

2/25/10

Re: Lights Off, Cornell!

To the Cornell community,

Lights Off, Cornell! is a student initiative which aims to reduce wasted electricity at Cornell by turning off lights after hours. Many buildings are excessively lit at night, and it has been estimated that the university could save up to \$60,000 per year by simply turning these lights off. Currently, the project is being spearheaded by a task force of students who are designing a self-sustaining, student-run program for the university.

The task force was created under the auspices of the Student Assembly and Graduate and Professional Student Assembly, which both passed resolutions pertaining to lighting on campus. The project is working closely with the university administration, particularly with the Department of Energy and Sustainability, who would most likely take on the role of overseeing the project once it is implemented. It is hoped that the project will launch campus-wide at the beginning of the Fall 2010 semester.

The task force is currently running a pilot program in which a select few buildings are being attended to. This involves close collaboration with the relevant building managers, the Department of Energy and Sustainability, and student environmental interest groups on campus. The logistics of mobilising volunteers, providing instructions, and recording data all need to be figured out. The current proposal is to use maps indicating where light switches which can be turned off are located, using a numbering system which can also be used for data recording. With regards to organising volunteers and collecting data, it has been proposed that a website front end to a database would be most practical, perhaps keyed into the university's Kerberos authentication system.

The attached summary report documents each aspect of the project which the task force is investigating. If you have any questions or suggestions concerning the project, please do not hesitate to contact us at jkb84@cornell.edu.

Thankyou,

The Lights Off, Cornell! Task Force

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Lights Off, Cornell! Project Summary

Lights Off, Cornell! is a student led initiative which aims to mobilize students to decrease energy consumption on campus. Currently, a task force is constructing a program which will hopefully be launched campus-wide at the start of the Fall 2010 semester. The task force is addressing a wide range of issues regarding setting up such a program. A pilot program to investigate the implementation of this project is underway.

Buildings

There are over 260 buildings on campus, and not all buildings are equivalent in their energy needs. One of the questions that should be asked for each building is “How can we save the most energy here?” Identifying this will be a process of meeting individually with building managers and discussing the possibilities. Despite the name of the project, there exists the possibility of doing more than just turning off lights. Possible activities include:

- Turning off lights
- Turning off electrical appliances (e.g., fans/air conditioning/TV monitors)
- Closing windows and blinds
- Checking that heating in a room is not set too high
- Reporting anomalous occurrences

Contact with Building Managers

The best people to talk to regarding what can be done for a building are likely the building managers. There are three main aspects where building managers will be involved with this project.

- Providing an initial overview of the building, pointing out how the project could help
- Giving approval to the list of lights that are proposed to be turned off
- Notifying the project when events occur for which lights need to remain on

Volunteers

We plan to recruit volunteers to carry out this plan. We will employ an online availability form to determine when students are free to volunteer. The opportunity to volunteer for Lights Off! will probably appeal to members of the Greek (fraternity and sorority) community, as they need to fulfill community service hours. We also hope to get volunteers from members of Cornell's environmental organizations and from the rest of the Cornell community. In the week before a student is going to volunteer, he or she will be emailed with procedural information. We believe that undergraduate students are in a unique position compared to the university administration in their ability to mobilise fellow students for this task.

- Website to allow students to volunteer
- Environmental groups and Greek community have expressed interest in helping
- Estimated 2 people per three buildings per night needed
- Using Kerberos authentication to avoid spam/fraud suggested

Procedures

A major part of this project is to construct procedures which will allow for a simple implementation of this plan, with a minimum of human oversight. Maps, instructional documents, email templates, websites and databases all need to be constructed, with a view to automation. It is hoped that a system can be set up to run as efficiently as possible.

- Use of email to inform volunteers
- Assigning volunteers and confirming availability
- Procedures for adding new buildings to the project
- Reporting procedures

Data Monitoring

As the volunteers move through the building, they will record which light switches they turned off. This information will then be entered into a website, which will record the data and compute the energy savings. To accurately calculate energy savings, the number of light bulbs each switch turns off will be counted ahead of time.

- Important to understand impact of the project to calculate financial/environmental impact
- Cross-checking data with facilities management will be useful

Publicity and Outreach

It is one thing to turn off the lights oneself, and another to educate people about it as well. The education of the Cornell Community is just as important as having just a small group of conscientious students doing it each day. The rest of the student body and faculty may not even be aware that there is an issue. This is the perfect opportunity to educate the Cornell Community about the importance of energy conservation, and to teach them to actively adopt energy consumption awareness into their daily habits. The hope is that students and faculty will take this knowledge and apply these habits to the rest of their life. It will make a far more lasting impact and will further Cornell's goals of educating individuals about life skills and habits along with academic subjects.

- Inform people of energy savings, including financial and environmental benefits
- Potential rewards (stickers, door tags)
- Competition/rewards for dedicated volunteers
- Involvement in orientation week
- Launch event to celebrate the program launch and raise awareness
- General publicity through websites, newspapers and organisations

Security

When one considers turning off lights in buildings, especially in public hallways, security becomes an issue. Presently, we are discussing with building managers which lights they deem are safe to turn off overnight.

- Discuss lighting situation with campus security (Cornell Police)
- Only public access buildings are currently being considered; once the project is running, we may consider investigating extending our efforts to buildings to which access is restricted after hours
- Have students browse through public buildings after hours provides a "security patrol" at night
- Aim to have students turn off lights with at least one other person, rather than going by themselves

Business Plan

The “Lights Off!” idea came about when it was suggested that it might well be cheaper for Cornell to pay students to turn off lights than it is for lights to be left on overnight. While things have evolved considerably from this initial suggestion, it is obvious that the running and maintenance of this program will be a time consuming effort. We believe that the creation of a paid student position within the university to administer this program would be a worthwhile endeavour. Part of the goal of this project is to create a business plan to present to the administration to suggest ways in which the monetary side of this project may be handled.

- How many student positions would be required?
- How much effort would this program take to oversee?
- How much should these positions be paid?
- Who would these positions report to?
- What is the projected cost/savings from this project?
- How can money which is saved be reinvested into the Cornell community?

Future Aims and Directions for Broadening the Project

There are many aspects of campus which could benefit from improved energy consumption practises, but which are impractical for addressing under the current aim of this initiative. After this project is launched, there is much room for expansion. Some aspects which are closely related to the project include:

- Outdoor lighting for the facade of historic campus buildings. At 3 am, no one is around to appreciate their beauty, and so the lights are unnecessary.
- The majority of library lights being left on after the library is closed. Some of these lights are probably for security measures, but not all of them are needed.
- Similarly with the dining halls and cafes, many lights are left on all night even after they have closed.