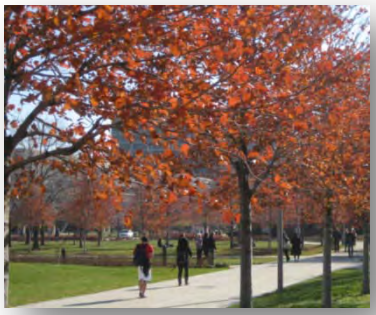
The Chancellor's Committee on

Sustainability and Energy



2010 Report

UIC UNIVERSITY OF ILLINOIS AT CHICAGO

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Executive Summary

This report seeks to fulfill several of the main charges of the Chancellor's Committee on Sustainability and Energy. Namely, this report outlines the projects and policies that the Chancellor's Committee on Sustainability and Energy considers to be of primary importance to the University. This report will also highlight progress and achievements that have been made towards a variety of sustainability initiatives across campus.

All of the recommendations represent actionable items that can be implemented within the near future or that would be especially beneficial towards the University's sustainability goals.

The overall recommendation of the CCSE is:

- **Approve the student green fee that was proposed to the Student Fee Advisory Council**

The subcommittee recommendations are as follows:

Grounds

- **Adopt the Tree Campus USA Program (Primary Recommendation)**
- Facilities and Athletics should develop a cost structure that incorporates sustainable maintenance practices
- Develop a policy that incorporates sustainable practices into parking lot projects

Transportation

- **Target areas to install secured bicycle parking (Primary Recommendation)**
- Install an E-85 fueling station
- Issue a car-sharing RFP
- Institute telecommuting or compressed work week policies
- Increase the use of teleconferencing
- Develop a green travel policy

Recycling and Waste Management

- **Expand the full recycling program to all buildings on campus (Primary Recommendation)**
- Maintain funding for a recycling coordinator
- Maintain investment in recycling operations
- Bring composting to campus, starting with the cafeterias

Energy and Utilities

- **Develop an Energy Master Plan with input from the appropriate entities (Primary Recommendation)**
- Develop a green building checklist and guidance documents

- Continue the Building Metering Project Initiative
- Develop a plan to utilize the University's Power Plants
- Develop a Water Management Plan.

With the various sustainability commitments that the University has made and goals that it has set for itself (reducing GHG emissions to 40% below 2004 levels by 2030, and 80% below 2004 levels by 2050) this report should serve as a beneficial tool for the University in prioritizing the projects that will help it meet these commitments and goals.

UIC has the opportunity to be a leader among the nation's colleges and universities. As a Charter Participant in the Association for the Advancement of Sustainability in Higher Education's (AASHE) Sustainability Tracking, Assessment, and Rating System (STARS), the University's progress towards these goals will not go unnoticed. Implementing these recommendations will convey a powerful message about this University's dedication to protecting the environment and meeting its sustainability commitments and goals.

Introduction

Climate change is recognized as one of the largest looming disasters facing us today. In response to this reality, the University of Illinois at Chicago developed the UIC Climate Action Plan, organized the Chancellor's Committee on Sustainability and Energy, and established the UIC Office of Sustainability to help the University move towards a more sustainable future.

The Chancellor's Committee on Sustainability and Energy first met in the spring of 2008. In fall 2009, Chancellor Paula Allen-Meares was presented with 134 recommendations from the eight subcommittees. In spring 2010, the CCSE reconvened with the charge of setting priorities, suggesting new initiatives and monitoring UIC's progress towards its sustainability goals. In addition, the CCSE is to assist with the preparation of reports for the campus climate commitments, and to help with the accountability of relevant sustainability initiatives. Finally, the CCSE is meant to help promote environmental awareness on campus. Since that charge was issued, the CCSE and its subcommittees have been working to fulfill those responsibilities.

The CCSE today consists of four subcommittees:

*** Indicates that this person is a subcommittee co-chair**

Grounds Subcommittee

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Associate Director of Facilities Management

Darlene Ebel*
Director of Facility Information Management

Genevieve Nano
Student

Jill Rothamer-Wallenfeldt
Director of Campus Programs

Paul Umbeck
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John Cuttica*
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Robert Rouzer
Executive Associate Director of Campus Auxiliary Services

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Visiting Director, Masters of Energy Engineering Program

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Student, Graduate Assistant: Office of Sustainability

Jill Rothamer-Wallenfeldt
Director of Campus Programs

The Subcommittees' Progress

After evaluating the UIC Climate Action Plan, the Chancellor's Committee on Sustainability and Energy 2008-2009 Report, UIC's Greenhouse Gas inventory and the state mandated Waste Reduction Plan; the subcommittees found themselves working with a list of over 130 individual sustainability recommendations. These recommendations range from very general activities like reaching out to students and carrying out feasibility studies, to very specific targets like achieving a recycling rate of 36% by December 31, 2020 (UIC CAP, Pg 36).

Since it would be impossible to simultaneously carry out each of the 130 or so recommendations, the subcommittees decided to take a systematic approach to evaluating the compiled list in an attempt to establish priority and secondary projects.

This process started in the spring of 2010 when the recommendations were first sorted and separated into individual spreadsheets according to the subcommittee that each recommendation was most suited for. Depending on the subcommittee, the number of individual project or policy recommendations ranged from about 20 to 50 for each group to evaluate.

The subcommittees began individually evaluating each of the recommendations in May of 2010. Meeting once a month, the subcommittees acted as forums for discussing each of the recommendations. Initially, the recommendations were discussed in very general terms. General issues, improvements, concerns, comments and suggestions were discussed within the subcommittees as a whole. This process was very valuable in gaining insight from a wide variety of subcommittee members, many of whom work directly in the areas of concern. The subcommittee discussions helped to gauge which recommendations had the potential to be successfully implemented, as well as identifying barriers to the implementation of others.

Towards the end of the summer, the subcommittee co-chairs, along with the Office of Sustainability, began to evaluate each recommendation against specific criteria. For example, for each recommendation the subcommittee co-chairs asked a variety of questions like:

- **Is it foundational?** Meaning does this project have to happen first in order for a number of other sustainability recommendations to take place?
- **Can existing staff run it?** This is to give an idea of the potential staffing costs of the recommendation
- **Is there an existing program that could run it?** As with the staffing question, this helps to give an idea of the added costs of implementing the recommendation.

Every recommendation was evaluated this way. Once this was complete, the subcommittee co-chairs were able to use the insights garnered from the evaluations, along with their own specific knowledge of the various recommendations' feasibility and resource needs to further analyze the recommendations. The subcommittee co-chairs, with input from the Office of Sustainability, then assembled a list of priority project or policy recommendations. Those recommendations form the basis of this report.

Overall Recommendations

Implement a student 'Green Fee'

UIC's students are ever more loudly demanding action on sustainability projects. This is not something unique to UIC, as students all around the country are insisting that their schools become greener and more sustainable. One way that students at other schools have demonstrated their commitment to sustainability is by approving dedicated student fees and using them to fund a wide variety of sustainability initiatives such as , but not limited to 'renewable energy purchases, hiring of sustainability staff…, green buildings, and the creation of funding bodies for sustainability projects.'[1]

For example, the students at the University of Illinois at Urbana-Champaign recently passed a referendum bringing that school's 'Green Fee' up to $14 per semester, giving the school approximately $1 million annually in student-allocated green fees.

With approximately 27,000 students on campus, if UIC instituted a 'Green Fee' of $5 per semester for each student the University could have a yearly budget of $270,000 that could be specifically dedicated to sustainability projects beyond what the University is already committed to carrying out. Students proposed implementing a green fee to the Student Fee Advisory Committee during Summer 2010 and the SFAC is currently developing its recommendations for the Vice-Chancellor of Student Affairs. The CCSE recommends that this fee be approved.

[1] Forrest, S. (2009, 02 19). *Accountability sought for campus energy use.* Retrieved from University of Illinois at Urbana-Champaign New Bureau: InsideIllinois: http://news.illinois.edu/ii/09/0219/energy.html

Recommendations by Subcommittee

GROUNDS

Highlights & Achievements

Green Roofs and Trees

In June, new green roofs were added to the 623 Education Performing Arts and Social Work Building Plaza and to the 618 Behavioral Sciences Building. There is also an existing green roof on the Art and Architecture Building. The plantings on the roofs will help to insulate the buildings, thus reducing their energy costs, and will soak up rain water, contributing to storm water management efforts on the campus.

In addition to the new green roof installation, a number of trees have been planted all over campus this year. 25 trees were donated by United Airlines employees and planted near the hospital facility on Taylor St. A new tree was planted by Siemens on the Harrison divider near the Pavilion and 20+ trees were planted by the City of Chicago along rights of way on Paulina, Hermitage and Wood Streets. Also, Facilities has planted 10 additional trees around campus this year. A demonstration native plants garden is thriving across from the hospital, as an example of what a small group of volunteers can do.

Figure 1

Volunteers from United Airlines planting trees on campus

New Opportunities to Volunteer

There is a potential 'Adopt a Garden' program taking seed that the Grounds Subcommittee is in support of. In this program, members of the campus community would volunteer some of their free time to care for various small garden plots that they would 'adopt' around campus. This would provide a nice way for the campus

community to be active and involved and to take pride in caring for a small planting on UIC's campus.

Native Plantings

The native planting around Lincoln Hall (pictured on page 11) are thriving and providing visual interest to the recently renovated building. This area provides more than just an aesthetic function though, as it requires much less energy to maintain than traditional turf grass and also helps with stormwater management.

Native plantings can also be seen near the UIC Hospital (pictured on the cover page) and the Student Recreation Facility.

Recommendations

Primary Recommendation

Adopt the Tree Campus USA Program

UIC has thousands of trees on campus that play a vital role in filtering pollutants from the air, reducing the urban heat island effect, providing habitat for wildlife, and increasing the aesthetic beauty of the campus. Trees are a vitally important asset to the campus environment and their importance and prominence on campus should be enhanced via a comprehensive guiding policy on tree care that not only sets goals for canopy coverage, but also guidelines for maintenance. The Grounds subcommittee has identified the Tree Campus USA program as an ideal vehicle for this and strongly recommends its adoption.

The Tree Campus USA program is organized by the Arbor Day Foundation and recognizes colleges and universities that implement urban forestry initiatives on their campuses. The Program recognizes schools that:

- Effectively manage their campus trees.
- Develop connectivity with the community beyond campus borders to foster healthy urban forests.
- Strive to engage their student population, utilizing service learning opportunities centered on campus and community forestry efforts.[2]

The UIC Climate Action Plan calls on the University to develop a Tree Care Program (UIC CAP, Pg 37). The adoption of the Tree Campus USA program would fulfill this and a laundry list of other recommendations that are actually Tree Campus USA program requirements. For example, as part of this program UIC would need to:

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[2] The Arbor Day Foundation. *Tree Campus USA.* http://www.arborday.org/programs/treeCampusUSA/index.cfm

- Verify and expand the current tree inventory to include girths, species, tree condition and historical trees. (UIC CAP, Pg. 35)
- Utilize the campus grounds as a resource for research, education and outreach at all levels. (CCSE 2008-2009 Report, Pg 46)
- Sponsor outreach and educational events that engage the community. (CCSE 2008-2009 Report' Pg. 46)

As stated in the UIC Climate Action Plan, there are over 5,100 trees on campus, but no comprehensive tree care plan. Adopting this program would allow the University to have a single initiative to guide a variety of urban forestry and tree care priorities.

The Office of Sustainability, in coordination with the Grounds Department will work to utilize student volunteers and class projects to implement this recommendation. The Office of Sustainability will strive to identify external funding sources for this as well.

Policy Recommendations

Facilities and Athletics should develop a cost structure that incorporates sustainable maintenance practices

The athletic fields are a valuable asset to the University. They not only provide a place for our school to compete in intercollegiate athletics, they also provide space for intramural sports teams and members of the community to get out and enjoy the benefits of physical activity. But, just as these fields are used intensively, they are also maintained intensively. On the other hand, current practices on the rest of campus generally involve minimal irrigation and no herbicide and fertilizer use.

The current operating budget that facilities works within does not allow for purchasing environmentally friendly lawn care products, or using other environmentally friendly practices. Facilities should evaluate how much it would cost to shift to using environmentally friendly products and practices. These cost considerations would then be taken into account when user fees are assessed so that users can benefit from more environmentally sound maintenance practices.

Develop a policy that incorporates sustainable practices into parking lot projects

Parking lots at UIC have a very large negative impact on the environment because they contribute to the urban heat island effect and divert run-off into the combined sewer-storm water system rather than returning it to Lake Michigan. At UIC there are approximately 43 acres of parking lot on campus. Any parking project should be seen as an opportunity to incorporate environmentally friendly materials and practices into the parking structure. This should include:

- **Planting trees and incorporating bioswales into parking lots**

  Trees are important because they help to reduce the urban heat island effect. They also absorb the carbon dioxide emitted from the cars that use the parking lots.

  Bioswales help to remove toxins from water that runs off of parking lot surfaces. They also reduce the speed and volume of storm water that flows into the city's storm sewers, allowing more water to naturally absorb into the ground.

- **Incorporating permeable pavements into parking lots.**

  Permeable pavements allow rain water to percolate through and absorb into the soil beneath it, rather than being diverted into the city's storm water system. This both supports the natural hydrology of the region and lessens the burden on the city's storm water system. Permeable pavements should be included in lot resurfacing projects.

Parking Services should create a policy that outlines its commitment to sustainable practices. This would entail laying out specific measures that will be taken in all Parking Services projects to incorporate sustainable practices into the lots, as well as an evaluation of the related costs.

Figure 2

Native landscaping around Lincoln Hall

TRANSPORTATION

Highlights & Achievements

Intracampus Shuttle

The CCSE 2008-2009 Report and UIC Climate Action Plan both outlined a number of recommendations that the Transportation Subcommittee has been working towards achieving. The greatest strides have been made in regards to the UIC Intracampus Shuttle service routes. The shuttle routes have been reorganized to create more direct routes between the campuses, to avoid traffic congestion and to provide more efficient service. Also, a real-time bus tracking program has recently been rolled out.

Alternative-Fuel Vehicles

Meeting federally mandated requirements; fleet management is continually integrating hybrid and other fuel efficient vehicles into the University's light duty vehicle fleet, thus helping to reduce carbon emissions. Since the CCSE 2008-2009 Report the fleet has gone from 12 to 17 CNG (compressed natural gas) vehicles, from 10 to 14 hybrid cars and, from 26 to 40 E-85 Ethanol vehicles.

Fleet Management

The Transportation subcommittee would like to develop and adopt a fleet management plan for the purpose of decreasing the overall number of vehicles, decreasing emissions, and promoting efficiencies campus-wide. Actions include:

- promoting options such as the CARS (Car Allowance Rebate Program), motor pool service, and vehicle sharing
- continuing to leverage trade-ins for newer, "cleaner" vehicles
- explore funding options such as CMAQ (Congestion Mitigation and Air Quality), Illinois Green Fleets, and other programs
- procure an E85 fueling tank to maximize use of vehicles already in the fleet

In addition, technology to further decrease emissions such as equipment to track idling and diesel filters will be assessed and incorporated as appropriate.

Bicycle Parking

There has also been an increase in the amount of bicycle parking around campus. Facilities has installed a number of new bicycle racks this year near CUPPA Hall and plans to install more near University hall, thus providing more convenient parking options for those who bike to campus.

Active Transportation

The Office of Sustainability continues to promote active modes of transportation for the campus. During Earth Month and Sustainability Week 2010, the Office of Sustainability sponsored a Transportation Fair where members of the campus community stopped by to learn more about bicycling and public transportation options on campus and in the Chicago region. Exhibitors included the Active Transportation Alliance, the Commuter Student Resource Center, Rapid Transit Cycleshop, ZipCar, I-Go, the CTA, and Mayor Daley's Bike Ambassadors.

Figure 3

Highly utilized bicycle racks at Grant Hall

Transportation Benefits

Campus Parking is moving the transit benefit registration to an on-line application through NESSIE (from Campus Parking's website) with an estimated launch of December, 2010. This change will enable users to sign up, revise deductions, and terminate the program directly on-line. By making the transit benefits program more flexible and accessible, people will be encouraged to use more sustainable modes of transportation, thereby fulfilling that recommendation from the last CCSE report.

On the backend, a system has been designed to manage the program which would make tracking, calculating, and monitoring deductions easier. The main benefit is that RTA users will no longer be restricted to set dollar amounts for their transit checks. They will be able to select the exact amount they need, which is the flexibility that the majority of users desire.

Travel Survey

The Office of Sustainability will soon be carrying out a second campus travel survey to assess the commuting habits of the campus community. This first survey was conducted in the Fall of 2008. The survey will ask questions regarding the mode of transportation used to travel to and from campus, how many miles people are traveling, as well as a number of questions regarding bicycle habits and needs, and several other campus transportation questions. The results will be used to calculate the environmental impact of the campus community's commuting habits.

Recommendations

Primary Recommendation

Target areas to install secured bicycle parking

There are some areas where UIC is powerless to improve the environment for cyclists commuting to and from campus. The University can do little about the weather in Chicago, or about the condition of the roads that cyclists will travel over to get to campus. However, the University does have great control over the type and condition of bicycle facilities once cyclists arrive on campus.

UIC has done much to increase the amount of bicycle parking available on campus. But, the threat of bicycle theft is still a big deterrent standing in the way of people who would like to ride to campus. There were 78 reported bicycle thefts at UIC last year (January – December, 2009). There have already been 72 reported bicycle thefts on campus this year. Considering that some people don't report bicycle thefts to the UIC police, the actual number of bicycle thefts on campus may be even higher. When the Office of Sustainability carried out a bicycle survey in 2009, one of the questions asked if secured bicycle parking would encourage people to ride to campus. 74% of the survey takers answered that access to secure bicycle parking would indeed affect their decision to ride to campus.

The 2010 UIC Master Plan recommends a number of immediate impact projects to increase the connectivity of the east and west sides of campus, including improving options for bicycling on campus. The Office of Sustainability and Facilities and Space Planning have been evaluating various options in consultation with users and

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departments regarding secure bike parking and bike sharing programs. In addition, several funding sources have been identified for these types of projects. We recommend that this work be continued to develop a secure bike parking program for the campus.

Install a Campus E-85 Fueling Station

UIC's fleet has continued to expand the number of alternative fuel vehicles on campus. In compliance with the federal requirement that 70% of new vehicle purchases be alternative-fuel vehicles, fleet management has been increasingly purchasing E-85 flex fuel vehicles.

Currently 40 vehicles out of the university's 167 light duty vehicle fleet are E-85 flex fuel vehicles. But, since there is no E-85 fueling station near the UIC campus, these vehicles are refueled with regular gasoline. Because they cannot be refueled with E-85 ethanol, these vehicles cannot contribute to a reduction in the University's use of non-renewable resources. With the addition of an E-85 fueling station, the University could put those vehicles to their intended use.

Issue a Car-Sharing RFP

Car sharing programs have been putting down roots on campuses across the country. In Chicago, Northwestern University, Loyola University, the University of Chicago and DePaul University all promote and provide information for students about car sharing programs on their websites. All of these universities have access to car sharing programs like I-Go, ZipCar or Hertz Carshare either on campus parking lots or near campus. There are a few carsharing vehicles in the area of the UIC campus, but not necessarily where they would be most useful to the campus population.

Car sharing programs help to reduce emissions, especially since they take unnecessary vehicles off the road. For example, I-Go, a Chicago-based non-profit car sharing company states on its website that each I-GO car replaces about 17 cars on the road. Plus many of the vehicles are hybrid or electric plug-in cars, even further reducing their environmental impact.[3]

UIC has been approached in the past about establishing a car sharing program on campus and the commitment to do so was also made in the UIC Climate Action Plan. The University should move forward on this goal by issuing a Request for Proposal. The RFP should be designed to create a no-cost or revenue-sharing program for the campus. Car sharing would make vehicles available to individuals and possibly

[3] I-Go Car Sharing. Member Benefits: Help the Environment. http://www.igocars.org/member-benefits/help-the-environment

departments for a membership and usage fee. The Office of Sustainability along with Parking Services and Fleet Management should be responsible for putting this together.

Policy Recommendations

Institute Telecommuting or Compressed Work Week Policies

Telecommuting, or working remotely, is an increasingly popular business practice in the United States. According to a report put out by the United States General Services Administration and the Telework Exchange, a public-private research partnership, there are a number of key benefits realized by telecommuting[4]:

- Decentralized work settings maintain continuity of operations (COOP) in the face of a natural disaster, terrorist attack, or other emergency situation.
- **Telework contributes to a greener environment by diminishing vehicle carbon emissions as a result of a truncated or nonexistent employee commute.**
- The job performance of teleworkers has been documented to either exceed or remain on par with that of workers in a traditional workplace arrangement.
- Telework increases personal freedom and flexibility, thereby improving morale and decreasing stress.
- A strong telework program improves employee retention and recruitment by increasing an employer's attractiveness in the current competitive job market.
- Telework accommodates persons with disabilities.
- Telework permits more time for employees to care for their loved ones.
- **Telework can enable reduced demand for office space as well as reduced facility operating costs.**

UIC should work with its Human Resources department to develop a working policy on telecommuting. This option should be accessible to all employees for which telecommuting is an appropriate work arrangement

Increase the use of Teleconferencing

Business related travel for meetings and conferences is a large expense that contributes a significant amount of Greenhouse Gasses into the atmosphere, especially air travel. Because of this, the UIC Climate Action Plan calls on the University to adopt alternatives to travel, like video or teleconferencing for both on and off campus meetings. ACCC should develop a plan to both promote teleconferencing, as well as train employees on how to use the technology available to avoid unnecessary travel.

[4] US General Services Administration and the Telework Exchange. "The Benefits of Telework." http://www.teleworkexchange.com/pdfs/The-Benefits-of-Telework.pdf

Develop a policy for 'Green Travel'

Face to face meetings and business travel will always remain realities at UIC, and are vital to the University's success. Because of this, the University should work to develop a 'Green Travel' policy. This could include buying carbon offsets for faculty and staff travel or encouraging the use of carpooling and Amtrak when travelling to Champaign-Urbana and Springfield. This could also entail developing a list of preferred 'green' hotels. A 'Green Travel' policy could help the university meet its travel needs in a more environmentally sound manner. The Office of Business and Financial Services would be the appropriate group to put this together

RECYCLING AND WASTE MANAGEMENT

Highlights & Achievements

Biodiesel Program

The Environmental Health and Safety Office plans to have its first batch of Biodiesel ready for Facilities Management to use to fuel one of its diesel vehicles. The program is using waste vegetable oil from the University of Illinois Medical Center kitchen and waste methanol from UIC research labs. The goal is to produce 100 gallons a week.

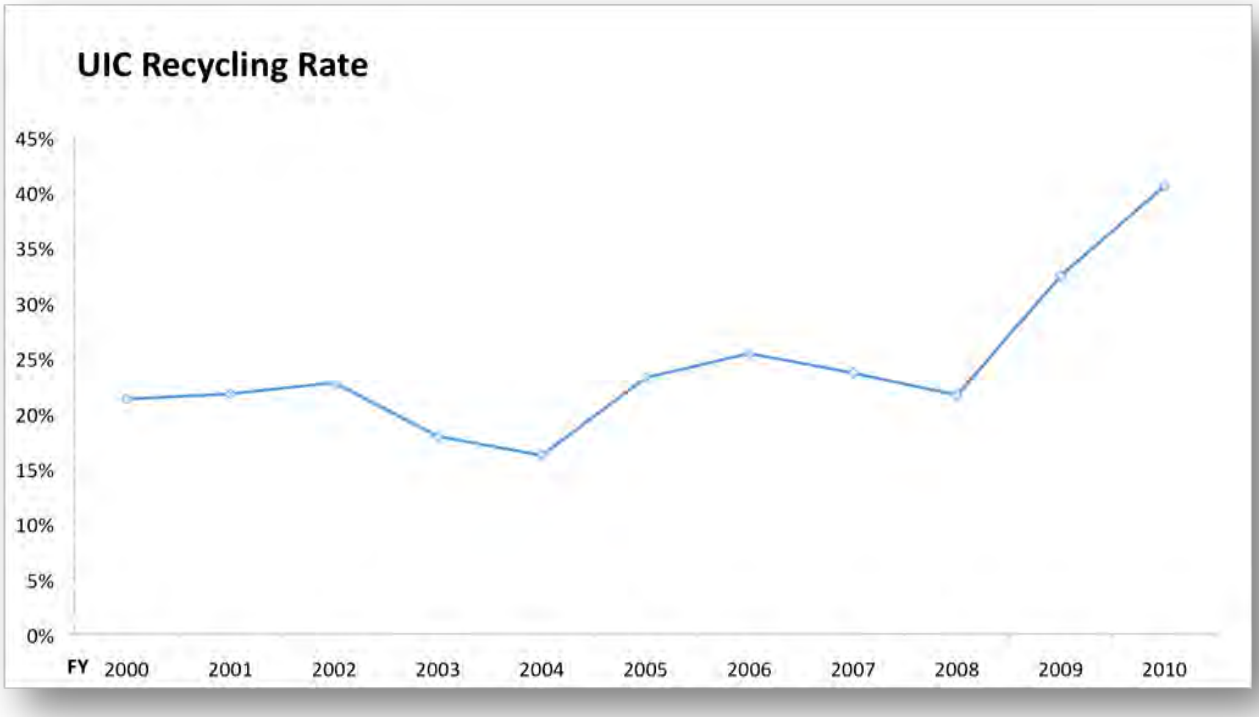
Overall Recycling Rates

The UIC Climate Action Plan and the CCSE 2008-2009 report both make a commitment to increase the campus' recycling rate to 36% by December 31, 2010. Happily, that goal has been met and actually exceeded. As of the end of October, UIC's recycling rate stands near 42%! This represents 3,000 tons of materials diverted away from local landfills!

As even further evidence of UICs reduced contribution to municipal landfills, this year only 4,500 tons of municipal solid waste was landfilled in FY2010, compared to 5,790 tons in FY2009. The total amount of waste generated was reduced by 900 tons.

Figure 4

This graph shows the recycling rate as a percentage of the total UIC Waste Stream.



Solvent Recycling Program

In 2009, UIC shipped off almost 40,000 pounds of solvent waste to be incinerated, with a majority of the solvent waste being generated in Chemistry, Medical Chemistry, and the Hospital Pathology lab. The Environmental Health and Safety Office has begun a pilot project to reclaim the waste xylene from the hospital and the waste acetone from the chemistry department. To date, a fractional distillation recovery machine has been installed in chemistry with two organic synthesis labs sharing the machine to reclaim their spent acetone. With this machine, the labs are diverting over 1,000 gallons of waste per year and saving over $8,000 in chemical costs.

First Education Fair Held at Hospital

The Hospital's 'Practicing Green Healthcare' Team hosted its first annual Education Fair on April 21, 2010. Several hundred staff, faculty, and visitors attended this program.

Recommendations

Support and Expand Recycling Across Campus

Primary Recommendation

Expand the full recycling program to all buildings on campus

The UIC campus has over 100 buildings. The Office of Sustainability has been consistently expanding the recycling program to cover most of those buildings and more resources are needed to bring the full recycling program to 100% of campus buildings and maintain it at a high level of performance. In order to achieve this, the Transportation Department would need to continue its commitment to purchasing the necessary equipment with the assistance of the Office of Sustainability, as well as apply for grants and continue to seek new resources.

Maintain funding for a Recycling Coordinator

The Recycling Coordinator plays a vital role in supporting recycling operations on campus. Currently, the person functioning as Recycling Coordinator at the Office of Sustainability handles the day to day operations of the recycling program in 88 campus buildings. The coordinator also works with two undergraduate student employees who help to support recycling activities. The Recycling Coordinator must work with building managers, individual departments, divers who will transport the materials, and various other entities while carrying out recycling operations. UIC should continue to provide funding for a full-time equivalent recycling coordinator.

Maintain investment in recycling operations

UIC has greatly expanded recycling operations on campus and it is important that the commitment to recycling be maintained. The recycling program would not be able to thrive without the university's continued support. Looking back at UIC recycling performance rates over the last 10 years, there is a marked decrease in recycling rates during times of university divestment from the program, which precipitated a decrease in recycling promotion and recycling collection.

The recycling program brings in revenue to the campus through the sale of recycled paper and scrap metal at rates that are market-dependent. There is indication that other commodities such as recycled bottles and cans could provide a revenue stream. Along with the avoidance of landfill tipping fees, currently $42.50/ton, the recycling program has the potential to offset a lot of its costs. However the maintenance of this program does require investment in vehicles and equipment such as the rear-end packer used for collection, recycling and waste bins, totes, and waste collection carts

Cafeteria and Food Service Recommendations

Bring composting to campus, starting with the cafeterias

Composting is an excellent way of diverting the food waste generated by campus cafeterias and turning it into a beneficial input that can be used, for example, in campus landscaping areas. Not only is it beneficial to the campus, both reducing our waste generated and our need for chemical fertilizers, it is no longer a very difficult task to accomplish.

Sodexo, one of UIC's current food service providers, is helping several of its campus clients become waste neutral in their food service provision. For example, Sodexo client Georgia Tech launched a program that diverted 146 tons of food waste from local landfills through composting. According to the Sodexo website, the company and the university are working together to reduce the school's food related carbon footprint by 26%[5]

UIC has committed to a very ambitious goal of reducing the school's Greenhouse Gas emissions by 40% by the year 2030. This goal is unachievable without a composting program on campus. UIC should work with its food-service providers, Sodexo and US Foodservice to begin bringing composting programs to campus.

The Student Centers Board is interested in piloting a composting program on campus. A faculty member is proposing to develop a senior engineering project on anaerobic

[5] Sodexo USA. (2010, 06 04). *Sodexo Helps Clients Earn Sustainability Distinction.* Retrieved from http://www.sodexousa.com/usen/newsroom/press/press10/sodexosustainabilitydistinction.asp

(no-oxygen) composting that would produce methane gas that could be used to run a small boiler. With the passing of Illinois Senate Bill 99, smarter regulations for commercial composting make it economically attractive for investors to start up centralized commercial operations. This would provide off-site options for composting. Whether on-site or off-site, UIC should begin to compost its food waste.

ENERGY AND UTILITIES

Highlights & Achievements

Building Energy Metering Initiative

Energy savings projects are underway at UIC. All of the buildings on the East Campus that were scheduled to have energy meters installed have done so, and their energy usage data is now being tracked. Data from this metering will be used as an energy monitoring tool in the future. By the end of this year, all of the buildings on campus that were scheduled to have meters installed should be operational. Once commissioning is complete, it will be possible to utilize data to increase energy awareness, fine tune building systems, identify energy inefficiencies, calculate projected savings, and measure the success of energy efficiency programs.

Shadow Billing

The full rollout of the shadow billing program is imminent. Utilities, Physical Plant, Facilities Information Management and the Office of Sustainability have worked together to produce a prototype 'bill' that will be distributed at the college level beginning in December 2010. An Energy Policy will also be released at this time. This system will be tied into the new metering system following commissioning. These shadow bills will increase awareness on the part of the 'users' as to their energy consumption. Further, these systems will allow for incentivizing the users through the allocation of incremental utility cost increases to the units under the space economy plan.

Figure 5

An example of the shadow bills that will be distributed

Utilities Shadow Billing *(generated on Mon Oct 04 17:16:31 CDT 2010)*

College : Liberal Arts and Sciences (FT)

Month : May 2010

Applicable Utility Rates

Electricity	0.0675	$/KWH
Gas	0.74	$/Therm (average)
High-temperature Water	13.75	$/MMBTUs
Chilled Water	16.51	$/MMBTUs
Water	15.0	$/MCF
Sewer	86.0 %	of water rate
MSD	0.66	$/Mgal (average)
Steam	23.07	$/Mlbs

Building No	Building Name	Percent of Building Usage Billed	Utility Usage for the Period: Electricity (KWH)	Gas (Therms)	High-temperature Hot Water (MMBTUs)	Chilled Water (MMBTUs)	Water (MCF)	Sewer	MSD (Mgal)	Steam (Mlbs)
601	University Hall	50.66 %	187,659	0.000	730.01	688.98	46.84	-	350.4	0.00
607	Science & Engineering Laboratory East	47.77 %	436,317	35.668	706.04	1,005.56	71.18	-	532.5	0.00
612	Grant Hall	71.43 %	48,788	0.000	29.57	17.25	0.00	-	0.0	0.00
618	Behavioral Sciences Building	64.7 %	68,654	30.030	403.73	326.09	1.29	-	9.7	0.00
619	Science & Engineering South	76.88 %	953,514	2.327	2,203.38	3,283.54	144.53	-	1,081.3	0.00
621	Roosevelt Road Building	.46 %	142	0.000	0.00	0.00	0.02	-	0.1	0.00
623	Education, Performing Arts & Social Work	2.99 %	6,462	0.091	18.54	20.42	0.45	-	3.4	0.00
627	Stevenson Hall	25.26 %	3,831	0.000	0.00	10.36	0.00	-	0.0	0.00
631	Science & Engineering Offices	44.73 %	70,638	0.000	308.64	261.67	12.08	-	90.4	0.00
635	Plant Research Laboratory	100 %	7,750	2,926.100	0.00	0.00	6.27	-	46.9	0.00
919	Molecular Biology Research Building	22.58 %	280,618	0.000	0.00	0.00	31.39	-	234.8	783.75
972	Lattin Warehouse Building	.46 %	126	4.363	0.00	0.00	0.07	-	0.5	0.00
		Usage Totals	**2,064,500**	**2,998.578**	**4,399.91**	**5,613.87**	**314.12**	**-**	**2,349.9**	**783.75**
		Utility Charges this Period	**$180,643.83**	**$2,150.99**	**$60,498.74**	**$103,912.68**	**$4,711.73**	**$4,052.08**	**$1,850.32**	**$18,081.15**

Total Utility Charges: $375,901.53

Renewable Energy on Campus

Another encouraging step forward has been the success of the photovoltaic panels that were installed on top of Lincoln Hall. The Solar Photovoltaic (PV) Array on the roof of Lincoln Hall has been fully operational since the beginning of the year. When they were installed, the panels were expected to produce 59 MWh of energy per year. As of early November, the panels have produced 59.1 MWh of energy; that means by the end of the year the PV Array will be performing above expectations.

The geothermal heating and cooling systems in Lincoln and Grant Halls are another renewable energy success for the campus. Even under the extreme heat and cold conditions experienced over the past year, the building temperature was comfortably maintained in these buildings throughout the year without supplemental heating and cooling from UIC's central system. This is in contrast to previous conditions of overheating or cooling particularly during the shoulder months.

Outreach

The Office of Sustainability is working on a number of outreach initiatives related to energy conservation including Sustainability Week's 'Conserve Energy Day,' the 'Sustainability Lunch & Learn' series, and distribution of "Please Turn it OFF" stickers for light switches. Long term goals include an on-line dashboard, accessible via the Office of Sustainability's website, where people can see how much energy individual campus buildings are using.

Figure 6

Solar PV on top of Lincoln Hall

Recommendations

Primary Recommendation

Develop a UIC Energy Master Plan with input by the appropriate entities

There is already a great effort underway to examine the University's energy usage, and there are a few groups in particular who are taking a very close look at the current energy situation as well developing strategies for the future. The POWER (Plant Operations, Waste and Energy Reduction) Group, Cynthia Klein-Banai, Vy Milunas, David Miller, Rich Anderson, Clarence Bridges, Jeff Barrie, Fernando Howell, Pablo Acevedo, Waleed D'Keidek and Rob Rouzer recently recommended a proposed UIC Energy Policy that was subsequently approved by Provost Tanner and Vice-Chancellor Donovan. This document will provide a good starting point for a larger Energy Efficiency Master Plan.

The POWER Group, with assistance from the Energy Resources Center, or a consultant, should develop an Energy Master Plan for the University. The plan would need to address the supply (plant) side as well as the demand (building) side.

This plan would be used as a tool to help UIC achieve its desired energy goals. Specifically, UIC has a renewable energy portfolio goal of having 25% of purchased electricity be from renewable energy sources by 2025, with incremental increases being achieved prior. Also, UIC's stated goal in the Climate Action Plan is to reduce its carbon footprint to 40% below 2004 levels by 2040. An Energy Master Plan would be a valuable tool to achieve these goals and to guide future growth.

Develop a green building checklist and guidance documents

A green building policy was incorporated into the Energy Policy. This meets UIC's commitments under the ACUPCC and the Illinois Sustainable University Compact. It states:

> In accordance with the UIC Building Standards and UIC Climate Action Plan, future new construction, remodeling and renovation projects of $5 million or greater shall meet the current Leadership and Excellence in Environmental Design (LEED) NC standard, or the most applicable standard of the LEED Family and be certified at the Silver level or better. New construction, remodeling, and renovations totaling less than $5 million should comply with the LEED Silver requirements to the greatest extent practicable, including those credits UIC requires as mandatory, as they appear in the UIC building standards.

We recommend that the Office of Capital Programs reviews their building standards and develops a checklist and guidance documents that will facilitate the application of this policy to campus projects. The Small Projects group in Facilities Management is developing a check-list based on LEED for Interiors.

Continue the Building Metering Project Initiative

The UIC Energy Policy states that by the end of 2010, 23 state-owned buildings representing an estimated 80% of the school's total energy consumption should have their energy meters installed. The UIC campus has over 100 buildings, 82 of which are owned by the State of Illinois. The age of these buildings span over 100 years and each has their own energy characteristics. It is important that UIC not only achieve the energy metering goal for this year, but also continue to implement metering for as many buildings on campus as feasible. As the initiative progresses, the University will be able to take an increasingly granular look at opportunities to reduce energy consumption, to track progress towards energy reductions goals, and to more effectively respond to building energy usage.

Develop a plan to utilize the University's Power Plants

The University has a great asset in its combined heat and power plants. The power pants use natural gas, as opposed to coal and oil, resulting in lower emissions for the campus. These plants allow UIC to efficiently cogenerate both heat and electricity, which can reduce overall campus energy costs. Also, UIC-owned natural gas cogeneration can be cleaner than purchasing electricity from coal and oil fossil suppliers. Utility Operations, the Energy Resource Center, and any other appropriate entities should further develop an ongoing plan to utilize UIC's power plants in order to achieve the full potential benefits of this significant and worthwhile investment.

Develop a Water Management Plan

The UIC Climate Action Plan calls on the University to conserve water, and the school has made strides in achieving reductions. Low-flow toilets have been installed in many places around campus, and University personnel have developed operations and maintenance programs to help reduce water consumption in central plant and building chillers. Condensate return rates from the buildings to the central steam plant have also been improved. These programs should continue and additional programs should be implemented to further reduce water consumption.

UIC should assemble a team to develop a system to evaluate the University's total water usage, and then design a Water Management plan that would take into account not only plant and building water usage, but also water used for irrigation, as well as the University's storm water diversion rates.

Non-CCSE Reporting

PURCHASING

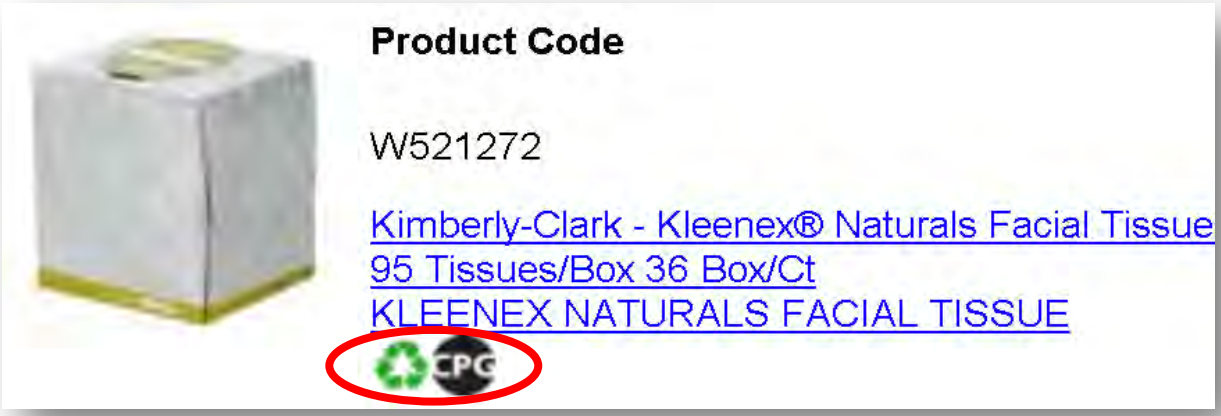
The Purchasing Department has been working to direct attention to sustainable purchasing initiatives on campus. The Purchasing Department is making green purchasing apparent and accessible to the UIC campus, and highlighting 'green' products within the iBuy system. For example, within the Office Max purchasing window, green recycling icons indicate products that use recycled materials. The department is also looking into the possibility of generating a 'green purchasing report' for the campus, using procurement data from iBuy.

Furthermore, the Office of Business and Financial Services will be updating information on 'The Source' to include information about green procurement. The Source is a website designed to allow people to connect to University contracted vendors easily to find the products and services they need at a better value. Highlighting ‘green’ vendors or contractors would make is even easier for people to make more sustainable purchasing decisions.

The Purchasing Department will be establishing a green purchasing task force that will work to develop green purchasing policy. This is slated to happen in FY 2012 and will fulfill one of the recommendations from the CCSE 2008-2009 report.

Figure 7

An example of a preferred green product being flagged on the Office Max website accessed via iBuy. It is flagged with a green recycling symbol to show that the product uses recycled materials, and a black circle with the letters ‘CPG’ indicating that it is an EPA Comprehensive Procurement Guideline item. For more information on CPG items go to: http://www.epa.gov/epawaste/conserve/tools/cpg/index.htm



Conclusion

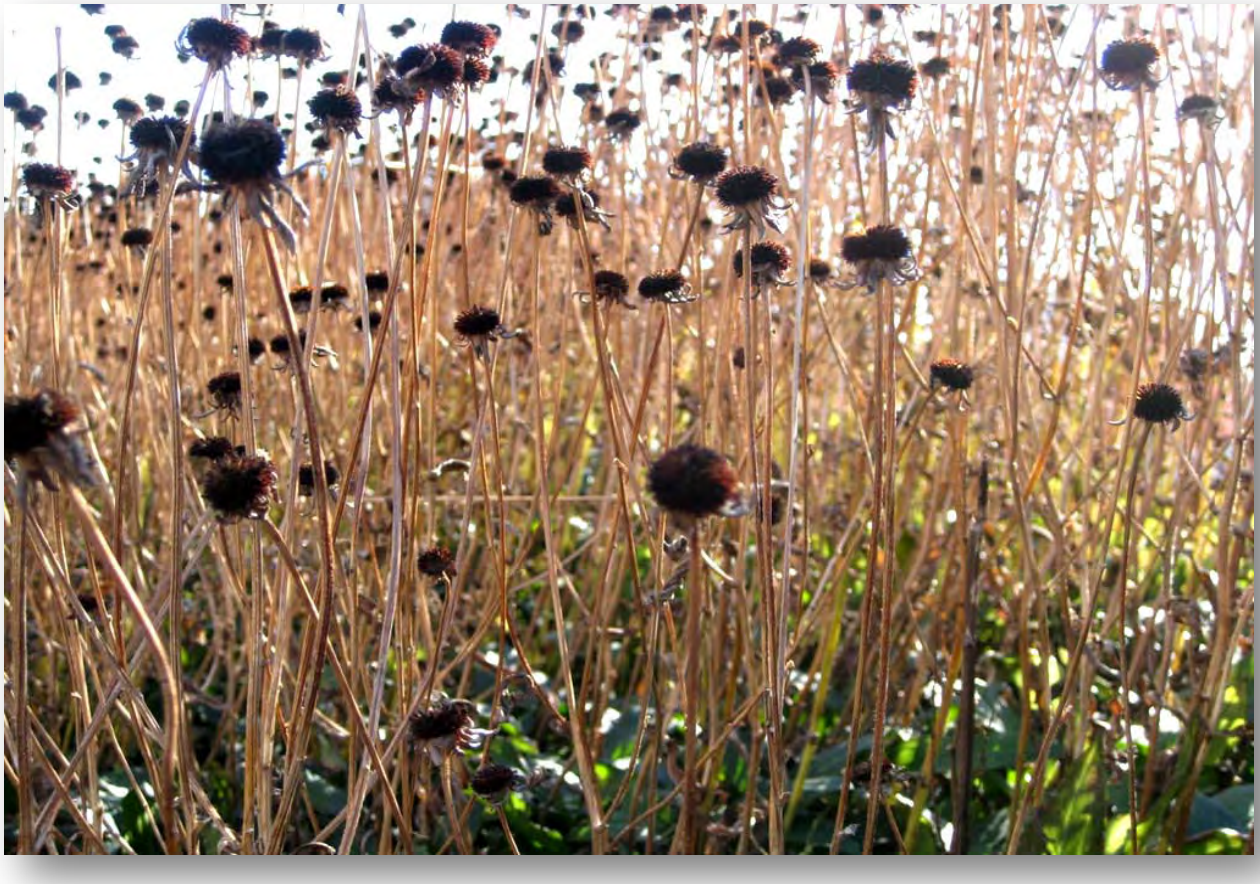
UIC has set admirable goals for itself when it comes to carbon neutrality and sustainability. The goal to reduce GHG emissions to 40% below 2004 levels by 2030, and 80% below 2004 levels by 2050 is very lofty, but also attainable as long as the University maintains its commitment to sustainability.

In 2008, the University was a pilot test site for the Sustainability Tracking, Assessment, and Rating System (STARS) that is being developed through the Association for the Advancement of Sustainability in Higher Education (AASHE). Now UIC is a Charter Participant for STARS V1.0 with reporting due in January. This is a benchmark that goes beyond GHG emissions. It allows UIC to track its progress and compare itself to other universities.

With the dedication of staff and optimization of financial resources in these efforts, UIC can become a sustainability leader among the nation's colleges and universities, and reap the financial benefits of an integrated sustainability program.

Figure 7

Native plantings provide fall interest outside of University Hall



Appendix A: Project Prioritization Matrix

The Project Prioritization Matrix (PPM) was developed as a way to visualize and individually review a number of recommendations. These recommendations were pulled from several guiding documents:

- The UIC Climate Action Plan (UIC CAP)
- The Waste Reduction Plan (WRP)
- The CCSE 2008-2009 Report

The origin of each individual recommendation is noted in parenthesis after each recommendation.

There are 4 major sections within the PPM, one for each subcommittee. Each subcommittee is given a unique color, to make reading the PPM easier:

- Energy and Utilities
- Grounds
- Recycling and Waste Management
- Transportation

Each subcommittee as a whole evaluated all of the recommendations applicable to that particular subcommittee. Each recommendation was discussed in the hopes of identifying possible overlap with other subcommittees, possible barriers to implementation, and any isses or ideas that might be of use in implementing the recommendations.

Then the subcommittee co-chairs, with assistance from the Office of Sustainability once again evaluated the PPMs and for each recommendation, asked a series of questions that required a yes or no response:

- Is it foundational?
- Is it already funded?
- If it isn't already funded, is there a good possibility that it could be funded either through an existing budget or with an upcoming grant?
- Is the necessary data collection easy?
- Is the data collected easily automated?
- Is it already scheduled to happen?
- Is there an existing program that could run it?
- Can existing staff run it?
- Have all contracting issues resolved?
- Have all legal issues been removed?

This process resulted in a narrowed down list of recommendations that seemed to have the most beneficial impact, or which could be easily implemented, or both. The subcommittee co-chairs, along with assistance from the Office of Sustainability were then able to develop the list of priority project recommendations that make up the contents of the November Report.

This process helped the CCSE subcommittees to objectively evaluate a rather unweildy list of over 130 project and policy recommendations and turn them into a more manageable group of 19 focused priorities.

This list will be continually revisisted, and as opportunities and resources become available in order to continue forward momentum towards completing all of the recommendations laid before this University.

	Category	**Recommendation** (Suggested Action / Description)
Energy and Utilities Subcommittee		
1	LEED Policy	LEED Buildings, establishing green building standards. (UIC CAP Pgs. 5, 25)
2	Shadow Billing	Establish a shadow-billing system as an awareness tool for colleges (UIC CAP Pg. 22, CCSE Report Pgs. 3, 10)
3	Energy Conservation Campaign	Develop incentives for energy conservation at the college or department levels, colleges, individuals to conserve energy. (UIC CAP Pg. 45, CCSE Report Pgs. 3, 10)
4	Energy Conservation Campaign	An energy reduction/conservation campaign. Initiative "would start with a specific, well publicized target reduction goal" (UIC CAP Pg. 26)
5	Data Evaluate/Collect /Monitor/Report	Monitor progress of energy conservation and renewable energy mitigation strategies in UIC's Climate Action Plan (CCSE Report Pgs 3, 10)
6	Data Evaluate/Collect /Monitor/Report	Monitor Power Plants (cogeneration) - eCo2 yearly (UIC CAP Pg. 50)
7	Data Evaluate/Collect /Monitor/Report	Monitor other on-Campus Stationary - eCo2 yearly (gas consumption at the individual building level) (UIC CAP Pg. 50)

8	Data Evaluate/Collect /Monitor/Report	Monitor Purchased Electricity - eCo2 yearly (UIC CAP Pg. 50)
9	Data Evaluate/Collect /Monitor/Report	Monitor Electricity consumption (UIC CAP Pg. 24)
10	Data Evaluate/Collect /Monitor/Report	Monitor Water consumption (UIC CAP Pg. 24)
11	Data Evaluate/Collect /Monitor/Report	Carry out Energy Audits (UIC CAP Pg. 19)
12	Data Evaluate/Collect /Monitor/Report	Create baseline that considers factors such as indoor air quality and temperature (UIC CAP Pg. 19)
13	Data Evaluate/Collect /Monitor/Report	Create a baseline data doc for evaluating energy projects (UIC CAP Pg. 19)
14	Retrofit Program	Installing programmable or setback thermostats (Building Automation System, Climate Controls) (UIC CAP Pg. 20)
15	Retrofit Program	Metering buildings (UIC CAP Pg. 21)
16	Retrofit Program	Lighting Upgrades (UIC CAP Pg. 23)
17	Retrofit Program	HVAC project (UIC CAP Pg. 23)
18	Retrofit Program	Occupancy Sensors (UIC CAP Pg. 23)
19	Retrofit Program	Energy Performance Contracting (UIC CAP Pg. 224)
20	Retrofit Program	Install Low-Flush Toilets (UIC CAP Pg. 25)
21	Retrofit Program	Improving building insulation, using low-emmitance coatings, etc to prevent winter heat loss and summer heat gain (UIC CAP Pg. 24)
22	Retrofit Program	Green roofs & reflective roof coatings will be utilized (UIC CAP Pg. 25)
23	Utilities	Purchasing electricity from a renewable electricity provider (UIC CAP Pg. 29)
24	Utilities	Modify power plants to use potential gasification choices or biogas (UIC CAP Pg. 27)
25	Feasibility study	Evaluate the PV on Lincoln Hall to see if it is feasible for the rest of campus (UIC CAP Pg. 27)
26	Feasibility study	Evaluate geothermal for Stevenson, Jefferson and Henry Halls (UIC CAP Pg. 28)
27	Feasibility study	Research wind speed and direction at numerous sites on campus (UIC CAP Pgs. 27-28)

28	Feasibility study	Research and develop new types of turbines that can utilize urban wind (UIC CAP Pgs. 27-28)
29	Feasibility study	Collaborate with other University of Illinois campuses or universities to develop and build our own renewable energy resources - utilize net aggregate metering by interconnecting locally. (UIC CAP Pgs. 27-28)
Grounds Subcommittee		
30	Tree care	Adoption of urban forestry program, such as Tree Campus USA (CCSE Report Pgs. 44-45)
31	Tree care	Develop a tree care program (UIC CAP Pg. 37)
32	Data Evaluate/Collect /Monitor/ Report	Verify and expand the current tree inventory to include girths, species, tree condition and historical trees (UIC CAP Pg. 35)
33	Education/ Outreach	Utilization of the campus grounds as a resource for research, education and outreach at all levels (CCSE Report Pg 46)
34	Education/ Outreach	Sponsor outreach and education events that engage community and support long term strategies (CCSE Report Pg. 46)
35	Funding	UIC should explore the possibility of obtaining funds for activities such as quarterly information sessions to educate employees - staff training sessions on sustainable grounds (CCSE Report Pg. 48)
36	Staff	Hire a grounds coordinator to manage sustainable landscape initiatives (CCSE Report Pg. 48)
37	Stormwater	Capture stormwater onsite, rain barrel or cisterns (CCSE Report Pg. 48)
38	Stormwater	Capture stormwater from parking lots or driveways with rain gardens or bioswales (UIC CAP Pg. 34)
39	Data Evaluate/Collect /Monitor/Report - stormwater	Monitor stormwater runnoff (does this entail estimating/ calculating/ observing?) (UIC CAP Pg. 34)
40	Irrigation/Storm water	Reduce/eliminate irrigation (UIC CAP Pg. 34, CCSE Report Pg. 49)
41	Irrigation	Plant suitable species for our climate to reduce/eliminate irrigation (UIC CAP Pg. 35)
42	Irrigation	Use stormwater or grey water for irrigation (UIC CAP Pg. 34)
43	Data Evaluate/Collect /Monitor/Report	Investigate how much water is used for irrigation and estimate how much water use could be reduced by (calculation - see above) (UIC CAP Pg. 34)
44	Pest management	Implement integrated pest management program in place of chemical fertilizer and herbicide programs (CCSE Report Pgs 5, 14, UIC CAP Pg. 34)
45	Green roofs	Utilize green roofs (stormwater, energy) (UIC CAP Pg. 25)

46	Pavement	Permeable pavement (UIC CAP Pg. 34)
47	Data Evaluate/Collect /Monitor/Report	Develop an inventory of equipment used in grounds/transportation in order to measure GHG - does not include fleet - other equipment
Recycling and Waste Management Subcommittee		
48	Recycling Goal	Will achieve a recycling rate of 36% by December 31, 2010 (CCSE Report Pg. 4, UIC CAP Pg. 36)
49	Expand Recycling	Continue to Expand the comprehensive bottles, cans, paper and cardboard recycling program on campus. Install 20 buildings by 2012 and have the entire campus installed with the UIC Recycling Program by the end of 2012 (CCSE Report Pg. 4, WRP Pg. 25, UIC CAP Pg. 36)
50	Expand Recycling - Hazardous Waste	Expand the hazardous waste system, this will include analysis evaluating recycling efforts specifically related to the laboratory environment (UIC CAP Pgs. 38-39)
51	Expand Recycling - Solvent	Expand the EHSO solvent recycling program - especially for acetone. (UIC CAP Pgs. 38-39)
52	Expand Recycling - Chemical redistribution	Expand the EHSO chemical redistribution program (UIC CAP Pg. 39)
53	Expand Recycling	Equip students' rooms with recycling bins and increase the number of central collection containers in hallways of student resident centers (WRP Pg. 25)
54	Expand Recycling	Continue to secure funding and pursue grant opportunities in order to continue to Expand the UIC Recycling Program (WRP Pg. 25)
55	Expand Recycling	Hire additional staff to monitor an expansion of the UIC Recycling Program (WRP Pg. 25)
56	Expand Recycling	EHSO acquire a chemical inventory database system that will help researchers better manage their chemical inventory and prevent them from purchasing unneeded supplies. (WRP Pg. 16)
57	Expand Recycling	Expand recycling on South Campus, especially target cardboard, and outdoor collection. Coordinate students to assist with outreach to the business to evaluate their interest and needs. (WRP Pgs. 9, 25)
58	Expand Recycling	Conduct cost analysis on Expanding the collection of plastic, include analysis of whether single-stream recycling strategy would be beneficial in certain areas, this should be done by the end of 2010. (WRP Pg. 25)
59	Establish Green Lab Committee	The Environmental Health and Safety Office should establish a Green Laboratories Committee to examine waste reduction, recycling discarded materials, energy conservation, and chemical disposal (CCSE Report Pg. 4 UIC CAP Pg. 39)
60	Data Evaluate/Collect /Monitor/Report	Monitor Solid Waste - eCo2 yearly (WRP Pg. 3, UIC CAP Pg. 36)

61	IT Waste Reduction	Encourage waste conservation through electronic modes of communication (e.g. advocating two sided copying and recommending the default setting on printers be set at duplex) (UIC CAP Pgs 36, 40)
62	Bio-fuel	Collect and convert vegetable oil from dinning services into fuel. Biodiesel program live by 2010 (The system will process appro1imately 90 gallons a week of vegetable oil, mostly from the hospital kitchen, into biodiesel. This will then be transported to the Transportation Facility where it will be mi1ed into the 10% biodiesel they use to fuel their trucks and make 20-25% biodiesel) (WRP Pg. 16, UIC CAP Pg. 38)
63	Training	Continue training buildings service workers and buildings occupants regarding UIC Recycling Program. Includes info on scrap metal recycling. (WRP Pg. 9)
64	Composting	Implement a pilot composting project on campus - both on and off campus. Pilot in-vessel pre-consumer food-composting on campus to evaluate the feasibility of composting on site and using the compost for landscaping purposes. (CCSE reports Pgs 4, 12, 48, WRP Pg. 24)
65	Composting	Conduct a feasibility study summer of 2009 to evaluate composting both on and off campus. (CCSE reports Pg 4, WRP Pg. 24, UIC CAP Pg. 48)
66	Composting	Obtain funding for composting pilot. (CCSE reports Pgs 4, 12, 48, WPR Pg. 24)
67	Waste Reduction Campaign/ Education	Departments should participate in toner recycling programs (UIC CAP Pg. 39)
68	Waste Reduction Campaign/ Education	Departments should implement recyclable packing requirements (UIC CAP Pg. 40)
69	Waste Reduction Campaign/ Education	Use campus newspapers to promote UIC Recycling Initiatives (WRP Pg. 9)
70	Waste Reduction Campaign/ Education	Promote recycling at student orientation (WRP Pg. 9)
71	Waste Reduction Campaign/ Education	Develop an ongoing outreach program for the UIC Recycling Program (WRP Pg. 9)
72	Waste Reduction Campaign/ Education	Create a campus-wide education and outreach campaign and collection capabilities to recycle toner and ink jet cartridges. (WRP Pg. 25)
73	Waste Reduction Campaign/ Education	Reduce disposables used by individuals and departments (UIC CAP Pg. 36)

74	Waste Reduction Campaign/ Education	Encourage units, departments, colleges to establish "green teams" (e.g. Vice Chancellor for Research's green team, UIC medical center's Practicing Green Healthcare Team) (UIC CAP Pg. 36)
75	Waste Reduction Campaign/ Education	Purchase biodegradable alternatives instead of non-recyclable to go containers (UIC CAP Pg. 37)
76	Waste Reduction Campaign/ Education	Coordinate students and student groups such as the Green Youth Movement, Student Centers Board and Ecocampus to promote recycling and waste reduction (WRP Pg. 26)
77	Recycling Operations	Investigate ways to maximize the recycling stream revenues, while making the collection process more efficient (WRP Pg. 9)
78	Recycling Operations	Recycling trucks should have a more accurate scale (the current scale typically under weighs by about 20-40%) This will allow us to collect more accurate data at the building level. (WRP Pg. 15)
79	Recycling Operations	Conduct Waste Audit every five years (WRP Pg. 20)
80	Staff	Hire a full time Recycling Coordinator. (WRP Pg. 25)
81	Competition	Participate in RecycleMania 2010 in the competition category rather than benchmark category (CCSE Report Pgs. 4, 12)
82	Coordination	Encourage collaboration between key departments to reduce waste. (CCSE Report Pgs. 10, 25)
83	Coordination	Ensure sustainability components are in UIC Master Plan (UIC CAP Pg. 33)
84	Outreach/ Education	Work with Student Centers Board for activities and “green” themes for the upcoming academic year (CCSE Report Pgs. 4, 13)
85	Outreach/ Education	Work with the Student Residence Halls for “green” themes and energy conservation programs (CCSE Report Pgs. 4, 13)
86	Outreach/ Education	Publish meter readings and make energy usage data available to the public via a dashboard-style webpage (CCSE Report Pgs 3, 10, 25)
87	Outreach/ Education	Facilitate better marketing policies and tools to communicate with the campus community (CCSE Report Pgs 3, 10, 25)
88	Outreach/ Education	Promote the user friendly property management system that OBFS is developing (UIC CAP Pg. 41)
89	Outreach/ Education	Conduct an annual summit or half-day conference to update UIC on progress made towards the CAP (UIC CAP Pg. 50)
90	Outreach/ Education	Train Eco-Reps - especially to promote awareness of UIC Recycling Program (WRP Pg. 8, UIC CAP Pg. 36)
91	Outreach/ Education	Increase visibility of recycling at campus events (UIC CAP Pg. 36)
92	Outreach/ Education	Promote recycling at UIC through online website, FAQs (WRP Pg. 8)

93	Outreach/ Education	Complete the sustainability research and courses survey conducted by the Institute for Environmental Science and Policy and the Office of Sustainability (CCSE Report Pgs. 4, 13)
94	Data Collect/Evaluate /Monitor/Report	Track all data related to the CAP and Greenhouse Gas Inventory (UIC CAP Pg. 50)
95	Data Collect/Evaluate /Monitor/Report	Conduct an annual commuter survey (UIC CAP Pg. 50)
96	Data Collect/Evaluate /Monitor/Report	Track data for the Waste Reduction Plan (this includes, funding/budget, [cost of disposal, cost of recycling] current recycling methods [include materials, process, and education methods] (WRP Pg. 8)
Transportation Subcommittee		
97	Funding	Aggressively seek federal/state grant money (CCSE Report pg. 97 [transportation sub report Pg. 41])
98	Bikes	Boost bicycle usage (e.g., expand the bike lane network, provide secure parking) (CCSE Report Pgs. 4, 13, 53)
99	Bikes	Install more bike racks in appropriate places (UIC CAP Pg. 31)
100	Bikes	Delineate better bike paths across campus to avoid bike-pedestrian conflicts. (UIC CAP Pg. 31)
101	Bikes	Ensure that bike and pedestrian issues are specifically addressed in the Master Plan (UIC CAP Pg. 31)
102	Incentives	Telecommuting (CCSE Report Pgs. 5, 14, 53, 99)
103	Incentives	Compressed work week (CCSE Report Pgs. 5, 14, 53, 99)
104	Incentives - UIC Transportation Benefit Program	Promote and expand UIC Transportation Benefit Program while relieving Parking Services of the management of the Transit Benefit Program (CCSE Report Pgs. 4, 13, 53, 91)
105	Incentives - Travel	Adopt alternatives and incentives to reduce air travel - e.g. videoconferencing, hybrid rental vehicles, Amtrak, e-rooms, web conferencing (CCSE Report Pgs 4, 14, 53, UIC CAP Pg. 32)
106	Incentives - Ridesharing	Ridesharing (CCSE Report Pgs. 4, 14, 53)
107	Incentives - Car sharing	Guaranteed Ride Home Programs for emergency situations (CCSE Report Pgs 5, 14)
108	Incentives	Provide more transit incentives (UIC CAP Pg. 31)
109	Parking	Review the price of on-campus parking (CCSE Report Pgs 5, 14, 53)
110	Security	Improve transit stop security and amenities (CCSE Report Pgs 4, 13, 53, 92, 95)
111	Security	Develop sheltered and secure bike parking (UIC CAP Pg. 31)
112	Education/ Outreach	Travel training to faculty, staff and students (CCSE Report Pgs 5, 14, 53, 96)

113	Education/ Outreach	Education that highlights the potential savings of public transit (up to $400 per month) (UIC CAP Pg. 31)
114	Education/ Outreach	Office of Sustainability should continue to participate in the active transportation program (this includes organizing UIC Transportation Day, UIC History Tour de Campus, How to Bike the the City workshops, etc.) (UIC CAP Pg. 31)
115	Education/ Outreach	Ozone Action Day (CCSE Report Pgs 5, 14, 53, 99)
116	Bus Service	Specialized bus service such as express or subscription services (CCSE Report Pgs. 5, 14, 53, 97)
117	Bus Service	Implement more direct routes of buses (CCSE Report Pg. 14)
118	Bus Service	Utilizing and expanding existing CTA bus routes (CCSE Report Pgs. 5, 14, 54)
119	Feasibility Study - car sharing	Evaluate/study the feasibility of car sharing and carpooling options such as I-Go or Zipcar could be utilized for campus travel purposes, and incentives to compliment these programs. (CCSE Report Pgs 5, 14, 54, 100, UIC CAP Pg. 32)
120	Feasibility Study - real-time tracking	Investigate real-time tracking (UIC CAP Pg. 31)
121	Feasibility Study - bus routes	Investigate more frequent service and shorter routes (UIC CAP Pg. 31)
122	Feasibility Study - flexible travel benefits	Investigate increasing the flexibility of travel benefits (UIC CAP Pg. 31)
123	Feasibility Study - transit challenge	Investigate a transit-challenge day (UIC CAP Pg. 31)
124	Feasibility Study - fleet efficiency	Investigate ways to improve fleet efficiency (including continued participation in the Illinois Green Fleets Program, purchase hybrids that run on natural gas, use biofules for campus vehicles, use smaller shuttles between campus, retrofit exiting diesel fleet with filters, partner with car-sharing services like I-Go and Zipcar.) (UIC CAP Pg. 32)
125	Fleet	Institute anti-idling regulations/ guidelines (UIC CAP Pg. 33)
126	Fleet	Create and manage anti-idling campaign (UIC CAP Pg. 33)
127	Fleet	Continue to phase in hybrids and vehicles with higher fuel economy for the campus fleet (CCSE Report Pgs 5, 14, 54, 100)
128	Data Evaluate/Collect /Monitor/Report	Track baseline travel data (UIC CAP Pg. 32)
129	Data Evaluate/Collect /Monitor/Report	Analyze shuttle bus and Red Car services to improve efficiency (CCSE Report Pgs. 5, 14, 52-53, 98)

130	Data Evaluate/Collect /Monitor/Report	Transit modes of campus population
131	Data Evaluate/Collect /Monitor/Report	Faculty and staff commuting - CO^2e yearly
132	Data Evaluate/Collect /Monitor/Report	Student Commuting - CO2e yearly
133	Data Evaluate/Collect /Monitor/Report	Campus Fleet - CO2e yearly
134	Data Evaluate/Collect /Monitor/Report	New commuter survey up-to-date data (UIC CAP Pg. 32)