programs, and is recognized as a model of how business and the environment can be integrated into the curriculum.

The university is home to the world's largest postsecondary co-operative education program, the world's first and largest faculty of mathematics, globally renowned computer science and engineering programs, and unique research institutes and faculty-based schools.

Meaningful experience inside and outside the classroom drives exemplary teaching, research, and collaboration at the University of Waterloo.

### **Key Performance Areas:**

- Co-operative education
- Research institutes
- Faculty-based schools
- · Student engagement

Co-operative Education

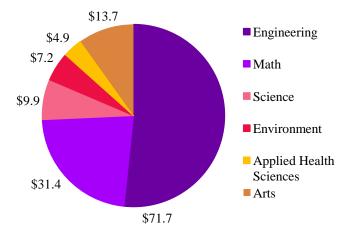
Research Institutes Faculty-Based Schools Student Engagement

The University of Waterloo's co-operative education program was founded in 1957, the same year that the university opened. It became the first program of its kind in Canada and now assists nearly 16,000 students annually in finding co-op employment. Alternating four- to eight-month work and academic terms provides University of Waterloo co-op students with opportunities to earn income while gaining up to two years of real-life work experience.

On average, by the time University of Waterloo co-op students graduate, they have earned between \$25,000 and \$74,000. In the 2009/10 fiscal year, total earnings of co-op students amounted to \$139 million (Figure 18). Top employment locations for co-op students were Toronto (26 per cent) and Kitchener-Waterloo (19 per cent), followed by other provincial, national and international destinations.

The Co-operative Education & Career Services department currently manages 28,000 active employer contacts and maintains an overall co-op employment rate close to 97 per cent.

Figure 18: University of Waterloo Co-op Student Earnings by Faculty (Millions of Dollars, 2009/10)



Co-operative Education

Research Institutes Faculty-Based Schools Student Engagement

In 2010, the University of Waterloo was ranked Canada's No. 1 comprehensive research university for the third year in a row in the annual "Canada's Top 50 Research Universities" survey by Research Infosource, a national consulting firm. Profiled below are some of the university's interdisciplinary research centres and institutes that create a unique environment of innovation and collaboration at the University of Waterloo's main campus.

#### The Waterloo Institute for Sustainable Energy



Established in 2008, the Waterloo Institute for Sustainable Energy (WISE) includes more than 80 researchers from the faculties of engineering, environment, science, and mathematics working on energy systems and policies design. The institute promotes environmental sustainability and aims to foster the development of innovative technologies and alternatives to existing energy production and delivery systems. Research areas include renewable energy; battery technologies and energy storage; power systems infrastructure; emissions management; energy efficiency; and demand management.

#### The Water Institute



Created in 2009, the University of Waterloo Water Institute focuses on aquatic ecology and groundwater science ecotoxicology; engineering; hydrological atmospheric and sciences; water treatment and technology; and water policy, management and governance research. More than 100 faculty members from all of the university's six faculties and close to 20 departments are engaged in these key areas.

### **Interdisciplinary Centre on Climate Change**



Based in the Faculty of Environment, the Interdisciplinary Centre on Climate Change (IC3) brings together researchers from the University of Waterloo faculties of engineering, science, and mathematics, as well as from Environment Canada, to tackle issues pertaining to climate change. The institute's five core themes of research are atmospheric science; cryospheric science; human dimensions of climate change; observing systems and modeling; and water, ecosystems, and biogeochemical cycling.

30

Co-operative Education

Research Institutes Faculty-Based Schools Student Engagement

### The Conrad Centre for Business, Entrepreneurship and Technology



Located in Waterloo's Research and Technology Park, the Conrad Centre for Business. Entrepreneurship Technology (CBET) and promotes a collaborative, risk-taking environment transforms emerging that concepts commercial success. CBET offers the Master of Entrepreneurship Technology Business, and (MBET), a specialized business degree that focuses on the commercialization of ideas and discovering new market opportunities. More than 30 successful start-ups have been launched by the MBET graduates in the last five years.

The Institute for Innovation Research (IIR), housed within CBET, provides a focal point for multidisciplinary research on innovation. Researchers from across campus contribute to IIR to develop the next generation of faculty who will provide insight into the management and policy challenges of innovation and commercialization.

A signature University of Waterloo program, Enterprise Co-op is an entrepreneurial-focused cooperative education option for enterprising undergraduate students looking to build their own business.

### Mike and Ophelia Lazaridis Quantum-Nano Centre (QNC)

Scheduled to open in 2011, the Mike and Ophelia Lazaridis Quantum-Nano Centre (QNC) will become the first research facility of its kind in the world. Up to 400 academics from the Institute for Quantum Computing (IQC) and the Waterloo Institute for Nanotechnology (WIN), as well as University of Waterloo undergraduate nanotechnology engineering students, will come together under one roof.



Views of Mike and Ophelia Lazaridis Quantum-Nano Centre, University of Waterloo Main Campus

Co-operative Education

Research Institutes Faculty-Based Schools Student Engagement

The University of Waterloo offers a wide range of sustainability-related degree programs. example, students can specialize in environmental engineering, earth sciences, science and business, environment and resource studies. environment and business, as well as geography environmental programs. and management Notably, the University of Waterloo Faculty of Environment is the oldest faculty of its kind in Canada, and the School of Architecture, the Planning and the School Environment, Enterprise and Development have all been rated as top schools in Canada for incorporating environment into their curriculum. Examples below illustrate the impact that some schools have on the well-being of local communities and the advancement of the broader sustainability movement.

### **School of Pharmacy**

Canada's only co-op school of pharmacy opened in 2008 at the University of Waterloo Health Sciences Campus in downtown Kitchener. The school takes advantage of inter-professional learning through collaboration with McMaster University's Michael G. DeGroote School of Medicine, the University of Waterloo's School of Optometry satellite team, and a full-service family clinic, all located at the Health Sciences Campus. Community service learning is incorporated into the school's curriculum, with all first-year students assigned to teams to work with local social service agencies.

The School of Pharmacy hosts a series of free public talks and offers the local community a more in-depth six-week paid lecture program on health and wellness.



The University of Waterloo School of Pharmacy, Health Sciences Campus, Kitchener, Ontario

Co-operative Education

Research Institutes Faculty-Based Schools Student Engagement

# School of Environment, Enterprise and Development



The School of Environment, Enterprise and Development (SEED) launched in 2009. It brings together the unique undergraduate programs of environment and business, which has been ranked No. 1 in the country by Corporate Knights magazine\*, and international development. At the graduate level, the school offers a Master of Environment and Business degree, a Master of Development Practice degree, a Master of Local Economic Development degree, and a Graduate Diploma in Social Innovation. Furthermore. SEED houses two unique professional development programs. The sustainability practice program provides sustainable development industry, training to the capital markets, government. NGO community, and stakeholder groups. The economic development program provides certificate, diploma fellowship programs through partnership with Economic Developers Association of Canada. SEED is also home to the Social Innovation Generation (SIG) group, a national collaboration addressing Canada's social and ecological challenges by creating a culture of continuous social innovation.

### The Balsillie School of International Affairs

Founded in 2007 by Jim Balsillie, co-CEO of Research In Motion, the Balsillie School of International Affairs is a collaborative partnership among Wilfrid Laurier University, the University of Waterloo, and the Centre for International Governance Innovation (CIGI), a public policy think-tank that addresses international governance challenges. More than 60 affiliated faculty members teach and supervise students in the PhD in Global Governance, the Master of Arts in Governance, and the Master's in International Public Policy programs. The school runs and supports several seminar series, including the International Governance Speakers Series, the International Human Rights Speakers Series, the Informal Seminar for doctoral students, and the CIGI Junior Fellowship Series, a professional development seminar for masters-level students. The inaugural Multidisciplinary Graduate Student Conference on Global Governance will take place in Waterloo in October 2011.

#### **School of Optometry**

The University of Waterloo School of Optometry provides the only English optometric training in Canada and accommodates the second-largest centre for contact lens research in the world. The school delivers an accredited four-year degree program leading to a professional Doctor of Optometry (OD). Its clinics serve more than 24,000 patients annually and a unique community outreach program provides mobile care to Mennonite communities, nursing homes, and other groups with patients who have difficulties commuting.

<sup>\*</sup> Corporate Knights is a Canadian-based publication that positions itself as the "world's largest circulation magazine with an explicit focus on corporate responsibility."

Co-operative Education

Research Institutes Faculty-Based Schools Student Engagement

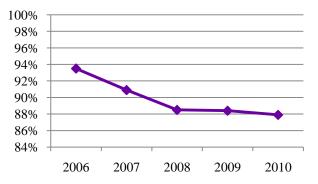
#### **National Survey of Student Engagement**

The University of Waterloo participates in the National Survey of Student Engagement (NSSE). The survey evaluates the degree to which students are engaged in their education and university life in general. *Maclean's* magazine uses the NSSE results to help high school graduates in selecting which university to attend. According to the *Maclean's 2010 Guide to Canadian Universities*, the University of Waterloo ranked bottom ten out of the 56 respondents in the following areas:

- Level of Academic Challenge: number of assigned readings and written reports, as well as coursework emphasizing judgment
- **Student-Faculty Interaction**: how often students meet with faculty or work with them in research projects or other activities outside of class
- Supportive Campus Environment: extent to which the university supports academic and non-academic endeavours and cultivates positive relationships among students, faculty and staff
- Active and Collaborative Learning: how often students work with classmates, make classroom presentations, or participate in community projects

There may be a link between student engagement and the slight decline in the first-year student retention rates\* at the University of Waterloo (Figure 19).

Figure 19: University of Waterloo Annual First-Year Student Retention Rates



\* First-year student retention rates are measured as the percentage of first-year students who return to the university in second year. Data adapted from Maclean's 2006, 2007, 2008, 2009 and 2010 Guides to Canadian Universities.

To enhance student experience at the University of Waterloo, and address student engagement and retention issues, a Student Success Office was launched in 2010. The English Language Proficiency Program, Student Life International Student Office and VeloCity are all now part of this office. In addition, new learning student technology, and development units are being developed to help students adapt to campus life. Over the 2011/12 school year, the Student Success Office will be established on the second floor of South Campus Hall.

Co-operative Education

Research Institutes Faculty-Based Schools Student Engagement

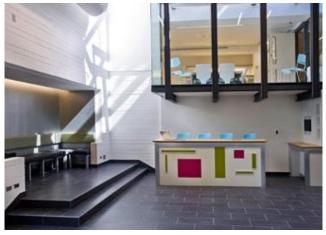
### **Living-Learning Communities**

A Living-Learning Community is a small group or "cluster" of eight to 16 first-year students who are enrolled in the same academic program and who share classes, living space and friendships. These clusters of students are placed within larger residence communities of 40 to 60 students. Such an arrangement gives students the opportunity to live near classmates and to meet people from other academic programs. Upper-year students called "Peer Leaders" are also involved in the program and help facilitate academic events and study skills sessions.

### **VeloCity Residence**



Launched in 2008, the University of Waterloo VeloCity residence accepts 70 students on a termby-term basis to live in a digital media "dormcubator." Throughout the term students are exposed to speakers, mentors, resources and a community of like-minded and driven entrepreneurs. A number of successful start-ups have initiated out of VeloCity, including Kik Interactive, Inc., the creator of a free real-time communication application between mobile device users.



VeloCity Residence Great Hall, University of Waterloo Main Campus



VeloCity Residence Conference Room, University of Waterloo Main Campus

### **Future Directions**

This report provides an initial assessment of the University of Waterloo's sustainable development performance on the main campus.

Devising a concrete sustainable development plan with measurable objectives is the next step in fulfilling the Council of Ontario Universities Ontario Universities: Committed to a Greener World pledge.

As reflected in this report, the University of Waterloo has achieved substantial success across multiple areas of sustainable development performance on the main campus. Reductions in energy and water consumption, increased research activity and a growing co-operative education program are among such examples.

To ensure continuous improvement of the university's sustainable development practices and performance, the following actions are recommended:

- Implementing individual building energy and water metering
- Undertaking a new waste audit
- Devising a strategy to reduce CO<sub>2</sub> emissions
- Developing strategies to lower employee injury frequency and injury severity rates

• Implementing programs to officially recognize student non-academic involvement and boost student engagement

Accordingly, the University of Waterloo should develop a framework to bring together operational experts and other stakeholders to determine sustainable development plan and performance objectives. The frequency at which subsequent sustainable development reports will be produced should also be established.

Please note that any inquiries pertaining to this report can be addressed to:

Betty Bax

Development and Communications Officer

Faculty of Environment

Phone: 519-888-4567 x38100 Email: bax@uwaterloo.ca

# **Appendix**

The University of Waterloo main campus annual data.

	2005/06	2006/07	2007/08	2008/09	2009/10
Electricity Consumption (1000's GJ)	290	319	320	311	337
Gas Consumption (1000's GJ)	448	439	450	489	499
Total Annual Energy Consumption (1000's GJ)	738	758	770	800	836
Building Space Heated and Cooled (m <sup>2</sup> )	522,243	528,716	535,765	564,818	611,029
$GJ/m^2$	1.41	1.43	1.44	1.42	1.37
Water Consumption (1000's m <sup>3</sup> )	792	808	621	673	514
Landfilled Waste (tonnes)	1,962	2,088	1,822	2,052	2,442
Blue Bin Recycled Waste (tonnes)	174	165	149	82	N/A
Recycled Cardboard (tonnes)	148	194	203	352	355
CO <sub>2</sub> Emissions from Natural Gas (tonnes)	22,337	21,871	22,453	24,351	24,852
CO <sub>2</sub> Emissions from Electricity (tonnes)	12,880	14,194	14,234	13,817	14,995
CO <sub>2</sub> Emissions from Landfilled Waste (tonnes)	4,071	4,334	3,782	4,258	5,068
	2006	2007	2008	2009	2010
Health Services Physician Booked Visits	26,879	24,205	27,123	29,883	32,724
Health Services Nurse Visits	15,374	16,208	17,190	19,507	17,819
Other Health Services Visits	7,388	7,279	7,507	6,840	7,559
Total Visits to Health Services	49,641	47,692	51,820	56,230	58,102
<b>Employee Injury Frequency Rates</b>	1.7	2.1	1.8	1.6	1.7
WSIB Rate Group 817 Injury Frequency Rates	1.3	1.3	1.4	1.2	1.1
Employee Injury Severity Rates	50	52	50	58	92
WSIB Rate Group 817 Injury Severity Rates	25	28	30	34	32
	2006	2007	2008	2009	2010
Sponsored Research Awards (Millions of \$)	123	128	131	144	170
•					
	2006	2007	2008	2009	2010
First-Year Student Retention Rates	94%	91%	89%	88%	88%

#### **Special Thanks**

For the kind advice, support and on-going feedback on the report, thanks go to staff at the Plant Operations, Procurement and Contract Services, Central Stores, Health Services, Organizational & Human Development, Institutional Analysis and Planning, Human Resources, Co-operative Education & Career Services, Student Life, Student Success, and Safety offices.

In addition, thanks go to the Faculty of Environment Dean's Advisory Council for initiating the project, to the Sustainable Development Advisory Committee, to Blair Feltmate, Amelia Clarke and Dennis Huber for guidance, and to Joe Bevan for photo contributions.

#### **About the Author**

Natalia Moudrak holds a Bachelor of Arts in Honours Economics and is a candidate for a Master of Arts degree in Planning from the University of Waterloo.

University of Waterloo 200 University Avenue West, Waterloo, Ontario, N2L 3G1 Canada