

# EVALUATING CAMPUS AWARENESS OF GLOBAL CLIMATE CHANGE

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In an effort to reduce greenhouse gas emissions and improve environmental awareness on the Tulane University campus, the Office of Service Learning collaborated with the Sociology Department and the Office of Environmental Affairs to study the effectiveness of campus climate change campaigns over the last two years. These campaigns included the creation of an Energy Star showcase dorm room, an ECOLYMPICS energy-efficiency competition between residence halls, and a campaign for approval of an all-student transit pass. Our five-person team was set up with the goal of gauging awareness and making recommendations for future attempts toward energy conservation. This was approached using three different techniques: phone surveys, student focus groups, and a campus greenhouse gas inventory, so as to combine sociological evidence and energy use data. The findings show improvement, as well as areas of need, and recommendations have been made to improve campus campaigns for future years.

## **Surveying Climate Change Awareness**

The telephone surveys were the first part in the project, in order to gauge basic effects of previous climate change campaigns. The ultimate goal is to see how the student body views climate change compared to how they did 2 years ago, and to make recommendations about future campaigns. Students were targeted not only because they are the biggest energy-using population on campus, but also because of the educational goals of the campaign. Two members of the Service Learning team, a sophomore Architecture major/Environmental Studies minor and a junior Environmental Policy major, headed the survey process.

The purpose of the 2003 telephone surveys was to collect data from a random sample of Tulane students to compare general knowledge to that of 2001 data collected by Office of Environmental Affairs' Climate Change Specialists. We surveyed 105 students over the course of a month about their understanding of global warming. Questions included general topics of awareness of causes and effects of global warming, attitudes of students, and more particular issues such as public transportation and the Kyoto Protocol. There were no questions, however, regarding specific campaigns on Tulane's campus, just on student knowledge. We chose to sample students who live both on and off campus, and who are both full and part time to examine the scope of the success or failure of Climate Change Campaigns. The desire was to use both sets of data to find changes in students' attitudes, knowledge, and direction with respect to global climate change.

To obtain our sample, we took 300 names from the Tulane University directory of students and set calling times during evening hours to catch the majority of people at home. People were allowed to list as many answers as they could come up with, and surveyors were instructed not to give any prompts other than the question.

Once the telephone surveys had been conducted, the first step was to organize all aspects of the resulting information into a uniform database, in this case using Microsoft Excel. Number variables, ranging from 0- 15, with 99 reserved for unknown or incorrect answers, were assigned to each possible answer, and entered in the database for each set of survey questions. Once the data for the 2001 telephone surveys was organized in a similar fashion, we were able to analyze each set on its own, as well as make comparisons between the two survey results. This allowed for more tangible evidence

regarding the levels of success of the ECOLYMPICS and other components of Tulane's greening campaigns.

The results of this year's survey, though not as drastic as we had hoped, did bring to light certain key points regarding the effectiveness of Tulane's campaigns. In terms of general breadth of knowledge (gauged by how many responses students had regarding general environmental information), we found that there appeared to be a slight decrease in how generally informed the student population was, although the general distribution of the results remained the same. Additionally, in the 2001 data there was marked evidence of a greater concern with aerosols and their CFC output as a major personal contributor to global warming, where as in 2003 52% of the people surveyed cited "driving a car everywhere" as the thing they do in their daily life that contributes to global warming.

There were particular questions that yielded more specific results in the 2003 survey. Our results showed that 65% of the students surveyed this year claim to regularly use the city's public transportation, compared to the 45% in the 2001 group. Additionally, there was a 3% decrease in the number of students whose computers do not revert to some power-saving mode when idle in the most recent data. Also, 29% of the students report that their computers go into both a screensaver and monitor shut down mode, compared to the 4% of 2001. These data are significant, in that computer energy expenditure had been a focus of the Energy Star project.

In terms of other results, certain statistics appear to have remained more or less the same throughout the two years. These include the fact that most students remain "somewhat" concerned about the environment in general, as well as "mostly" dissatisfied with the environment of New Orleans itself. Additionally, there remains a general ignorance of the source of Tulane's energy, as well as an over-all consensus that recycling is the most important personal contribution one can make in order to improve the environment. Such results have prompted us to consider increased education on these issues as a tool in raising student awareness of where their energy comes from and how this connects them more directly with global warming trends in general.

	Students "HIGHLY" concerned about global warming:	Students "HIGHLY" concerned for the environment:	Students who use public transportation "OFTEN:"	Computers turned off for the night:	Computers w/ screensaver + monitor shut down mode:
2001	15%	58%	45%	40%	4%
2003	21%	42%	65%	38%	29%

## Evaluation of Student Focus Groups

As a second part of the project, student focus groups were organized in an effort to gather information about the impacts of the office's programs on Tulane students. Focus groups are often used for political or sociological studies and marketing research. In an informal setting, the moderator is able to question several participants at the same time in order to understand the participants' fundamental opinions. We felt that focus groups would be an excellent way to gauge both the students' perception of the success of the programs, suggestions for future programs, and their overall environmental consciousness.

We attempted to randomly select focus group participants in order to gather opinions from a wide range of Tulane community members. The groups were separated into staff, administrators, and students. We originally planned four focus groups with eight participants per group. One of the two potential student focus groups was composed of randomly selected students, and the second was composed of two students from each college within Tulane University. However, the process of drawing in participants posed several problems. In order to select the members of the Tulane community at random, and with updated contact information, we used the online phone registry.

The directory included both uptown and downtown campuses, but the Office of Environmental Affairs' campaigns do not target the latter. We were also unable to separate the staff and administrators into different focus groups, because all the employees of the university are listed together in the Tulane phone book. To further complicate matters, some of the employees that were chosen were without contact information. In the future, a comprehensive listing of uptown campus members would be necessary for a more appropriate random selection of members. Although we sent invitations to 24 potential participants through email, most of the randomly selected members were neither interested, nor responsive to our contact attempts. Due to time constraints, we decided to abandon our original plan and chose not to randomly select any more participants.

The low response to our initial selection process forced a more direct approach. Working with a resident advisor, we arranged a focus group containing only freshmen. This homogeneity by age is significant and effective because the freshmen are directly exposed to the campaigns undertaken by the Office of Environmental Affairs. In order to attract participants, flyers were posted in both freshmen dorms. We provided refreshments at the focus group as an incentive to attract a variety of students, not just the ecologically-conscious members of the freshman class.

By sending letters to all the resident advisors on campus, we approached a different group of Tulane students for the second potential focus group. This group was chosen because resident advisors are directly involved with campaigns such as ECOLYMPICS and the Energy Star dorm room. They also have direct connections with students of all ages. Unfortunately, due to a low turnout of resident advisors, we increased the size of the focus group by extending the invitation to students who were in the University Center at the time. The group included one former student, a sophomore Geology and Environmental Science major, a senior linguistics major, and one resident advisor who is a sophomore studying environmental engineering.

The questions we posed to the focus groups were designed to prompt conversation. The focus group discussions helped us to evaluate the success of the campaigns as well as assess general comprehension of environmental issues. After a question was posed, students were encouraged to provide us with as much input on these issues and how they directly affected students at Tulane by answering the questions and continuing the conversation as they wished.

Most of the participants in the University Center focus group seemed fairly concerned about environmental issues. However, the participants in this group felt that not all students at Tulane felt the same way. One participant said, "People at Tulane are urbanites.... nature is something people see in pictures and magazines." The environmental engineer blamed campus-wide apathy on the economic status of many students here because, "kids at Tulane have been handed stuff." On a personal level, all participants claimed that they made efforts to conserve energy by turning off appliances and bicycling to school. The third participant said she became aware of Energy Star products after President Cowen addressed the issue, but when asked if she owned any Energy Star products, she assumed that all appliances were energy efficient.

The freshman focus group was composed of five Tulane College students and two engineers. Responses from the freshman focus group also revealed an apathetic attitude that resonates throughout the student body. Participants in both groups often suggested that there is a direct correlation between widespread disinterest in environmental issues and the socio-economic level of students at Tulane. A

student participant of the University Center focus group commented that most of the student's ideas on environmental issues and their importance had been instilled earlier on in life by parents and teachers. This suggests that environmental education does not always properly emphasize the direct connections between humans and nature. Although students seemed superficially concerned about global climate change, which they simply portrayed as a monolithic problem, they did not understand their own involvement in the creation of this phenomenon, nor the effect that it could potentially have on them.

The participants felt that the most active constraint to their participation in environmental campaigns was a lack of time. They also felt that other issues such as the conflict in Iraq were of greater importance at the moment. The majority of the students claimed to have neither heard of nor participated in programs such as Ecolympics and the Energy Star Dorm Room. However, those that had heard of the programs responded positively and were actively involved. In this case, the largest constraint to participation is students' unawareness of these programs. If a program is highly visible, the students said they are more likely to acknowledge its existence and participate. However, another student pointed out that when programs are advertised continuously in the same fashion, they are likely to be ignored by students as well. This suggests that frequent and diverse campaigns would elicit greater participation.

In general, Tulane students appear fairly far removed from their environment. Perhaps this is because of the urban area surrounding the university, or even the previously mentioned flaws of past environmental education. The students did not have an accurate understanding of the importance of the issue and simple ways that they could be involved. However, when students did see a correlation between their actions and environmental degradation, they were willing to alleviate the situation in small ways, such as participating in Ecolympics. In order to get students motivated and involved, the campaigns must be simple and somehow relate directly back to the students. One participant said that, "environmental issues are a luxury". He felt that unless the individual feels personally affected by environmental problems, he or she would not show interest in environmental issues.

Also, several participants seemed complacent with the current status of the environment. Speaking about New Orleans specifically one participant said, "It's a city, it is supposed to be dirty." Others reacted negatively when asked about the current status of the environment. However, these students often feel that they do not have much influence because polluting is almost unavoidable, or "built into our society."

In conclusion, we found that students need a better understanding of not only the technical aspects of environmental problems, but also how they fit into the equation. Frequent campaigns, which suggest small actions that an individual can take to improve environmental quality, would boost support for the Office of Environmental Affairs. Also, students would benefit from a better understanding of the direct effects that issues such as global climate change have on human beings. Some students also thought that encouraging more students to major in, or simply take environmental studies classes would increase knowledge of these issues, and consequentially lead to a more prevalent environmental ideology.

Thus far, the Office of Environmental Affairs campaigns have been successful in engaging students that are aware of the programs. However, the campaigns must be heightened in order to capture the time and attention of the general student body. Our studies show that although the students think that "No one cares here", the participants in our groups did care and simply need a reason to make the environment a priority.

## **Greenhouse Gas Emission Inventory for 2002**

Of the six-person team, two members were in charge of conducting a greenhouse gas emission inventory for the year of 2002. We updated data for the Uptown campus, which was inventoried in 2000, and expanded the inventory to other campuses to get a greater picture of Tulane. The previous

inventory collected numbers for years 2000 and 1990. These numbers could be compared to see how Tulane University was matching up to international standards like the Kyoto Protocol. Unsurprisingly, Tulane University had a long way to go before the numbers would meet these standards. A 25% percent drop from the 2000 levels is necessary to reach 1990 standards. The Kyoto protocol sets an even lower reduction target of greenhouse gas emissions seven percent below 1990's level. This gives us a reference point for future projects and planning aimed towards greenhouse gas reduction.

In 2002, we expanded the inventory from the original to include figures from the Tulane Primate Center. Again we collected data on energy use in electricity, natural gas, gasoline, and diesel. Tulane's downtown campus and the University College were approached about collecting inventory data, but we were unable to gather any information from them.

The Primate Center was the only area that saw an increase in greenhouse gas emissions between the years 2000 and 2002. In 2002, the Primate Center produced 4,314 metric tons, which is an increase of 12.9 percent from year 2000. The Primate Center has a different energy supplier, Cleco. We were unable to obtain electricity coefficients—the amount of greenhouse gasses produced per kWh of electricity produced—from Cleco, but suspect they may be higher than New Orleans Entergy coefficients. This would increase the numbers and percents making the Primate Center an even bigger contributor to Tulane's global warming impact.

For the Uptown buildings (dorms and class buildings), the number of metric tons of carbon dioxide produced was 43,273 metric tons for 2002. In Aron Residence, 990 tons were produced. While in the Reily Center, 1,674 tons were produced. Added together, the heating, cooling and electricity use of all these Uptown campus buildings produced 45,937 metric tons of carbon dioxide. This was a drop of 3.7%, or 1766 metric tons, from 2000 levels. This is for building energy use only—we were unable to do a complete inventory of emissions from vehicle fleet and employee commute for the year 2002.

When trying to explain the drop in emissions from building energy use, we came up with several ideas. Some of the drop in energy usage could be attributed to the Energy Star programs introduced on campus, such as the Energy Star dorm room and encouraging incoming freshmen to buy energy star products. Also programs such as ECOLYMPICS and other energy-conscious activities put on by the Green Club may have increased awareness of energy efficiency on campus also. In the Aron Residences, carbon dioxide emissions dropped 8.2% between 2000 and 2002. Aron is always a special case on campus because students are allowed to have their own appliances and are thus required to pay their own electric bills when it exceeds the 300 dollar deposit. This makes the students in Aron somewhat more energy-conscious and responsive to education programs because their energy consumption directly affects them. The reductions may have been due to differences in the use of the campus co-generation plant, or due to changes in the weather between the two years.

It is important to keep in mind when looking at this data that, though we have a long way to go to reduce Tulane's emission to the standards set by the Kyoto protocol, any drop in emissions is good. There are also other projects going on at Tulane University that would help reduce greenhouse gas emission that were not taken into consideration in the inventory. The RTA pass that the Green Club is trying to get approved would be a big step in reducing emission in an area that was not touched by the inventory, student commute. Hopefully the findings produced by this service learning project will be used in considering how the new buildings on campus will be built. This survey allowed us a unique perspective because there were no major additions during the last two years. With several huge construction and renovation projects in the works, this will not be the case in the next few years, making repeat inventories difficult to compare to original numbers.

## **Recommendations**

The data collection and our findings in all three areas led us to conclude that more extensive campaigning and institutionalizing of a green mentality must be a part of campus programming in upcoming years to meet greenhouse gas reduction goals. We believe that ECOLYMPICS is an effective effort towards involving on-campus residents, particularly freshman, in community progress toward conservation. A competition between freshman specific dorms may be a good way to spark efforts among new students. Also, we feel that a constant message toward students needs to be developed, to keep the ideas in students' minds, because we found that students lost the message quickly despite large campaigns. A first step would be to appeal to the newest Tulane students, setting up information at Freshman Orientation, where parents as well as students will be exposed to future campaigns.

Curriculum is another way to address the integration of Environmental programming to students. Offering an "Introduction to Environmental Studies" class and making it or another environmental course a graduation requirement for all students may create interest in a fast developing Environmental Studies department. Opening up campus institutions and daily proceedings to environmental happenings could be done through the student newspaper, creating an environmental section, as well as incorporating new construction into an effort to transform the Tulane community to be more environmentally conscious.

Lastly, environmental programming can be combined with that of other colleges on campus, specifically that of the School of Architecture or School of Engineering, to create visible construction or exhibits on Tulane's campus to appeal to students. The key, we found, to creating a new, important part of student life is accessibility and visibility, so the more we can find ways to get the information out, the better. These recommendations, therefore, strive to address the crisis of global climate change within a smaller university community by attempting to change student mentality.