

The University of Winnipeg Campus Sustainability Report

April 1, 2006 – March 31, 2007
Fiscal Year 2006

Campus Sustainability Office

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Executive Summary

This document represents The University of Winnipeg's first campus sustainability report. While it contains incomplete data and falls considerably short of the sort of reporting which can be expected in the future when the Sustainability

Highlights of Sustainability Development Activities

While no wind generators or photovoltaic panels are yet visible on campus, there has been very significant progress on a number of more substantial measures that promise major future contributions to campus sustainability. Since the beginning of the campus sustainability initiative in 2005, many people have cooperated in laying the found

- On-going efforts to articulate the activities of the Campus Sustainability Office with student-led initiatives so that both can be maximally effective.
- On-going meetings between the Director, Campus Sustainability and counterpart sustainability coordinators from other post-secondary institutions in the region to explore ways of cooperating and sharing information in promoting campus sustainability. This collaboration now includes Sustainability Coordinators from the University of Manitoba, Red River College, the Manitoba Lotteries Corporation, the University Co

Finally, it should be noted that nearly all student activities and contributions have been made on a purely volunteer basis. Many students have made significant contributions to the Campus Sustainability Council and its Working Groups without financial compensation or course credit.

Environmental Sustainability Performance

The data reported below reflect the as yet incomplete development of the university's sustainability reporting system. It is anticipated that a much more complete assessment of sustainability performance will be available by FY2008-09. The performance report below is organized by policy area and subject to the scope of the Campus Sustainability Policy.

Scope

The scope of the sustainability management system, and hence the scope of this report, includes:

1. All physical facilities and buildings owned and managed by The University of Winnipeg including all future acquisitions of real properties which come to be owned and managed by The University.
2. All physical facilities and buildings, or spaces within facilities or buildings, leased or rented by The University of Winnipeg, and over which The University can reasonably influence the sustainability performance of the facility.
3. All routine activities, programs and operations of The University of Winnipeg, whether on or off campus, and including staff, faculty and student travel, both directly on behalf of the University in conducting its operations and programs, or commuting of staff, faculty and students to and from their places of residence for purposes of work, teaching, research, study, recreation or any other University activity.
4. All activities, programs or special events which may from time to time be hosted by The University of Winnipeg, or for which the University may provide physical facilities, active partnerships, or other support when such programs or events are offered by institutions, groups, corporations or organizations that are not formally recognized as part of the University community.
5. All "arms length" agencies, corporations, institutes, research centers or other entities, to which University policies may generally apply.

Reporting Period

This report is for the period FY2006.

Academic Initiatives for Sustainability

The Campus Sustainability Council includes

Factor	"Base Year" FY1990	FY2005	FY2006	% change FY2006 over FY1990	% change FY2006 over FY2005
Area Managed (m ²)	74,903	91,750	91,750	+ 22.5	0.0
Total FCEs	24,675	30,921	30,179	+ 22.3	- 2.4
Heating DD (°C)	5,708	5,119	5,443	+ 4.6	+ 6.3
T. CO ₂ e from Electricity	310.1	200.2	196.8	- 33.6	- 1.7
T. CO ₂ e from Natural Gas	2,676.6	3,158.3	3,410.0	+ 27.4	+ 8.0
T. CO ₂ e from Fleet Vehicles	10.0	14.2	10.1	0.0	- 29.9
T. CO ₂ e from Business Travel	393.3	450.6	336.6	- 14.4	- 25.3
T. CO ₂ e from MSW	231.3	294.4	285.2	+ 23.3	- 3.0
Total T. CO₂e All Sources	3,621.3	4,117.7	4,238.7	+ 17.0	+ 2.9
Reduction in total CO₂e from 2006 to meet Kyoto by 2012:			835	- 19.7	n/a

Air Quality Performance:

No systems are currently in place that return regular or comprehensive air quality assessments. Air quality complaints are registered with either Physical Plant staff or the university Safety and Health Officer. Such complaints continue to be received and dealt with individually depending on circumstances. No quantitative data are yet available on the number of complaints involved. Most seem to arise from unsatisfactory laboratory exhaust systems which will be corrected once the Richardson College for the Environment is completed. Other factors include occasional intake of bus exhaust fumes from Balmoral Street or the university loading docks in Centennial Hall. These are addressed by adjusting ventilation intakes.

Air Quality Management Initiatives:

- A new provincial by-law now prohibits smoking in public places in Manitoba, thus rendering the entire university campus a "smoke free" zone.
- A budget submission has been prepared for a comprehensive Electrical, Mechanical, Air Quality and Water Audit of all "core" campus facilities which, if approved, will substantially assist the university in planning strategic capital investments that improve IAQ.
- The Campus Sustainability Council will take up the challenge of developing the university as a scent free campus in the year ahead.
- New construction and renovations to university facilities are now required to meet or at least "shadow" LEED-NC 1.0 or LEED-CI standards which mandate low VOC (volatile organic compound) materials and finishes which will further reduce emissions that negatively affect IAQ.

Energy Use Management

Energy consumption by the university includes electricity, natural gas, fleet vehicle and stationary fuels. Consumption values have been reported for FY2005 and FY2006 for comparison purposes. Regardless of fuel type, energy use has been converted to Kwh (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 (Kwh) and intensity values (Kwh/FCE and Kwh/m²) 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

- Electrical and Mechanical upgrades are slated for Wesley Hall which will improve the overall comfort of the building but may have a neutral influence on energy consumption as improvements in efficiency gained by installation of new chillers for air conditioning may be off-set by added energy losses due to increased ventilation rates to improve indoor air quality.

Green Procurement

Procurement activities at the university hold much potential for both cost savings and

Land Use Planning and Property Management

The renovation and maintenance of the university's existing physical plant is virtually synonymous with making progress on the "bricks-and-mortar" side of the sustainability equation. While this is only part of how the university will meet the overall sustainability challenge facing our society, it is nevertheless a critical part.

When constructing new facilities, it is relatively easy to achieve large gains in sustainability performance at almost no additional cost at the margin. Paradoxically, however, each new building added to the stock of facilities also adds to the university's "ecological footprint", regardless of how efficient the new facility may be.

Real gains in sustainability performance will be made not by adding new buildings but by renovating existing facilities, unless new buildings completely replace older ones that are demolished and recycled. While the recently announced Richardson College for the Environment and Science Complex has rightly become the "flag ship" of university sustainability initiatives, renovation projects promise real gains in sustainability performance:

Social Sustainability Performance

The Campus Sustainability Council commenced work in November of 2006 to respond to the provision of the Campus Sustainability Policy which calls for development of policies and initiatives which specifically address the social dimension of sustainability. Work is expected to continue well into 2007 on this objective, with the following accomplishments to date:

- Four special meetings of the Campus Sustainability Council have been convened, in addition to its regular meetings, specifically to develop the goals, scope, aspects and preliminary outline of a

Waste Reduction and Materials Conservation

Considerable progress has been made in the last year in efforts to conserve material resources through the minimization of waste. This progress is not visible in the year over year comparison data from FY2005 to FY2006 as the effect

- Establishment of organic waste collection and composting capacity for all organic wastes produced on campus. This program will reduce waste going to landfill by approximately 50%, GHG emissions by approximately 4%, and waste handling costs by 75% per tonne diverted.
- Successfully partnered with our sister post-secondary education institutions to renegotiate the terms and reporting protocols required to secure continued funding for campus recycling programs from Advanced Education and Training Manitoba;
- Successfully hosted a city-wide “Composting Summit” of public and private sector stakeholders and NGOs to search for a collective solution to Winnipeg’s organic waste management needs;
- The Bookstore has successfully installed an EDI paperless ordering system which replaces paper-based book ordering forms and fax machine with an on-line ordering system, thus reducing paper consumption and waste from the Bookstore operation.
- “E-waste” (spent electronic equipment) is currently collected for recycling in cooperation with PowerLand Computers, Inc. 100% of this equipment is currently being recycled in local facilities in Winnipeg. A quality control assessment is being planned to monitor the service to assure that it meets standards set by the Electronic Products Stewardship Council—the most widely recognized standard for this sort of service in Canada.
- Establish capacity to capture and recycle toner cTWPe

Water Use Management

Water is used by the university in essentially the same applications as those found in a household (washing, cooking, drinking, bathing and toilet flushing) with the exception of water used for laboratory purposes. No initiatives have been launched during the last fiscal year to reduce water consumption, although a number of features of the design program for the Richardson College For the Environment and Science Complex, the T-21 renovation, and the Portage Commons development include water conservation objectives. Water consumption dropped by nearly 16% in FY2006 over FY2005, a highly desirable performance figure, but not attributable to any particular intervention. The decrement is being investigated and may be attributable to differences in average annual humidity which can affect evaporator performance in chiller towers.

Goals: The University of Winnipeg Water Use Management Policy aims to reduce waste of potable water to a minimum, encourage water conservation, recycling of grey water and storm water, and eliminate discharges of toxic substances to its waste water streams.

Water Consumption	FY2005	FY2006	% change FY2006 over FY2005
Water consumption (liters)	54,427,194	45,804,555	- 15.9
Cost	\$ 102,500.00	\$ 96,700.00	- 5.7
Liters / FCE	1,760	1,518	- 13.8
Liters / m ²	593	499	- 15.9

Water Conservation Initiatives:

- The Province of Manitoba now mandates that all new publicly funded buildings will comply with a minimum of LEED Silver rating in building performance, which includes standards for water conservation performance. This will apply to all new construction of university facilities that are provincially funded.
- The university's own Land Use Planning and Property Management Policy mandates LEED-EB and LEED-CI standard compliance for buildings undergoing renovation which also include water conservation objectives.
- A proposal has been submitted to the Board of Trustees for the construction of a new building in the Portage Commons area. The proposal includes a water conservation strategy that will result in a 15% reduction in water consumption. The proposal is currently under review by the Board of Trustees.