The University of Winnipeg
Campus Sustainability Report

April 1, 2007 – March 31, 2008
Fiscal Year 2007

Campus Sustainability Office

Contents

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Executive Summary

This document represents The University of Winnipeg's second campus sustainability report. Because the Sustainability Management System is still under development there is incomplete data for some indicators. This report continues the regular cycle of reporting first commenced in FY2006, and can provide substance for strategic planning and budget decision-making. This report addresses campus sustainability *performance* against targets within the scope set for the management system. It does not contain detailed information about all sustainability initiatives, proposals or projects which have been submitted to Senior Administration under separate cover. Key highlights from FY2007 include:

Academic Initiatives – A number of projects were undertaken which spring from the academic life of the university including establishing a Sustainability Recognition Award for faculty, staff and students who make noteworthy contributions to campus sustainability, as well as a number of research activities intended to introduce more sustainable teaching technologies such as on-line course outlines, on-line exams, and a proposal to assemble best practice information about sustainable teaching and learning techniques.

Air Quality Management – The university achieved a 5.5% *decrease* in emissions from natural gas, a 34.6% decrease from fleet vehicle fuel emissions, and a 79.3% decrease from better management of its organic waste stream. Counterbalancing these improvements was a 3.5% *increase* in emissions from electricity and a 108.5% increase from staff travel the latter being partly due to a more effective system for capturing data on staff travel and a more complete data set for FY2007 than was available in FY2006. Aggregately, university GHG emissions *dropped* by 1.0%--a modest but desirable improvement considering that there were 8.0% more Heating Degree Days in FY2007 than in FY2006, indicating a harsher winter overall. To achieve the university's Kyoto Protocol commitment by the 2012 deadline, total GHG emissions must decrease by 793 tonnes CO_2e, or 18.9% from FY2007 levels.

Energy Conservation – Overall energy consumption *decreased* 3.5% over FY2006, partly attributable to somewhat lower enrollment and also having T21 and Wesley untenanted while undergoing renovations. However, FY2007 was a significantly colder winter than FY2006, hence placing increased demands on electricity, so the net overall reduction is a noteworthy achievement. The university currently meets almost 44% of its energy needs from renewable (hydroelectric) sources.

Green Procurement – Green procurement guidelines and policy are now being included with all RFP packages sent to vendors for major university contracts. Sustainability requirements were also introduced to the Imaging Technology Contract review process, the Cleaning Services review process, and negotiations continue with Chartwells, the university's food services vendor to introduce compostable food service ware in campus food service outlets, hence reducing waste going to landfill and GHG emissions arising from organic waste materials. Negotiations have also been opened with Emerge Environmental Information Solutions, Inc. to develop an internet-based on-line procurement tracking system.

Land Use Planning and Property Management – An addition to the Duckworth Centre was completed adding energy efficient classrooms, a fitness centre, and the Soma Café. Moreover, the Portage Commons landscaping project was completed, while work progressed on renovations to the Theatre Building (T21), and Wesley Hall, both of which should see completion in FY2008. Contracts for all these projects were initialed pr

Materials Conservation (Waste Reduction) – Major progress has made on the waste reduction (materials conservation) front at the university with marking a 26.3 *decrease* in overall waste generation, a 13.6% *increase* in materials diverted to recycling, and an overall 48.3% *decrease* in waste going to landfill. In FY2007, the university also instituted battery recycling, toner cartridge recycling, and pre-consumer and yard waste composting initiatives which have also reduced the waste stream to landfill. Finally, the Bookstore and Library both continue with waste reduction initiatives aimed at recycling / reselling textbooks, reducing return rates, and using just-in-time inventory control on production of course packages for

The Campus Sustainability Office

Mission and Mandates

The mission of Campus Sustainability Office (CSO) is to catalyze, facilitate, support and provide leadership to all university departments and organizations in the development and continuous improvement of a Campus Sustainability Management System. This mission is operationalized through specific mandates which include:

Providing leadership, facilitation support, and organizational strategic support to all university departments in the development and implementation of a sustainability management system;

Providing overall planning, coordination and reporting capacity for the Campus Sustainability Council and all of its Working Groups, Committees or special task groups;

Constructing, maintaining and continuously improving the university's sustainability performance monitoring and reporting systems and preparing reports for internal and external stakeholders;

Assisting with and supporting documentation of university policies, procedures, plans, and performance reports consistent with the requirements needed for eventual ISO 14001-2004e certification;

Collaborating on and supporting the development of research programs, educational events, resource materials and other supports to sustainability education, staff / faculty / student sustainability awareness and action;

Providing a focus for expert consultation, support to senior administration, contact for external agency liaison functions, and support to university communications on sustainability matters;

Participating as required and appropriate in the design and construction process of new university facilities and/or the renovation of existing facilities as these activities may affect sustainability performance or compliance with university and Provincial Green Building policies;

Providing support to the university in achieving regulatory compliance on matters or operations pertaining to environmental regulations, statutes or reporting requirements and management of risks to the environmental arising from university operations.

Professional Staff

The Campus Sustainability Office is currently staffed by a part-time (.6) Director, and a part-time (.5) Research Assistant. A great deal of the work of the CSO involves volunteer efforts by faculty, staff and students from many departments and programs.

Key Activities and Achievements in FY2007:

Providing Leadership, Facilitation and Planning Coordination –

The **CSO provides general secretariat functions** to the Campus Sustainability Council (24 members, meeting monthly) as well as its various Working Groups which include the Academic Initiatives Working Group (15 members, meeting monthly), the Materials Conservation Working Group (10 members, meeting monthly), the Policy and Procedures

Working Group (8 members, meeting biweekly), the Social Marketing Working Group (11 members, meeting bi-weekly), the Social Sustainability Working Group (7 members, meeting monthly), the Sustainable Transportation Working Group (15 members, meeting bi-weekly), and the Campus Sustainability Champions (36 members, meeting 3 times per academic year). All of these bodies are chaired by the Director, Campus Sustainability Office, with the exception of the Sustainability Champions who are chaired by the CSO Research Assistant.

Collaborative Work With Student Organizations On-going collaboration and articulation of the activities of the Campus Sustainability Office with student-led initiatives

Kyoto Protocol Compliance Prepared a briefing paper on progress toward, and the university's current posture with respect to, Kyoto Protocol compliance by 2012. The paper outlined a variety of strategies by which compliance might be achieved, and offered estimates of how expansion of university facilities will likely affect compliance.

Organized a **Breakfast of Champions** meeting in September 2007 and covered waste reduction issues. Four action sheets were distributed which shared information on toner cartridge recycling, battery recycling, composting, and water bottle use.

Organized a Breakfast of Champions meeting in November 2007 and presented on Consumerism and Green Holiday tips. Topics such as consumerism, National Buy

Represented the University of Winnipeg in:

- The **World Record Walk** which consisted of four planning meetings with CBC and Friends, October 2007;
- **Extended Producer Responsibility consultations** convened by Green Manitoba to plan waste management programs in collaboration with various industry sectors for paper and packaging, e-waste, household hazardous waste, and tires, April 2007;
- **Capitol Region Composting Symposium,** a general meeting of stakeholders

Imaging Equipment Procurement Process Continued participation in the Imaging Equipment Committee mandated to prepare EOIs and RFPs for replacement of the university's fleet of imaging equipment and service contracts. Sustainability-relevant input has been offered to this process, together with environmental specifications for equipment and services.

Cleaning Contract Review Continued participation in the Cleaning Contract Review Committee mandated to review performance of the university cleaning services vendor and recommend measures both to green this aspect of operations and/or offer input to the development of a university Cleaning Department, its staff training, procedures, and documentation of operations.

UW Development Committee Participated in the university's Development Committee, offering sustainability input to discussions of the development of capital campaigns for new facilities, and the progress being made on construction of new facilities.

Academic Initiatives and Research for Campus Sustainability

The Campus Sustainability Council includes an Academic Initiatives Working Group charged with developing ways of integrating sustainability elements into the academic life of the university and encouraging high levels of student awareness of, and engagement with, sustainability issues. Naturally, achieving these objectives may have implications for curriculum, but should not be understood in the first instance as aiming to increase the number of environmental *science* courses, faculty positions, or research publications per se. All faculties and departments of the university have a stake in sustainability as it simply refers to ensuring the capacity of human societies and institutions to persist over time within healthy and intact ecosystems—a goal which should be shared easily enough by students of all disciplines.

While there is no specific policy addressing sustainability in the academic life of the university, all administrative policies mention encouraging research and learning activities that have the effect of better equipping our graduates to exercise full and constructive citizenship in a society which must be concerned to develop in ways that ensure the realization of its fullest potentials in the future as well as the present. To this end, during FY2007, the Academic Initiatives Working Group has:

Developed and implemented an honorary **Campus Sustainability Recognition Award** to be conferred annually at Spring Convocation both to a student and a faculty member / support staff employee who have made noteworthy contributions to the advancement of campus sustainability;

A **research project is under way to assess the effectiveness of blue-box recycling collection system** intended to generate recommendations about how the efficiency of collections can be improved and loss of recyclable materials to landfill can be curtailed.

Market feasibility research was conducted to assess the level of demand for a Bike Station to provide background information for a design concept and building program proposal.

A research proposal has been submitted to the **President's Innovations Fund** to hire a fourth year student to investigate the ecological impacts of classroom delivery of instruction and committee work and identify ways of reducing these impacts and publishing a best-practices compendium for use by University of Winnipeg faculty. Another goal of this research is to provide an opportunity for the researcher to present results at a major sustainability conference as well as possibly publish results for use by other post-secondary institutions.

Developed a proposal for an **On-campus Carbon Off-Set Program** which would involve submitting proposals for capital renovation projects with the potential to reduce GHG emissions to the provincial funding authority. The intent of the proposal would be to create a mechanism directly linking capital improvements and budgets to the GHG emission-reduction benefits using the concept of carbon off-setting to quantify the sustainability benefits obtained.

A project proposal has been submitted to the **President's Innovations Fund that aims to increase compliance among all members of the university community with newly established composting procedures for organic wastes.** The project includes a suite of contests, promotional activities, and video communication enhancements to promote use of composting facilities.

The Geography Department has now placed all **course outlines on-line,** thus avoiding printing costs and environmental impacts of printing / paper consumption.

An **on-line exam procedure was pilot tested** by faculty in the Geography Department with favorable results. The feasibility of extending on-line exams to other courses and departments is being explored.

The Geography Department also concluded a successful experiment with **on-line submission and grading of term papers** in Human Impacts and Natural Hazards classes in the 2007-08 academic year.

emissions as other sources of emissions come under greater control. **To achieve the university's Kyoto Protocol commitment by the 2012 deadline, total GHG emissions must decrease by 793 tonnes CO_2e, or 18.9% from FY2007 levels.**

UW GHG Emission Performance Summary – FY2007					
Factor	**"Base Year" FY1990**	**FY2006 (% of total)**	**FY2007 (% of total)**	**% change FY2007 over FY1990**	**% change FY2007 over FY2006**
Area Managed (m^2)	74,903	91,750	91,750	+ 22.5	0
Total FCEs	24,675	32,350	30,626	+ 24.1	- 5.3
Heating DD (°C)	5,708	5,443	5,897	+ 3.0	+ 8.0
T. CO_2e from Electricity	310.1	196.8 (4.6)	203.7 (4.9)	- 34.3	+ 3.5
T. CO_2e from Natural Gas	2,676.6	3,410.0 (80.5)	3,223.9 (76.8)	+ 20.5	- 5.5
T. CO_2e from Fleet Vehicles	10.0	10.1 (0.2)	6.6 (0.16)	0	- 34.6
T. CO_2e from Business Travel	393.3	336.6 (7.9)	701.9 (16.7)	+ 78.5	+ 108.5
T. CO_2e from MSW	231.3	285.2 (6.7)	59.1 (1.4)	- 74.5	- 79.3
Carbon Sequestration					
Campus Urban Forest T. CO_2e	No data	No data	- 1.15[2]	n/a	n/a
Total T. CO_2e All Sources	**3,621.3**	**4,238.7**	**4,195.5**[1]	**+ 15.9**	**- 1.0**
Reduction in total CO_2e from FY2007 to meet Kyoto by 2012:			**792.6 (- 18.9%)**		

[1] The contribution that might be made by trees on campus that can sequester carbon and hence off-set total GHG emissions was considered during this assessment. The US Environmental Protection Agency estimates that for fast-growing coniferous trees in the S. E. states, sequestration of carbon ranges from 0.1 to 0.3 tons/acre/year (0.25 to 0.75 T/ha/yr). While the university's "urban forest" consists of 125 mostly deciduous trees of various ages, it is unlikely that they would cover even half a hectare if assembled in one place, growth rates would be lower at more northerly latitudes, and therefore their contribution as a carbon off-set is minimal. http://www.epa.gov/sequestration/faq.html .

[2] Carbon sequestration calculated as 9.18 kg./tree/yr. for urban forest, based on UW campus "tree census" completed in April 2008, of 125 trees of various species. Estimated sequestration rate based on *Canadian GHG Challenge Registry Guide to Entity & Facility-Based Reporting, 2005.* Ottawa, ON: Canadian Standards Association GHG Registries, p. 28.

No systems are currently in place that return regular or comprehensive air quality assessments. Currently, adequate air quality is assumed to be provided if industry standard ventilation rates are maintained by Physical Plant.

Air quality complaints are registered with either Physical Plant staff or the university Safety and Health Officer. Summary reports of the number, nature and action taken on air quality complaints are filed periodically to the university's Workplace Safety and Health Committee. Such complaints continue to be dealt with individually depending on circumstances. Pinchin Environmental, Ltd., in St. Boniface, Manitoba, provides air sampling and analysis services for the university. During FY2007, the Safety Office received 15 complaints, 7 of which required testing, and 4 of which are still under investigation.[1]

The entire University of Winnipeg campus is designated a smoke-free zone, thus going well beyond the smoke-free status required for the interiors of public buildings by City of Winnipeg By-Law.

In January 2008, Physical Plant staff commissioned a comprehensive inspection of ventilation ducts for dust accumulation, prioritized ducts most in need of cleaning and contracted the cleaning work. This reduces overall dust load in indoor air, reducing the need for cleaning and improving air quality.[2]

Air Quality Management Initiatives for FY2008:

Comprehensive Facilities Audit Discussions have been initiated with Manitoba Hydro PowerSmart and the City of Winnipeg to plan a comprehensive Electrical, Mechanical, Air Quality and Water Audit of all "core" campus facilities which, when completed, will substantially assist the university in planning strategic capital investments that improve IAQ.

Provincial Green Building Policy The Province of Manitoba Green Building Policy mandates that new construction and major renovations to university facilities meet LEED-NC 1.0 or LEED-CI standards "Silver" standards which include use of low VOC (volatile organic compound) materials and finishes thus further improving Indoor Air Quality IAQ.

Asbestos Maintenance Activities On-going asbestos repair activities whenever damage to asbestos containment measures are detected.[1]

Scent-Free / Smoke-Free Guidelines A "scent-free guideline" has been published on the website (http://www.uwinnipeg.ca/index/safety-IAQ) of the university Safety Office which describes the health risks associated with the use of scented personal care products and encourages faculty, staff and students to avoid using them. This guideline was publicized through the E-Board campus announcement system.[1]

Air Quality Management Challenges:

The Province of Manitoba requires the implementation of asbestos management programs wherever asbestos is currently in service in public buildings. Such a program would include (a) identification of all locations where asbestos is present; (b) assessment s

Energy Use Management

Energy consumption by the university includes electricity, natural gas, fleet vehicle and stationary fuels. Consumption values have been reported for FY2006 and FY2007 for comparison purposes. Regardless of fuel type, energy use has been converted to KwHe (kilowatt hours equivalent) to make year-over-year comparisons easier. Kilowatt hour equivalents are conversions made for different fuel types to express their energy content in a common unit of kilowatt hours rather than gigajoules for natural gas or stationary fuel and kilowatts for electricity. Both *absolute* energy values (KwHe) and *intensity* values (KwHe/FCE and KwHe/m^2) are included. In general, absolute values are considered a more valid measure of sustainability performance, while intensity measures reflect improvements in efficiency but may still involve overall growth in the consumption of energy year-over-year. Finally, the proportion of energy used by the university which is derived from "renewable" sources is reported with hydro electricity being considered a renewable energy source,

Energy Use Management Achievements:

Additional funding was received to **upgrade electrical and mechanical systems in Wesley Hall** with potential to improve conservation performance.[3]

Green Procurement

Procurement activities at the university hold much potential for both cost savings and sustainability improvements. Achieving increments in sustainable procurement performance entails several aspects:

refinement, but it marks significant progress toward a mass/volume-based procurement tracking system.

Cleaning Service RFP Requirements Sustainable procurement requirements have been incorporated in both potential RFPs and service design parameters for Cleaning Services on campus.

Green Procurement Initiatives:

A procurement reporting template is being developed which will enable procurement reporting according to the goals identified both in the university's Campus Sustainability Policy and specifically, in its Green Procurement Policy;

The university is engaging as a **beta-test partner with Emerge Environmental Information Solutions, Ltd.,** to develop a fully automated on-line sustainability reporting system, including procurement reporting.

Data has been gathered which will allow compilation of a **list of large dollar volume vendors** and assessment of the environmental sustainability of the products and services which represent the greatest share of university procurement. Following this assessment, a list of product / service alternatives can be prepared, if required.

Green Procurement Challenges:

Understaffing of the Purchasing Department insofar as staff redundancy is insufficient to allow for professional development respecting green procurement policies, procedures and product / service alternatives.

Procurement authority dispersed to university departments increases the challenge of training all those with procurement authority in green procurement practices.

The need for an integrated information management system that allows ready access to

for the highest available ranking. Key green building features which were attained by this project include:

- High density urban development and availability of alternative transportation facilities (bus stops, bike racks);
- Radiant floor heating allowing for a more passive heating system rather than using forced air heating;
- Heat and energy recovery units were installed capturing 60-80% of conditioned air which otherwise would have been lost;
- Individualized fan-coil heating units arranged in smaller zones within the building allow for greater control over and conservation of energy used for heating;
- Highly insulated building envelope and Low-E glazing;
- Many building materials (steel, flooring, concrete, drywall) included recycled material content;
- Addition was clad with Tyndall Stone, a locally available material;
-

- Clay soils were modified with the addition of sand and organic matter to provide optimal growing mediums for planting. Appropriate soil depths were specified to provide optimal growing conditions for plants and turf;
- Turf was selected as an important material for the Commons for use, not ornamentation;
- Plants were selected for their hardiness. They are improved native species selected for their performance in this urban location and their contribution to micro climate mitigation, ornamental value and carbon sequestration capacity;
- Irrigation is zoned to accommodate the different water needs of the different plant selections. Overspray has been minimized;
- Mulch is used to reduce evaporation and provide soil cooling to all planting beds;
- The University employs extraordinarily skilled maintenance personnel.

Land Use and Property Management Initiatives for FY2008:

Richardson College for the Environment

This facility is being designed to a LEED Gold standard and contains numerous design elements that enhance its sustainability performance. Since construction was not commenced during FY2007, the benefits promised for the facility remain to be realized. Key green building design elements include:

- Projected LEED-Gold performance rating;
- Design is targeted to exceed 64% of the energy efficiency mandated by the Model National Energy Code for Buildings;
- A state of the art energy recovery wheel and three-mode operating system for laboratory ventilation (fume hoods) and energy management promises an 80% recovery of heat from ventilation air over conventional laboratory designs;
- Development of a training program for building occupants and visitors respecting the green building op

- Geothermal heating;
- Supplemental wind-generated electricity;
- Solar domestic hot water service supplemented with geothermal hot water;
- A “solar chimney” and heat recovery wheel to supplement ventilation;
- Energy modeling which projects a 56

Materials Conservation (Waste Reduction)

The University of Winnipeg continues to mark progress in conservation of material resources through the minimization of waste. It also faces challenges to moving this agenda forward. Many initiatives were launched during the last fiscal year which were successfully implemented, others require refinement or further development.

For a detailed overview of university performance on all policy-mandated materials conservation (waste reduction) indicators, see Appendix E.

2 Includes all materials captured in “blue boxes”, i.

Bookstore:[5]

95% of books are returnable to publishers. Full copies are returned, not portions.

Most **unsold stock is retained,** re-priced and eventually sold.

Textbook returns to publishers average about 30%. **Inventory management is used to reduce return shipping requirements,** saving both money and transportation impacts.

All **unsold magazines and other periodicals are returned** in their original format. (Previous practice was to strip covers and return them for refunds.)

Used textbooks are purchased by the bookstore and some of its wholesalers. There is strong interest in further promoting the sale of used textbooks as this practice is both financially and environmentally sustainable.

Course packages are reused as long as professors continue to specify them. Old course packages are recycled. Production of course packages incurs about 800,000 impressions per year of photocopying. There is a 10-15% return rate.

Close coordination between the Bookstore and the Print Shop has made possible a 24 hour turn-around time on printing additional copies of course packages. This reduces the potential unsold inventory carried by the bookstore and also potential waste. All course packages are under-ordered and if more are required, then more are printed on a just-in-time delivery basis.

The bookstore is introducing **reusable cloth shopping bags** to replace disposable plastic bags.

Unsellable books are currently stored or sold back to wholesalers when possible. The Bookstore is exploring avenues to divert unsellable stock from the waste stream.

Library:[6]

Bookstore:[5]

The Bookstore is exploring the feasibility of shelving textbooks by department and course rather than department and author's name. This slight change in practice would eliminate the need to cover walls outside the bookstore with lists of books for each course, requiring students to write them down before entering the store to purchase texts. The posted wall lists also require continual updating as courses and reading lists change at considerable cost in paper and inconvenience to students.

The Bookstore is exploring increasing on-line sales of books as a convenience to students, but this may also increase shipping costs and transportation footprint.

The Bookstore is continuing its transition toward more on-line ordering from booksellers thus reducing the need for fax or mail-in paper-based ordering procedures.

Materials Conservation (Waste Reduction) Challenges:

Collection service for blue box recyclable materials is still not available in all university facilities, notably T21, Rice 7 & 9, 520 Portage, 480 Portage, and DCE on Princess Avenue. Pick-up service needs to be expanded to include these sites, but lack of staff presents a barrier.

While material volumes going to landfill have been declining, tipping fees have been increasing. Landfill fees are predicted to increase 48% on 1 May 2008. This reduces the cost savings available to the university from waste reduction initiatives. Johnson Waste Management is now also levying a special "service fee" for weighing MSW, even thoufinatManagg8(nre)5

Social Sustainability - Campus Life and Community Outreach

"Social Sustainability" refers to a somewhat vaguely defined cluster of concerns which include consideration of intergenerational equity, human health, institutional capacity-building, and a range of quality of life values. The essential principle is that whatever contributes to the health and well-being of a society, increasing cooperative approaches to problem solving, and which builds up the capacity of systems of public administration are also necessary conditions for the development of fiscal and environmental sustainability.

Ecological Males and Females in Action (EcoMAFIA)

The EcoMAFIA **hosted a compost making workshop** during Waste Reduction Week in October 2007, which was delivered by staff from Resource Conservation Manitoba.

EcoMAFIA **volunteers have been speaking to first year classes** about the importance of composting and recycling, and offering demonstrations of how to use university compost collection facilities. They have also set up a composting display table and participated in demonstrations at the organics collection bins in cafeterias on campus.[8]

EcoMAFIA also continues to **host "Stuff Swaps"** which enable students to trade material goods without intervening sales exchanges, Buy Nothing Day activities to promote consumption reduction approaches to sustainability, and is working on public service announcements for CKUW related to waste reduction.[8]

In addition to student organizations, there are university departments, in particular the Education Department, with established or developing programs that link faculty and university students with community partnering organizations. The intent of most of these initiatives is to engage university students in academically meaningful learning activities while also contributing to capacity-building and improved quality of life for the surrounding neighborhood. Noteworthy examples of these programs include:

Centre for Innovative Learning

Eco-Kids on Campus - This is a program that brings inner-city children from local elementary schools to The University of Winnipeg Campus to have their science curriculum delivered at the University by the Faculty of Science professors as well as Collegiate Teachers. The program is designed to give practical, hands on activities and experiments that will promote a deeper understanding of the environment and stewardship.

Eco-U Kids Camp - This program provides Aboriginal and inner-city children and youth (8 - 14 years old) with a week long enriched and fun summer day camp experience that they could not normally afford, using environmental and cultural activities to engage them and build environmental awareness. The program also employs inner-city high school high school and university students to work in community development.

Enviro-Tech Program - This program is designed to give high school students the opportunity to develop an understanding of the critical issues facing us as a global community. Students earn one high school credit from Manitoba Education Citizenship and Youth for participating in the program. Students are exposed to activities and experiences that will foster a deeper understanding of traditional indigenous science and knowledge and the importance of these teachings to future developments in science and sustainability.

Global Welcome Centre

Assists newcomers and refugees with adjustment to post-secondary education environment. Organization structure and menu of services and programs are under development, beginning with a survey of best practices in other jurisdictions. Community outreach projects are a priority.

Wiichiiwaakanak Learning Centre

Community drop-in centre opened in 2005 offering volunteer-staffed programs including a reading room and lounge, community resource library, a community learning

commons and computer lab, coffee, free newspapers, meeting / training / programming space. The Centre is a collaborative effort of UW, UW Foundation, S. E. Resource Development Council, The Winnipeg Partnership Agreement, Government of Canada Urban Aboriginal Strategy, and a number of First Nations, Métis and Inuit organizations.

Programs include basic computer training, homework tutorial assistance, aboriginal language studies, elder-led teaching circles.

Mentorship Program

A program offered through the UW Faculty of Education awarding .5 credits to 4th and 5th year Education students with appropriate pre-requisites to offer mentoring services to high school at-risk students, elementary and middle years talented students, inner-city community drop-in clients, high school war-affected youth, and other individual projects.

Service Learning Project

Service Learning is a teaching method which integrates learning activities with service functions to the community. Learners use academic skills to solve issues linking learning objectives with real needs. The service learning project operates from the Department of Education and is supervised by Education faculty.

University of Winnipeg Collegiate Institute

All of the Collegiate grade 10 students attended the Y.E.S. Conference (Youth Encouraging Sustainability). This was a two day conference of speakers and professors from the University of Winnipeg and Manitoba who provided lectures and hands-on activities about sustainability projects and innovations.

No Garbage Lunch Day. The students brought their own no garbage lunches and informed other Collegiate students about the importance of minimizing waste through posters, creating PowerPoint® slides on the Collegiate bill boards and baking cookies to give to students who brought no garbage lunches or those willing to listen to a talk about them.

All grade 10 students attended an **Arctic Awareness lunch lecture** given by a grade 11 and a grade 12 student about their trip in October to Churchill, Manitoba.

Our Awareness Fair was a presentation by the Grade 10s of sustainability projects. The fair was held in Convocation Hall and exhibited 20 projects ranging in topics from electric cars to the Alberta Tar sands. Three student groups from other schools came to view the presentations and listen to the students discuss their findings.

Some grade 10 students participated in pro-active campaign by encouraging fellow Collegiate students to **compost and recycle.** Students spent time in Tony's educating lunch eaters about where and why to compost, while others collected recycling out of garbage cans in Collegiate classrooms and tallied statistics.

A **clothing collection project** is planned for 4 April 2008. Grade 10 students will be ht throf Winl an

Appointment of a Social Sustainability Working Group of the Campus Sustainability Council charged with developing a draft scope, indicators, aspects, and consultation process for a social sustainability policy.

Four meetings were held during which SSWG members heard presentations from the Innovative Learning Centre, the Manitoba Food Charter, SEED Winnipeg, and the International Institute for Sustainable Development on various aspects of social sustainability.

Developed an outline and work plan for establishing a vision statement on social sustainability and key goals for a social sustainability policy.

Sustainable Transportation

The university has made significant progress toward promoting adoption of more sustainable approaches to transportation among students, faculty and administration. The Transportation Working Group of the Campus Sustainability Council met on a bi-weekly basis throughout the academic year of 2007-08 and continued to make progress in several key areas. The most current data regarding transportation use patterns at the university is derived from parking statistics and a survey conducted by Winnipeg Transit in 2005. The Campus Sustainability Office aims to develop independent data gathering capability in the year ahead. For a detailed overview of university performance on all policy-mandated sustainable transportation indicators, see Appendix F.

Activities during the past year have included:

Goals: The goals of the University of Winnipeg Sustainable Transportation Policy include:

To encourage the development and adoption by students, administration, staff and faculty, of modes of transportation that:

(a) progressively reduce consumption of fossil fuels used for transportation;

(b) progressively reduce the material and resource-use intensity of transportation;

(c) progressively reduce and eventually eliminate discharges of toxic substances, wastes, and pollution to the ecosphere, including GHG emissions;

(d) progressively increase equity of access to transportation services.

Encourage the adoption and use of more sustainable approaches to transportation both with respect to infrastructure and behavior over which the university has direct control, but also where it has partial control or can exert influence through education, professional development, awareness-building, or community partnerships.

Sustainable Transportation Achievements for FY2007:

A **Ride-Sharing / Carpooling Registry** continues to offer an on-line carpooling service that connects people who want to carpool to campus.

A design program planning meeting for an Integrated Transit Hub on UW campus was convened which included over 20 representatives of off-campus organizations and private sector neighbors.

A **Pre-feasibility Market Survey** was completed by the Institute for Urban Studies assessing the potential user population for an Integrated Transit Hub on campus.

A **U-Pass Program Feasibility Meeting** was convened with representatives from Winnipeg Transit, the presidents of the Student Associations at U of M, U of W, RRC, and CMU to explore collaborative approaches to implementing a U-Pass program on all campuses. Winnipeg Transit has indicated its willingness to offer a U-Pass to UW students regardless of whether or not the measure is adopted by other post-secondary institutions in the city.

A Concept Paper and Building Design Program for an Integrated Transit Hub was authored by Institute of Urban Studies staff and tabled with Senior Administration.

Inclusion of Dedicated Bike Lanes in the Green Corridor planned to connect the UW main campus with the new Richardson College for the Environment campus was successfully negotiated with the project developer. The Corridor will include a double lane dedicated bike path in the link design. Once completed, this feature will connect the UW

central campus with the east-west cycling thoroughfare proposed by Bike to the Future for St. Matthews Avenue, thus connecting central Winnipeg with the Perimeter Highway and making the UW campus the eastern terminus of this route.

A **Travel Reimbursement Reporting Procedure** has been successfully implemented for reporting travel distance and transportation mode information and returns it to the CSO. This will allow for much greater accuracy and completeness in calculating GHG emissions and other environmental impacts from faculty and staff travel, and more strategic management of them.

A **Parking Stall Rate Increase** has been successfully introduced which will price all new parking stalls at prevail market rates and attempt to normalize all other parking rates to market levels over the next five years. The feasibility of allocating parking services profits to sustainable transportation initiatives on campus is being discussed.

Sustainable Transportation Initiatives for FY2008:

Continuing U-Pass Meetings with UWSA are planned to provide support, focus and encouragement for students to adopt a U-Pass program.

Engaging an Architect to Develop Transit Hub Plans and Class-C Estimates will provide graphic treatments of the proposed facility and enough capital cost information for a Senior Management decision to proceed as well as design of the Foundation funding campaign.

Purchase of Carbon Off-sets for All Staff, Faculty and other University Business Travel is being mandated for FY2008. A procedure for the aggregation of travel data and a broker-mediated bulk purchase of CDM-qualified carbon off-sets for all travel activities is being finalized with Financial Services. When fully implemented, this measure could effectively off-set about 8% of total university GHG emissions, a significant step toward our Kyoto compliance goal of 24% GHG reduction.

Sustainable Transportation Challenges:

U-Pass Adoption – There is a continuing challenge with the introduction of a U-pass program which requires passage by student referendum of a new, mandatory fee to support the program. Passage of the proposition is believed to be largely contingent on the cost of the program to students.

Securing sufficient capital resources to move forward with development of the Integrated Transit Hub.

Increasing consciousness among faculty and staff of the environmental impacts of travel and the desirability of minimizing travel to levels essential to the university's mission.

Promoting greater use of Active Transportation choices generally within the campus culture.

Water Conservation Specifications were included in the design programs for renovations to the Theatre Building (T21), the expansion of the Duckworth Centre, and Wesley Hall renovations.

Water Use Management Initiatives for FY2008:

A **Comprehensive Water, Energy, HVAC, IAQ and Building Envelope Audit** has been proposed and is under discussion with Manitoba Hydro PowerSmart and technical advisors from the City of Winnipeg. Once completed, the audit results will enable strategic investments in equipment and fixtures that reduce water consumption overall.

Water Conservation Specifications will be implemented as part of the building design program for the Richardson College for the Environment, the Langside Student Residence, and the UWSA Daycare Centre all slated to begin construction in FY2008.

Opportunities and Recommendations

While considerable progress has been made on campus sustainability initiatives since 2005, largely due to the efforts of faculty, staff and student volunteers, there remains much to do, as well as many opportunities to further advance campus sustainability performance. Going forward, the university might consider the following recommendations, opportunities, and emerging situations:

Focus on Key Projects

A short menu of certain key projects promise large sustainability benefits for the university, i.e., reductions in all sorts of polluting emissions including GHG emissions, conservation of materials and energy, and reduction in the toxicity of programs and operations. In many cases, these projects will require significant capital and operational funding invested in essentially invisible assets using existing technology—not a very fortuitous combination considering that it is visible infrastructure employing experimental technology which tends to elicit most enthusiastic interest. This disconnect between what creates the appearance of progress and what in fact constitutes substantive change is one of the most daunting challenges faced by the campus sustainability initiative. It is respectfully proposed, however, that the following key projects offer considerable potential to improve sustainability performance:

Facilities Audit and Renovation – The university would benefit from a comprehensive assessment of the condition of its entire inventory of buildings and the electrical, mechanical, air handling and building envelope systems involved. This audit remains as relevant today as it was when first proposed in 2005. Most progress on making *real* reductions in the university's ecological footprint will be achieved by renovating existing buildings, or replacing them with more efficient buildings. This can be done using existing technology to excellent effect. It is difficult and inefficient to plan the allocation of scarce capital resources in the absence of accurate, current, and comprehensive information about the overall condition of all systems affecting the efficiency, health and safety of facilities. The urgency of th

staff and students while on university business. Such activities currently account for nearly 17% of total GHG emissions from the institution. Given the realities of life in academe, it is doubtful that overall travel activities will be much reduced in the future, despite the promise offered by travel-replacing technologies. But even if such technologies prove successful, there will likely always be some residuum of travel which cannot be avoided or substituted using

Review Vendor Contracting Practices – It has been clear during the past year that major vendors supplying goods and services to the university vary considerably in their understanding of sustainability concerns and in their capacity to address those concerns effectively.

It is recommended that the university consider shortening the terms of major vendor contracts for services and products supplied to the university and introducing contract language that increases the prominence of sustainability criteria in product and service bid assessments, offers the university more "off-ramps" from under-performing or frustrated contracts, and assures more "reverse onus" provisions which assign more responsibility for reducing the environmental impacts of goods and services to the vendors providing them.

Procurement Tracking and Reporting – The Campus Sustainability Office should organize an initiative that will effectively and efficiently introduce more mass / quantity-based tracking of procurement activities to supplement existing cost-based tracking. The challenges of doing this should not be under-estimated, but developing a successful system could have very significant intellectual property value among any institution or corporate entity using a TNS sustainability model for its environmental or sustainability management system.

It is recommended that work on a mass / quantity / toxicity-based procurement tracking system be continued and strengthened in the coming year.

Building Capacity for Sustainability Management

The university could benefit significantly from building more institutional capacity for sustainability management and approach the task of planning and managing for sustainability as a function which is diffused across all operational departments rather than something that can or should be centralized in the Campus Sustainability Office.

Integrate Sustainability Objectives into Job Descriptions – One significant way the university can "green" its campus culture slowly but surely is by introducing, wherever appropriate, more sustainability performance objectives in the job descriptions of new hires. This gradually builds intellectual and institutional capacity for improving sustainability performance and innovation.

It is recommended that all job descriptions be reviewed for appropriate opportunities to include sustainability performance objectives whenever new positions are being created, or existing positions refilled after retirements or departures of existing staff and faculty.

More Staff Training and Awareness-Building – Anecdotal information suggests that the campus sustainability initiative still lacks coherence and uniformity across the university. There is need to develop a broad-based general awareness of the sustainability challenge and how it will likely affect the university in the future, as well as a consensus across departments that planning, decision-making, strategic thinking, and budgeting all need to include sustainability considerations. Finally, when job duties require it, more resources should be made available for specific training of individual staff so that they are enabled to exercise due diligence in the environmental performance management of the university.

It is TJu-.0004 3ent enabled to exercisei371

challenging undertaking, but nonetheless required under our own policies. Considerable work has already been done, but considerable work remains.

> **It is recommended that the Campus Sustainability Council, and the CSO secretariat, continue development of the social sustainability elements of the overall management system, and resource these activities appropriately.**

Source Notes

[1] Campus Safety Officer, March 2008.

[2] Assistant Chief Engineer, March 2008.

[3] Executive Director, Facilities Management, February 2008.

[4] Assistant Chief Engineer, March 2008.

[5] Scott Spearman – Apr. 2008

[6] Linwood DeLong – May 2007

[7] Kisti Thomas, UWSA, email 12 Nov. 2007.

[8] CSC meeting oral activity report.

[9] Telephone conversation with Sarah Amyot, UWSA Manager.

Appendix A
Air Quality Performance Indicators

Indicator	Target	Performance	
		FY2006	FY2007

	implemented with the intent of improving air quality in University facilities or programs offered on or off-campus.	with short description of each.		Annual Report
A7.1	Annual report of air quality management performance.	Tabled annually.	Done	Done
A7.2	Post Air Quality Policy and performance reports to website.	Policy and reports posted.	Done	Done

Appendix B
Energy Management Performance Indicators

Indicator	Target	Performance	
		FY2006	FY2007

E1.11	Total annual stationary fuel consumption in liters (and KwH equivalent).	Annual reductions to theoretical minimum.	No data	No data
E2.1	GHG emission reduction.	Documented evidence of GHG emission reductions.	+ 17.1% (Over 1990)	+ 15.9% (Over 1990)
E6.1	Measurement and record systems established and maintained.	Record system in place.	Under development	Done
E7.1	Annual report of energy management performance.	Tabled annually.	CSO annual report.	CSO annual report.
E7.2	Post Energy Management Policy and performance reports to website.	Policy and reports posted.	Done	Done

Appendix C
Green Procurement Performance Indicators

Indicator	Target	Performance	
		FY2006	FY2007
GP1.1 Documentation that each procurement decision involving the purchase of $X or more of a good, material, product or service, has included a needs assessment as well as a demand-reduction plan whenever possible.	All procurement decisions include a needs analysis and demand reduction plan.	No data	$ Threshold still to be established.
GP2.1 Percentage of total annual dollar value of equipment purchases for which life-cycle cost analysis was applied.	Increasing annually to 100%.	No data	No data
GP3.1 Total number of goods, materials, products or services procured by the university that contain or use toxic or carcinogenic compounds, or the use of which may pose a threat to human health or well-being.	Decreasing annually to zero.	No data	No data
GP3.2 Documentation that when goods, materials, products or services are procured that contain toxic ingredients or components, a thorough review of alternatives was undertaken and included in the procurement decision.	All toxic product procurement is accompanied by alternative		

GP5.6 Total annual embodied energy of the products, materials, goods, and services procured by the university.	Year over year decrease.	No data	No data
GP6.1 Summary of educational, professional development, and general awareness activities designed to encourage research and increase participation in green procurement activities, practices, and product choices.	Anecdotal reports & number (should increase to some optimum?)	No data	No data
GP7.1 Percentage of RFPs, tenders and supplier contracts that included the university's green procurement policy.	100%	No data	100%
GP9.1 Evidence that mass / volume-based measurements are being made of all materials and products procured by the university.	Mass measurement system in place.	Not in place.	Under development.
GP10.1 Annual report of green procurement performance.	Tabled annually.	Done	Done
GP10.2 Post Green Procurement Policy and performance reports to website.	Policy and reports posted.	Done	Done

Appendix D
Land Use and Property Management Performance Indicators

Indicator	Target	Performance	
		FY2006	FY2007
L1(b).1 Annual amount of chemical herbicide applied to university landscapes in liters.	0 kgs. or 0 liters.	No data	0 liters.
L1(b).2 Annual amount of artificial pesticide used on university landscapes in liters.	0 kgs. or 0 liters.	No data	3.4 kgs.
L1(b).3 Annual amounts (in kgs., liters, gms, etc) of chemicals applied to university landscapes for any purpose (e.g., chemical fertilizers, ice-melt compounds, dust control products, etc.).	Annual reductions to practical minimum.	No data	3,080 kgs. (Mtn. Organic Ice Melt)
L1(c).1 Percentage of landscaping using xeriscaping techniques and materials.	Increasing annually to 100%.	No data	70%
L1(c).2 Annual quantity in liters of fossil fuels consumed by grounds maintenance machinery and vehicles (mowers, snow blowers, sidewalk plows, etc.), adjusted for annual precipitation.	Decreasing year over year to practical minimum.	No data	940 liters
L1(d).1 Percentage of yard wastes composted.	Increasing annually to 100%.	0%	100%
L1(e).1 Percentage of grounds watering supplied from grey water / storm water recycling compared to use of city treated water.	Increasing annually to 100%.	No data	0%
L2.1 Percentage of paper products (toilet paper, hand towels, etc.) consumed annually which are composed of 90% or more post-consumer recycled stock.	100%	No data	100%
L2.2 Percentage of cleaning products defined as all purpose/hard surface, industrial cleaner, toilet bowl cleaner, floor cleaner/degreaser, glass, carpet cleaner, spot and stain remover, which meet the equivalent of, or be certified by, Standard CCD-146, CCD-147 and CCD-148 Environmental Choice.	100%	No data	90%
L2.3 Percentage of cleaning products defined as graffiti remover, drain cleaner and floor stripper for which the following information is disclosed to Property and Plant: - Hazardous ingredients present - Biodegradability of total product - Percent VOC in product - pH - Fragrance	100%	No data	1%

- Type of dye - Oral toxicity of product - Presence of optical brightener - Third party certification (if available)			

L2.4 Percentage of cleaning products used annually that contain:

- Any known or suspected carcinogens/teratogens/mutagens as per IARC, ACGIH

Appendix E
Materials Conservation (Waste Reduction) Performance Indicators

Indicator	Target	Performance	
		FY2006	FY2007
W1.1 Annual total weight (in kilograms) of municipal solid waste sent to landfill.	Decreasing annually to theoretical minimum. 5 year goal; interim targets.	150.6 T.	77.8 T.
W1.2 Annual total weight (in kilograms) of materials diverted from landfill and recycled.	Increasing annually to theoretical maximum. 5 year goal; interim targets.	83.1 T.	94.4 T.
W1.3 Percent of waste reduced over previous year's waste production.	derived	+ 3.5%	- 26.3%

Appendix F
Sustainable Transportation Performance Indicators

Indicator	Target	Performance	
		FY2006	FY2007
T1(a).1 Total annual fossil fuel consumption for university fleet vehicles.	Reducing annually to theoretical minimum.	No data	2,783 L.
T1(a).2 Total estimated annual fossil fuel consumption incurred from reimbursed air travel by university faculty, students or support staff. (Total passenger-kms traveled X Av. air travel per passenger-km fuel consumption) = Total fossil fuel consumption. [Aircraft fuel efficiency = 3.5 L./100 passenger-kms. Air Transport Action Group, www.atag.org 2008]	Reducing annually to theoretical minimum.	No data	104,608 L.
T1(a).3 Total estimated annual fossil fuel consumption incurred from reimbursed automobile travel by university faculty, students or support staff. (Total passenger-kms traveled X Av. auto per passenger-km fuel consumption) = Total fossil fuel consumption.	Reducing annually to theoretical minimum.	No data	12,589 L.
T1(a).4 Total estimated annual fossil fuel consumption incurred from reimbursed intra-city bus travel by university faculty, students or support staff. (Total passenger-kms traveled X Av. intra-city bus per passenger-km fuel consumption) = Total fossil fuel consumption.	Reducing annually to theoretical minimum.	No data	No data
T1(a).5 Total estimated annual fossil fuel consumption incurred from reimbursed inter-city bus travel by university faculty, students or support staff. (Total passenger-kms traveled X Av. inter-city bus per passenger-km fuel consumption) = Total fossil fuel consumption. [Bus fuel efficiency = 0.03 L / passenger-km. Strickland, James (2006) Fuel efficiencies of different modes of transportation. http://strickland.ca/efficiency.html 2008]	Reducing annually to theoretical minimum.	No data	22.1 L.
T1(a).6 Total estimated annual fossil fuel consumption incurred from reimbursed rail travel by university faculty, students or support staff. (Total passenger-kms traveled X Av. rail per passenger-km fuel consumption) = Total fossil fuel consumption.	Reducing annually to theoretical minimum.	No data	0
T1(a).7 Total estimated annual fossil fuel consumption incurred from intra-city bus travel from residence to campus and back by students, faculty and support staff. (Total passengers X Average km / trip X Average trips per year X Av. Intra-city bus per passenger-km fuel consumption) = Total fossil fuel consumption.	Reducing annually to theoretical minimum.	No data	No data
T1(a).8 Total estimated annual fossil fuel consumption incurred automobile travel from residence to campus and back by students, faculty and support staff. (Total passengers X Average km / trip X Average trips per year X Av.	Reducing annually to theoretical minimum.	No data	No data

automobile per passenger-km fuel consumption) = Total fossil fuel consumption.			
T1(a).9 Total estimated annual fossil fuel consumption incurred from carpooling and ride sharing travel from residence to campus and back by students, faculty and support staff. (Total passengers X Average km / trip X Average trips per year X Av. HOV per passenger-km fuel consumption) = Total fossil fuel consumption.	Reducing annually to theoretical minimum.	No data	No data

Appendix G
Water Use Management Performance Indicators

Indicator	Target	Performance	
		FY2006	FY2007
WR1.1 Percentage of all water fixtures operating on campus which are water conserving models.	Increasing annually to 100%.	No data	No data
WR1.2 Evidence of conformance with neutralization of toxic, chemically active, or biohazard substances before discharge to waste water stream.	Periodic verification reports.	No data	No data
WR2.1 Total annual volume of potable water in liters consumed by the university.	Report.	45,804,555	25,444,612
WR2.2 Percentage of total annual volume of water for which non-potable sources are acceptable (e.g., toilets, irrigation) supplied from grey water and/or storm water collected annually (in liters) that is reused on-site.	Increasing annually to 100%.	No data	No data
WR2.3 Total storm water recovered and treated / recycled (in liters).	Increasing annually to 100%.	0	0
WR6.1 Summary of educational, professional development, and general awareness activities designed to encourage research and increase participation in water conservation activities, practices, and product choices.	Anecdotal reports.	No data	No data
WR6.2 Participation in educational, professional development, and general awareness activities that encourage research and increase participation in water conservation activities, practices and product choices.	Increasing year over year to practical maximum.	No data	No data
WR7.1 Annual report of water use management performance.	Tabled annually.	Done	Done
WR7.2 Post Water Use Management Policy and performance reports to website.	Policy and reports posted.	Done	Done