

To: The Recession Response and Planning Task Group (RRPTG)

From: The Conservation Council and its Working Group for Planning for Carbon Neutrality in Response to the President's Climate Commitment

Date: November 30, 2009

Subject: Environmental initiatives as a source of savings and revenue

The purpose of this brief is to provide information on the financial savings and revenue generating potential of environmental initiatives including carbon reduction efforts. The Conservation Council recognizes the significant economic challenges facing the University and we believe that St. Lawrence will benefit financially in both the short- and long-term by continuing or even enhancing our efforts to achieve our environmental goals, especially our commitment to sustainability and zero-net greenhouse gas emissions.¹ Although the St. Lawrence University Climate Action Plan is still being refined by the Working Group and is not yet ready for distribution, below we present examples of environmental initiatives that have saved the University money in the past as well as opportunities for savings from future initiatives.

The following are *examples* of environmental initiatives that have been implemented throughout the past two years and have resulted in direct reductions of University operating costs. Savings displayed on the right are per year:

- Heating and electrical efficiency retrofits in theme cottages and off-campus offices \$27,300
 - Heating retrofits total cost \$162,975 (simple payback, 9.8 years at current prices)
 - Electricity retrofits total cost \$75,658 (simple payback, 7 years at current prices)
- Purchase and installation of SmartStrips for computers and peripherals \$23,200
 - Total cost of \$11,000 (simple payback, 4 months-not all purchased strips deployed)
- Removal of trays from the dining hall \$5,000
 - No investment; savings include waste hauling and water/sewer
 - Does not include personal time, food purchase or cleaner savings
- The creation of low-mow zones \$12,300
 - No investment; savings include fuel and personnel costs

These few *examples* of successful sustainability initiatives have reduced University-related greenhouse gas emissions, and translate into annual savings of ~\$70,000. We are confident that there are countless other opportunities like these, but more thorough knowledge of the workings of each sector of the University, as well as data on energy and material usage, standard operating procedures, and purchasing policies is necessary for sustainability savings in other arenas to be discovered, calculated, and acted upon. Unfortunately, much of the data required to quantify these opportunities is currently not tracked; however, the Working Group is addressing this within the development of the University Climate Action Plan.

Despite not having the data to specifically quantify the potential savings, following are *examples* of *possible* future opportunities to increase efficiency and reduce resource utilization and operating costs:

¹ American College and University Presidents Climate Commitment.
<http://www.presidentsclimatecommitment.org/about/commitment>

Initiatives with no/low initial cost and easiest implementation:

Fleet:

- Mandating *all* future purchases of University vehicles based on maximum fuel efficiency
- Enforcing an anti-idling policy for *all* University owned vehicles

Facilities/Grounds:

- Gradually transitioning from annual flowers to perennial flower beds
- Removing a number of University dryers coupled with the purchase of drying racks
- Creating a sustainability building steward program to check lights, computers, windows

Purchasing/Material Usage:

- Improving student move in/out to minimize waste while maximizing recycling and reuse
- Encouraging SLUBAY or similar model for departmental purchases/requests

Strategic planning-based initiatives:

- Shifting start of spring semester (longer break) to save on heating and lighting costs
- Acting on the recommended energy conservation measures from our campus energy audit
- Continuing to evaluate the use of our building space and energy to maximize efficiency
- Enhance and expand directed giving opportunities for sustainability initiatives

One *example* of a sustainability-based initiative with potential revenue generating implications:

- Yearly employee parking pass fee

This initiative would reduce associated greenhouse gas emissions by encouraging more carpooling, ridesharing, and non-motorized commuting. Employees who live closer (and have greater ability to walk, bike or carpool) would pay a higher fee.

Based on this example fee scale, revenue generating potential = ~ \$40,000/year

Distance	# Employees	Pass Fee
> 1 mile	248	\$50
> 5 mile	384	\$37
> 10 mile	506	\$25

While a majority of the above examples represent small sources of financial savings or revenue generation, there are also major infrastructure changes being discussed that have potential for long term monetary and carbon savings. Feasibility studies have been completed investigating the switch of our heating system from natural gas and oil to renewable biomass and geothermal systems. We acknowledge that these changes to our physical plant have a significant capital investment and thus we recommend that at the **minimum** we move forward with the recommendations in these reports as our current infrastructure is replaced. Furthermore, while many of our energy savings projects have taken advantage of funding from NYSERDA we also believe that St. Lawrence has not diligently pursued opportunities to secure funding from outside sources, including grant opportunities, available for initial capital costs of energy projects and costs associated with implementing other sustainability initiatives. We recommend that this be addressed.

In addition to direct impacts on operating costs, other implications of continuing to honor our sustainability commitments encompass both direct and indirect sources of revenue through

admissions, current students and alumni. The following examples of these potential impacts have been identified:

- Of the respondents to the Princeton Review's 2009 College Hopes and Worries Survey²:
 - a. 66% said a college's commitment to environmental issues would contribute to their decision to apply to or attend a school (increasing 3% from 2008)
 - b. 24% said commitment to environmental issues would 'strongly' or 'very much' contribute to their assessment of a school
- Of the St. Lawrence class of 2013 who responded to the accepted student questionnaire:
 - a. 43% said a major objective was to become involved in having a cleaner environment
 - b. 66 % said that adopting greener practices was important
- Current St. Lawrence students indicate sustainability's importance through Thelmo funding:
 - a. Spring 2007 students purchase renewable energy credits for the student center (\$5,250)
 - b. Spring 2009 students paid for the of purchase new green bikes, expansion of student-run thrift store and attendance at a national climate conference (\$6,821)
- Current St. Lawrence students indicate sustainability's importance through class giving:
 - a. 2008 senior class gift: covered bike shelter at the student center (36% participation)
 - b. 2009 senior class gift: was a tree (39% participation)
 - c. 2010 senior class gift: will be more green bikes (gifts still being accepted)
(Comparison data point: 2007 senior class gift was directed toward supplying power to the quad, and garnered only a 14% participation rate)
- Giving to sustainability initiatives includes donations from alumni ranging from class years of 1956 to 2008, including a \$3,000 first time donation from a 2008 graduate

We have highlighted these *examples* of previously accomplished sustainability and carbon reduction projects as well as data on the impact of sustainability on our students and alumni to suggest that with further efforts even greater financial savings may be accrued. One of the founding principles of sustainability is efficient utilization of energy and material resources. We believe that the most significant savings will come from a complete integration of environmental sustainability into University planning, operations and culture. Thus, our single most important suggestion for achieving the greatest financial benefit from sustainability and carbon reduction efforts is to incorporate these ideals into strategic planning on all University levels from departmental operating decisions to the Campus Master Plan.

As the University reevaluates our operations and programming we should remain focused on our greenhouse gas emissions reduction goals as they have the potential ability to keep us in line with our new comparison group (Appendix A), attract students, increase alumni giving, reduce operating costs, and contribute to our overall mission as an institution of higher education.

To paraphrase President William Fox: we cannot "cut" our way to success; there will need to be "additions" (such as investments to jump-start more projects with attractive payback periods) and "multiplications" as well as "subtractions". We feel that sustainability and carbon planning encompass these sentiments exactly. Through the continued addition of sustainability and carbon reduction efforts to our University planning, culture and operations we will see "subtractions" in resource use and associated financial expenditures while seeing a "multiplication" in the value of St. Lawrence as a high quality liberal arts institution.

² Princeton Review's 2009 College Hopes and Worries Survey.
http://www.princetonreview.com/uploadedFiles/Test_Preparation/Hopes_and_Worries/colleg_hopes_worries_details.pdf

Appendix A: Overview of Major Environmental Initiatives of schools in St. Lawrence's New Comparison Group

Name	Sign PCC	On campus renewable power generation	Electricity	Green Buildings	Compost Program
Allegheny College	Y	Geothermal heating/cooling		LEED ¹ Certified Residence Hall	Y
Bates Colleges	Y	Solar thermal system, B5 heats 12 small off campus houses	100% of main campus electricity (REC ²)	LEED Sliver Residence and Dining Hall	Y
Bucknell University	Y	5.7 kw solar array	5% wind (REC)		N
Carleton College	Y	1,650 kw wind turbine	13.2% from utility	LEED Gold Residence Halls (91,536 sq. feet), In process LEED Silver/Gold Art Center	Y
Colby College	Y		100% wind and hydro (REC)	Four most recent buildings, achieved or pending LEED certification	Y
Colgate University	Y	70% of heat from wood chips	88% hydro, wind, from utility		N
College of the Holy Cross	Y			Committed to LEED Silver construction for all construction and renovation projects	N
College of Wooster	N				Y
Connecticut College	Y	10 kw solar array	96% REC	Fitness center & academic building LEED Silver Cert.	Y
Denison University	N			LEED Silver Art Center (45,000 sq. Feet)	Y
Dickinson College	Y	60 kw solar array, 3.5 kw array & 4kw array; two, soon to be three solar thermal systems	100% REC	LEED Gold Residence (14 beds), LEED Gold science complex (90,000 sq. feet)	Y
Drew University	Y			LEED Certified Residence Hall (159 beds), LEED Silver academic building	N
Gettysburg College	Y		50% wind & biomass (REC)	1 LEED Silver Building (55,000 sq. Feet)	Y
Hamilton College	Y			LEED Silver Residence Hall (52 beds), Sustainable science center (not certified)	N
Hobart & William Smith College	Y	Solar for 5% and geothermal for all of a 2,000 sq. foot building, B20 in 5 vehicles	5% REC		Y
Kalamazoo College	Y		4.1% wind & solar (REC)	LEED Silver (78,000), Library meets certification	N
Kenyon College	N			1 LEED Certified Building	Y
Macalaster College	Y	Small educational wind turbine and solar array on campus, one solar thermal system	1.1% REC	LEED Platinum Academic Hall (17,000 sq. feet)	Sell scraps to hog farmer
Middlebury College	Y	1 kw solar array, 10kw wind turbine, 2 solar thermal systems	50% methane (REC)	2 Sustainable (not certified) residence halls & dining hall (114,900 sq. feet), Library designed LEED Sliver	Y
Muhlenberg College	N	3.2 kw solar array			N
Ohio Wesleyan University	N			Constructing Athletic Center to be Certified-silver, including geothermal	Y
Skidmore College	N	Geothermal = 17% campus heating/ cooling		LEED Silver Music Center	Y
St. Lawrence University	Y	Small educational solar array	15% wind (REC)	LEED Gold Science Center (114,000 sq. feet)	N
Trinity College	Y		REC for special events	Policy: all new construction to LEED Silver standards	Y
Vassar College	N	10% cogeneration capacity, <1% solar PV			Y
Wheaton College	N				Y

¹LEED = Leadership in Energy and Environmental Design

²REC = Renewable energy credit

