

Sustainability Master Plan Progress Report May 2013

Executive Summary

Broadly defined, sustainability means meeting society's present needs without compromising the ability of future generations to meet their own needs. As a Catholic, Benedictine institution, the College of Saint Benedict accepts that all creation is a gift; in exchange, we are expected to care for creation and provide stewardship for the community of life on Earth. Our commitment to this stewardship, by definition, incorporates the principles of sustainability: our actions should be ecologically sound, socially just, and economically viable today and should continue to be so for future generations.

Because of our commitment to the Benedictine tradition and the principles of sustainability, we will work to emphasize and embed these concepts into our educational mission, the operation of the physical campus, and our outreach to communities beyond the college.

In 2007, MaryAnn Baenninger, the President of the College and a charter member of the American College and University Presidents Climate Commitment (ACUPCC) Leadership Circle, signed the ACUPCC in support of the College's commitment to stewardship and sustainability. In 2010, a director of sustainability was hired, an office of sustainability established, and a restructured sustainability council convened. This council developed a Sustainability Master Plan (SMP) in which specific, measurable, achievable, relevant and time bound goals and actions that will transform every part of the institution were set.

The SMP articulates concrete goals and actions that will reduce the College's carbon footprint, promote behavior change within the campus community and integrate sustainable practices into operations. Specific priorities are set in seven areas: food and dining, grounds, partnership and outreach, responsible consumption, sustainability education, sustainable facilities (buildings and energy) and transportation.

To ensure the college delivers on the ambitious goals of this plan, we will annually evaluate progress and recalculate sustainability metrics such as the greenhouse gas inventory and the Sustainability Tracking Assessment & Rating System (STARS) certification every two years.

The cost of implementing this plan is currently financed by the departments working on individual initiatives. In part this includes use of the revolving loan fund to support energy efficiency projects, then using payback from energy efficiency projects to fund other projects. In addition, the college will investigate innovative financing opportunities and pursue grant funding.

This plan is intended to guide sustainability projects on CSB's campus and to encourage collaboration with other groups, especially other institutions of higher education as well as within the broader local, state, federal, and international communities.

This plan is intended to fulfill CSB's commitment under the ACUPCC. The plan combines both the ACUPCC institutional action plan for climate neutrality, CSB's broader goals for implementing

sustainability, as well as the identified priorities from the year-long sustainability strategic-planning process.

The plan also is intended to help CSB address climate change by taking responsibility for our institution's carbon footprint and reducing it as rapidly as possible as we aim to achieve carbon neutrality by 2035.

The 2011 plan was the first time the college comprehensively set goals and adopted strategies to address sustainability issues. Now that focused initiatives have been underway for two years and the plan itself for one year, many of the strategies have been completed. To provide ongoing realignment of our actions to achieve our goals, we offer this update on CSB's progress on our goals to date and revisions to our task lists moving forward. The progress assessment for each priority area includes a listing of the committee members, the vision and goals, and the anticipated focus of work moving forward.

Quantification of Sustainability

Two principle measures of sustainability are used to benchmark and track program effectiveness: the STARS and the greenhouse gas inventory. STARS ratings are ranked from highest to lowest: platinum, gold, silver, bronze and reporter. In the spring of 2011, CSB earned a silver rating. In the spring of 2013, CSB again earned a silver rating, missing gold by just a few points. The areas in which we scored lowest were sustainability in academics and research and institutional investment approach and policies.

From FY2010 to FY2013, CSB reduced the institution's carbon footprint by 1,800 metric tons of carbon dioxide equivalent. Reductions were seen in energy use, transportation and purchased electricity. Increases were seen in refrigerants, study abroad and other air travel and commuting (Table 1).

Economic Impact of Sustainability Initiatives

Table 2 below outlines cost savings and return on investment for the sustainability initiatives.

Table 1. Greenhouse gas emissions (metric tons CO₂e) by category from 2010-2012.

Activity	2010	% of Total	2011	% of Total	2012	% of Total
Other On Campus Stationary	2,243.7	14.28	3,034	21.43	2,513	18.07
Direct Transportation	275.2	1.75	289	2.04	286	2.06
Refrigerants	97.6	0.62	152	1.07	152	1.09
Agriculture (Fertilizer)	3.3	0.02	8.1	0.06	7.4	0.05
Purchased Electricity	6,365.9	40.52	5,334	37.67	5,073	36.46
Faculty/Staff Commuting	3,148.9	20.04	1,278	9.03	1,327	9.54
Student Commuting (plus ABE driving miles)	399.1	2.54	402	2.84	405	2.91
Direct Financed Air Travel (Admissions, ABE air miles,	518.5	3.30	587	4.14	654	4.70
Other Direct Financed Travel	12.5	0.08	21	0.15	25	0.18
Study Abroad Air Travel	2,005.9	12.77	2,508	17.71	2,951	21.21
Solid Waste*	11.3	0.07	(2.0)	-0.01	(1.9)	-0.01
Wastewater	0.9	0.00	21	0.14	21	0.15
T&D Losses**	629.6	4.01	528	3.73	502	3.61
TOTAL	15,712.4		14,160		13,914	

Table 2. Estimated cost savings on sustainability initiatives

Initiative	Project Partners	Date Initiated	Estimated Savings	ROI (yrs)	Funding through Revolving Loan Fund?
Bottled water	Bottled Water Task Force	Fall 2011	\$22,000/yr	1	no
Clemens gym lighting	Facilities	Summer 2011	\$15,000/yr	2	Yes and Xcel rebates
Tray less (30% avg. reduction in Food waste)	Culinary	Fall 2011	\$900/yr*	NA	no
Restructure of recycling program	Facilities	Fall 2011	\$15,000/yr**	NA	no
LEED Project Manager	Centennial Commons Committee	Summer 2011-2013	\$25,000	NA	no
campus-wide light bulb change out	Facilities	summer 2012	\$50,000	2	yes and Xcel rebates
Printing Policy	IT	Fall 2011	tbd	NA	
Gross Dollars Saved			\$127,900		

*does not include associated reductions in food purchasing, labor, water, soap, energy expended to heat water, etc.

**does not include energy use reduction to bail and process recyclables or to transport recyclables to maintenance shop, etc.

Progress by Priority Area

Substantial progress has been achieved in food and dining, grounds, responsible consumption, sustainable facilities and transportation. Some progress has been achieved in partnership and outreach. The least progress has been achieved in sustainable education.

Food and Dining (Bret Benesh, Darrel Halverson, Janna LaFontaine)

Vision: The College of Saint Benedict will have flavorful, nutritious food that was produced with minimal environmental impact.

Goals:

- 1. Increase the purchase of locally and organically produced food by 2% annually by cost.**
 - a. Changed 'local' to 'sustainable.' Developed definition of 'sustainable food'.
 - b. Working with Culinary, using purchasing data from Feb. and Oct. 2012, classifying food according to sustainable food definition in order to establish a baseline of sustainable food purchased (based on dollars).

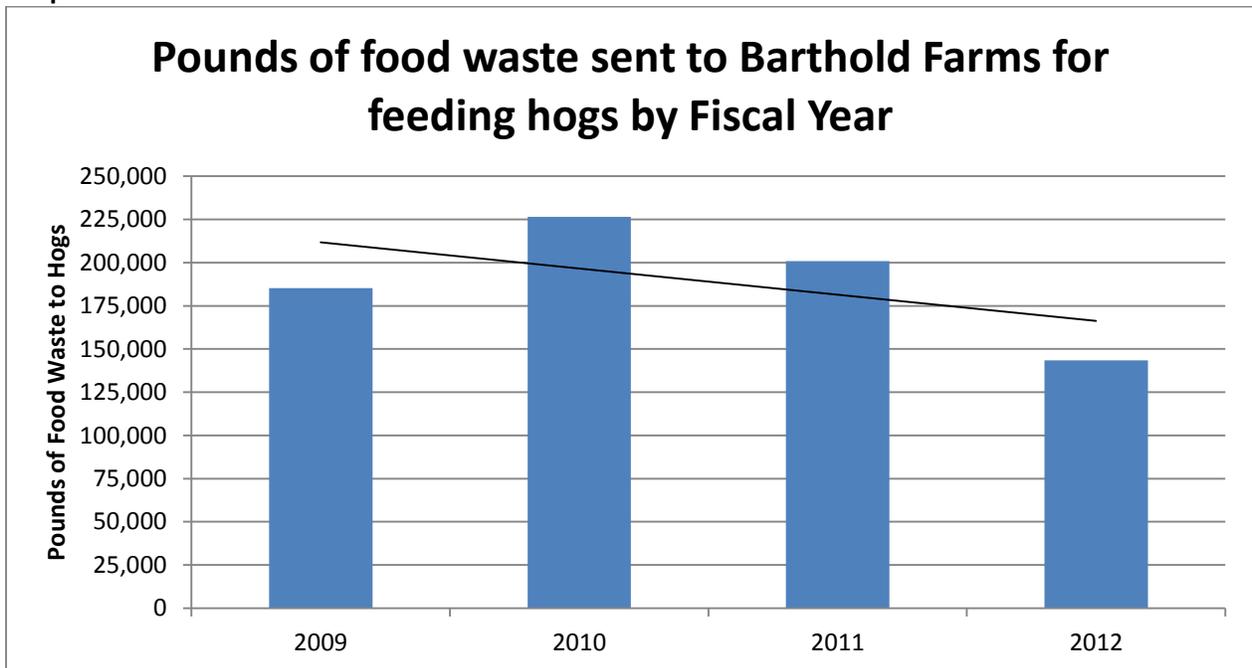
- 2. Decrease food waste generated by 2% annually by weight.**
 - a. Going tray less has reduced the amount of food waste disposed on average 30% per month (Graph 1) (overlaps with Responsible Consumption).
 - b. Partnering with Office of Experiential Learning and Community Engagement to increase food to people option through the development of a VISTA (Volunteers in Service to America) position.

3. **Increase student awareness of the origins of their food and the environmental, social and economic impacts of choice.**
 - a. Signage in Gorecki highlights food origins and reductions in food waste generated.
 - b. World Food Day event (Fall 2012) featured local food providers, documentary on food production, speaker on the implications of the farm bill on our food quality and supply.
 - c. Documentary screening of 'American Meat' followed by panel discussion (Feb. 2013).
 - d. Partnering with the library, a campus-wide book discussion group on *Enough: Why the World's Poorest Starve in the Age of Plenty* by Roger Thurow and Scott Kilman was held in the spring 2012 (overlaps with Sustainability Education).
 - e. Partnering with Environmental Studies and the library, a second book discussion group was held in the fall 2012 using *Food Politics* by Robert Paarlberg (overlaps with Sustainability Education).

4. **Eliminate the use of plastic service ware and packaging for take away foods.**
 - a. Bring your own mug in O'Connell's and Clemen's Perk.
 - b. Investigations on compostable vs. disposable take away containers.

FY14 Focus: Determination of baseline sustainable foods purchased
 Re-evaluate work plan after this is accomplished

Graph 1



Grounds (Catherine Stoch, Chris Brake, S. Philip Zimmer)

Vision: The College of Saint Benedict will use a sustainable approach to beautify and manage the landscape environment in support of the Benedictine value of sense of place, maintaining the landscape in a sustainable manner while, at the same time, provide sufficient green space for recreation and events. Native flowers, grasses and gardens that reflect Minnesota's landscapes and require minimal watering, cultivating food and fruits on College-owned land for use by the college community and to educate consumers about local food production are identified priorities.

Goals:

1. **Incorporate sustainability principles into the College's landscape master plan.**
2. **Reduce the need for fossil-fuel powered equipment by 10% by 2014 by replacing with electric and/or manual tools where possible without unduly sacrificing efficiency.**
3. **Reduce the use of chemicals for fertilizer and ice melt by 25% by 2020.**
4. **Increase the square footage of natural areas including prairie and native plants by 12% by 2015.**
5. **Reduce the need for irrigation by 25% by 2020.**
6. **Implement the use of gauges for the irrigation system.**
 - a. Barr Engineering hired in late 2012. Landscape Master Plan near completion.
 - b. As part of this plan and in collaboration with Facilities and the Office of Sustainability, sustainability goals around which the plan is based have been developed. These specifically address goals 1-6 above.
7. **Analyze current use of chemicals for melting ice. Identify alternatives including availability, pricing, and effectiveness. Make recommendations to the Grounds department based on this work.**
 - a. Grounds manager actively investigates alternatives that address melt and safety.
8. **Develop an avenue for information sharing on the landscape master plan, use of chemicals, and watering strategy via the sustainability web pages.**
 - a. Website has been updated to include a page on sustainable practices used by the grounds department.
9. **Implement the strategic plan for food production on campus.**
 - a. Full Circle Greenhouse – a student project aimed at providing organically grown greens to Gorecki and students living in apartments – is currently under construction.
 - b. In conversation with Common Ground to potentially grow for Gorecki in the future.

FY14 Focus: **Campus tree inventory**
Soil testing and interpretation
Update work plan after landscape plan is completed

Partnership and Outreach (No current committee members)

Vision: Improve CSB's long term sustainability through the intentional cultivation of strategic partnerships and outreach internally, locally, nationally and internationally. This includes caring for environment and people, expanding others' awareness of the College and the College's awareness of others. This will increase opportunities to serve and educate on sustainability related issues as avenues to support and advance the college's commitment to the Benedictine values. Specifically, CSB will foster:

- A strong and growing commitment to internal sustainability.
- A strong and growing partnership between the City and the College.
- A strong and growing partnership with alumnae involved in sustainability-related professions.
- Active pursuit of sustainability-related research by faculty and students.
- Sustainability-related study abroad programs.

Scope: Internal partners, City of St. Joseph, local and statewide communities, organizations, businesses, education institutions, international partners.

Goals:

- 1. To strengthen and build on internal relationships at the College**
 - a. Please refer to all of the other priority area assessments in this document.
- 2. To strengthen and build on the existing relationship between the College and the monastery, the City of St. Joseph and local businesses and organizations to improve and strengthen the community to the benefit of all.**
 - a. Presented to the St. Joseph Catholic Church social justice committee (2012).
 - b. Provided educational day for the Youth Energy Summit (groups of high school students who implement sustainability in their schools) (2012 and 2013).
 - c. Featured speaker at the CSB Monastery annual education event (summer 2012).
 - d. Submitted short articles for the monastery newsletter.
 - e. Initiated partnership with the MN Street Cooperative board to address the supply chain for sustainable food for the College.
- 3. To expand CSB's connections statewide and nationally through partnering with alumnae, businesses and other higher education institutions.**
 - a. Presented to the CSBSJU retiree association (Spring 2012).
 - b. Presented at the American Association for Sustainability in Higher Education annual conference (Fall 2012).
 - c. Presented at the International Sustainability in Education conference, Hiroshima, Japan (Jan. 2013).
- 4. To expand CSB's sustainability initiatives internationally through the College's study abroad programs.**
 - a. Presented jointly with the ELCE staff at the national conference on Study Abroad, Service Learning and Sustainability (Spring 2011).

- b. Worked in conjunction with the OEA to develop web pages related to sustainability while studying abroad.
- c. Developed a sustainability-in-action internship to expand the Ecuador: Gender and Culture short term study abroad program (2012, 2013).

FY14 Focus: Work with Admission to include sustainability on printed materials and letters MN Street Market Cooperative – continue to strengthen partnership on sustainable food.

Responsible Consumption (Sue Palmer, Kathryn Enke)

Vision: Cultivate a culture where all community members are cognizant of the impact of their actions on others and the environment; a place where we value spending time with one another.

Goals:

- 1. Instill energy conservation into the culture of the institution as a fundamental value and priority through the development and implementation of an Energy Conservation Program.**
 - a. Campus Conservation Nationals/Energy Challenge successfully run in partnership with student development, residential life and facilities (2011, 2012, and 2013). For the three week period, students reduced energy consumption by 9-12%.
- 2. Change or retrofit energy systems to make campus physical operations more energy efficient.**
 - a. Facilities installed variable frequency drives where possible.
 - b. The revolving loan fund was used to successfully complete two lighting projects (Clemens gym in 2011, campus wide lighting retrofit in 2012) with a combined annual savings of over 500,000 kWh. (Refer to the Cost Savings from CSB Sustainability Initiatives, Table 2)
- 3. Reduce waste related to trash, printing, food, time, and expense.**
 - a. In partnership with IT, developed and implemented a printing policy which resulted in an average of 50% reduction in the number of pages printed by students (Fall 2012) (Graph 2). These reductions result in approximately a metric ton reduction in emissions related to paper production per month.
 - b. With a working group, developed and implemented a bottled water policy which resulted in an undetermined reduction in plastic water bottles disposed and an estimated \$22k ROI to the campus community after the first year (2011-12). This amount covered the cost of the first 31 hydration stations. The ROI does not include additional hydration stations or the cost of annual maintenance on them.
 - c. Worked with culinary to implement the tray less initiative which resulted in a monthly average of 30% reduction in food disposed and an undetermined savings in water, soap, labor, energy to heat water, etc. (Graph 1, overlaps with Food and Dining)
- 4. Increase the percentage of materials recycled annually.**
 - a. With a working group, evaluated the existing recycling system and opted to adopt a commingled system in its place (2010-11).
 - b. Re-located outdoor trash and recycling containers next to each other.

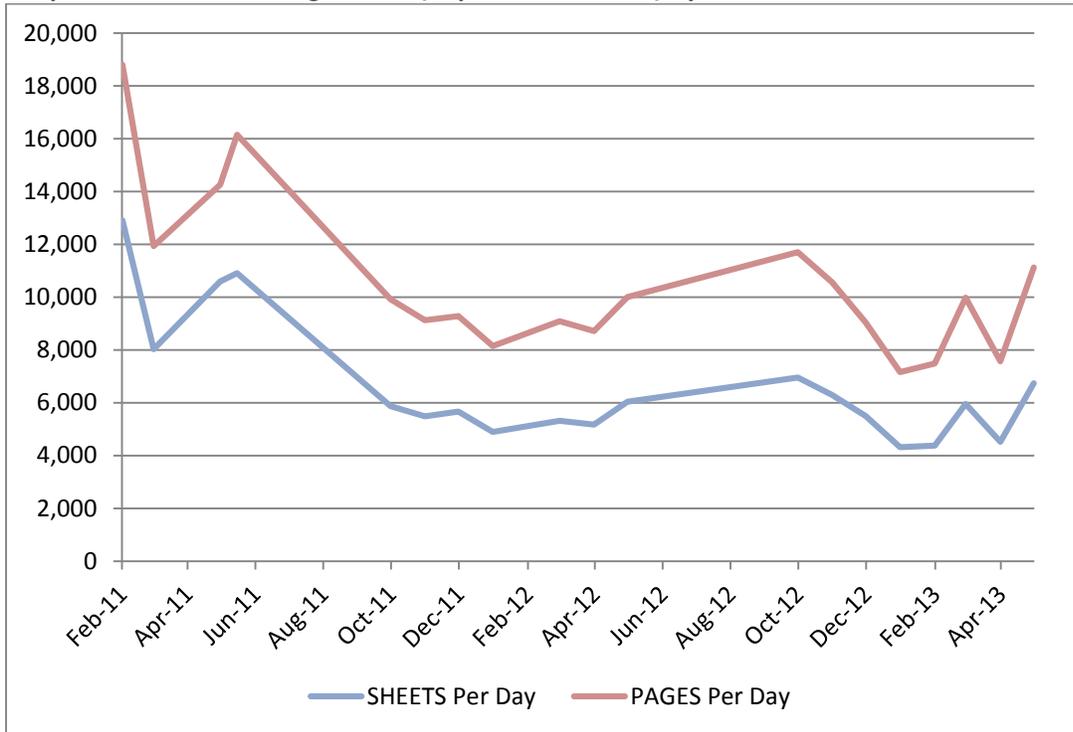
- c. Recycling percentages up, trash disposed down for the first year of the new program. For FY13, we are seeing a trend upwards in trash disposed. (Table 3)
5. **Annually track perception and knowledge of sustainability through on online survey.**
 - a. First years and seniors surveyed (fall and spring respectively).
 - b. Change to surveying both in the fall, beginning in 2013.
 6. **Revitalize, promote and publicize the Ride Share board or equivalent.**
 - a. Student Development has taken the lead to adopt and implement the online ZimRide program for rideshare. Both student senates have agreed to fund this initiative long term
 7. **Student Swap Shop** now an annual event organized by the Student Senate with help from the Office of Sustainability.
 8. **Office Supply Swap Shop** now open for use by anyone on campus.

FY14 Focus: Refine and further develop the Eco-Rep program in residence halls.
 Work with HR to incorporate sustainability as a part of job descriptions.
 Work with Student Development to implement ZimRide.
 Develop and implement a campus-wide purchasing policy.
 Focus on energy use reduction, partner more with res life – energy challenge in fall and spring.
 Student printing has been successfully addressed – focus on faculty and staff moving forward.

Table 3. Recycling and Trash (tons) by Fiscal Year

Fiscal Year	2010	2011	2012
Paper/cardboard	68	62	71
Glass, Plastic, Aluminum, Tin	34	53	53
Total Recycled	102	115	126
Total Trash Disposed	273	312	292

Graph 2. Student Printing Counts (PaperCut software) by Month



'Sheet' refers to the number of pieces of paper.

'Pages' refers to the number of sides printed (i.e., double sided printing on 1 sheet of paper = 2 pages).

Sustainability Education (Derek Larson, Stephanie Pinkalla)

Vision: CSB will work to develop an education initiative, including faculty, staff, students, and the community that systematically builds understanding of sustainability and implementation of sustainable processes; a curriculum that broadly infuses sustainability across disciplines so that CSB graduates have a basic knowledge of the important role sustainability plays in their chosen profession.

Goals:

- 1. Provide annual sustainability-related professional development opportunities for staff beginning in 2012.**
 - a. Four-session discussion course on sustainability offered over lunch hour in spring 2012. 4 attendees.
 - b. Partnering with the library, a campus-wide book discussion group on *Enough: Why the World's Poorest Starve in the Age of Plenty* by Roger Thurow and Scott Kilman was held in the spring 2012 (overlaps with Food and Dining and Responsible Consumption).

- c. Partnering with Environmental Studies and the library, a second book discussion group was held in the fall 2012 using *Food Politics* by Robert Paarlberg (overlaps with Food and Dining and Responsible Consumption)..
2. **Faculty development opportunities ins sustainability will be offered annually.**
 3. **Institutionalize the “Blue Stem Project,” modeled on the Ponderosa and Piedmont Projects for faculty training in the inclusion of sustainability in course curricula.**
 - a. Blue Stem Project faculty training occurred in March 2012. Assessment for participants in process. An estimated 9 faculty have incorporated sustainability of some sort into course work.
 - b. No one to continue this program as Derek is going on sabbatical.
 4. **Students will have the option to achieve a sustainability certification as part of their academic experience by the 2015-16 academic year.**
 - a. ILCP online course completed and now available for students.
 - b. No progress from academic side.
 - c. Steady increase in student requests for assistance on research projects: 15 during 2011-12, 24 during 2012-13.
 - d. Steady increase in number of internships and disciplines for which those internships are fulfilling requirements; environmental studies, global business, biology, management, communication, peace studies.
 5. **20% of professors are offering sustainability-related content in their courses by the 2015-16 academic year.**
 - a. Work to compile syllabi for sustainability related courses.
 - b. Steady increase in requests for presenting in classes in a variety of disciplines: 5 during 2011-12, 9 during 2012-13.

FY14 Focus: Partner to develop a faculty reading/discussion group on sustainability. Investigate potential of having an interdisciplinary sustainability minor. Work with FYS professors to expand sustainability-focused course offerings to first year students.

Sustainable Facilities (Brad Sinn, Bridget Sitzler, Mary Beth Thompson)

Vision: CSB will operate energy efficient facilities, providing healthy indoor air quality for students, faculty and staff. This will include design and construction with the focus on ensuring buildings last 100 years, maximizing energy efficiency, promoting net zero energy consumption where possible, and utilizing renewable materials with the lowest impact and life cycle cost practicable.

Goals:

1. **Use of lifecycle analysis to guide new building construction and renovations.**
 - a. We do this informally on all renovations.
2. **Repurpose/reuse buildings wherever possible.**
 - a. Richarda has been converted from a dormitory to offices that now house the History Department.
3. **Reduce our dependence on fossil fuel by developing a renewable energy policy and installing some type of renewable energy system in all newly constructed buildings beginning in 2014.**

- a. Sebesta Blomberg hired to conduct a student of energy alternatives for campus. Cogeneration, micro turbines and wind power were identified as the most sustainable overall.
 - b. Currently working to draft a renewable energy policy which will guide decision-making on energy projects moving forward.
- 4. Maximize energy conservation through incentives and technology. Provide real-time energy use data to students, faculty and staff.**
- a. Installed variable frequency drives where possible.
 - b. The revolving loan fund was used to successfully complete two lighting projects (Clemens gym in 2011, campus wide lighting retrofit in 2012) with a combined annual savings of over 500,000 kWh. (Please refer to the Cost Savings from CSB Sustainability Initiatives, Table 2.)

FY14 Focus: Working in partnership with facilities, develop a renewable energy policy. Use this policy to inform and advise energy planning. Continue to implement best practices for sustainable building in renovations

Transportation (Mike Juntunen, Rich Wielkiewicz)

Vision: Zero carbon transportation within 10 years – including transportation between the two campuses.

Goals

- 1. Reduce consumption of fossil fuels and transportation-related greenhouse gas emissions, including business air miles, commuting, campus vehicles and the Link by 2% by 2018.**
 - a. Campus fleet inventoried.
 - b. Extensive research undertaken to identify the best option for bus replacement. Propane bus chosen. To be purchased in 2014.
 - c. Baseline will change with the implementation of the new 5 day schedule.
- 2. Reduce commuter CO2 impact.**
 - a. Method for calculating faculty and staff commuter miles inventoried based on zip code and assumptions of the number of trips.
 - b. WeCar program in place. ZimRide ride share program under consideration.

FY2014 Focus: Track and evaluate the effect of the 5 day schedule on The Link.