DATE: 19 December 2011

TO: President's Cabinet

FROM: James Dontje

SUBJECT: Timetables and commitments for the American College and University Presidents Climate Commitment

As Provost Braun has previously informed you, I will be submitting our progress report under the American College and University Presidents Climate Commitment (ACUPCC) framework to which Gustavus is a signatory. As a part of that submission, we are now required to create a specific timetable for greenhouse gas emissions reductions. The purpose of this memo is to propose an appropriate timetable for you to consider, along with some consideration of the challenges and opportunities that timetable presents.

Specifically, I am proposing the we commit to the following targets:

> A 25% reduction in greenhouse gas emissions by 2022 through conservation and efficiency strategies.
>
> A target that recognizes that our external utility and regulatory context will add another 8-10% reduction in green house gas emissions by 2025.
>
> A further 45% reduction in greenhouse gas emissions by 2035 through combination of on and off campus renewable/low-carbon energy production.

Background

I have given the Cabinet updates on the ACUPCC on two previous occasions. In addition, I have briefed the President individually on one other occasion. But if you have specific questions about the ACUPCC (http://www.presidentsclimatecommitment.org/), feel free to contact me for more information.

The very brief summary that collective carbon emissions generated by human activity creates a high probability of dangerous climate change. The uptick in carbon emissions results directly or indirectly from the intense use of fossil fuels in the last 200 years. Since the current state of the world as we know it is a fossil fuel society, imagining a world with lower carbon emissions is difficult. In creating the ACUPCC, a founding group of college and university presidents noted that the infrastructure and configuration of many higher education institutions makes them like small cities and thus ideal places for leading by example. The ACUPCC places committed institutions in leadership positions—signatories commit to reducing their institutions' carbon emissions as way of showing our wider communities how it can be done.

Reporting

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In terms of the progress report, I am not facing a difficult task. The actual report in the form of an online form with many optional sections and does not lend itself well to a presentation format, so the following summarizes the content.

Over the first interval between reporting years (2007/2008 to 2009/2011) our estimated carbon emissions have declined--a very positive trend in keeping with our ACUPPCC commitment.

Relative to our initial commitments to initial tangible actions, I will have to report some changes to our original intentions, but we have certainly been operating within the spirit of these commitments. Most notably, our intention to install wind turbines has been stymied, so we cannot yet meet our commitment to generate 15% of our electricity from renewable sources. We have, with the solar projects, moved forward with what we could do. Additionally, we have begun participating in Recyclemania and taking other waste reductions steps, and have also adopted an Energy Star purchasing policy. Additionally, the pursuit of LEED certification for Beck Hall is aligned with the intent of those tangible actions.

I will also be noting in our report some of our progress in making this effort a part of our curriculum and outreach efforts. Notable efforts include the efforts of my office, the Johnson Center for Environmental Innovation both on campus and in the surrounding community, the NSF grant for incorporating sustainability into the laboratory curriculum, and the ongoing efforts of the Linnaeus Arboretum and the Environmental Studies Program.

Moving Forward

The key challenge in submitting this report is the necessity to set a timetable for our emissions reductions. Specifically, we are expected to name two interim target dates and goals for emissions reductions. Under the ACUPCC commitment (http://www.presidentsclimatecommitment.org/about/commitment) the requirement for final and intermediate target dates was noted, but the expectation of specific target dates has not been enforced until now.

In the current version of our Climate Action Plan (CAP) (attached), I laid out the framework for what I think is feasible now and in the future under the assumption that we will undertake this critical effort in an environment where there are many competing demands for fiscal resources. With the requirement that we specify target dates, it is now necessary to look at that plan with an eye to implementation.

I will mention each main point of the plan that deals with specific emissions reductions here with a suggested emissions reduction and date targets, the locus of responsibility, and general thoughts about the cost implications.

Planning and Choices

Target Date: Ongoing

Emissions Target: NA

Responsibility: President and President's Cabinet.

Two key elements are necessary here: a public commitment by the Administration to the targeted emission reductions; and adding consideration of our climate commitment goals as a criteria in all relevant planning effort. Clear and consistent messaging from the administration will encourage and enable our students, staff and faculty to contribute to emissions reduction.

Additionally, as we are in the midst of building a new climate of support for Gustavus, it is only the Administration that can guide our efforts to invite financial support for this effort.

A key first step in this effort is to institutionalize our reporting of greenhouse gas emissions data and energy use. In a previous email to several of you, I have outlined the support necessary from various departments to allow for efficient and accurate assessment of our greenhouse gas emissions. With some focused effort, it is conceivable that our greenhouse gas emissions inventory could become a regular and routine part of our institutional reporting.

As noted below under Conservation and Efficiency, another key step will be a commitment to monitor and report energy use by building, and to do further careful analysis within individual buildings.

Combined with the public commitment, the two key steps outlined above, will create an institutional ethic where we all work together on reducing our emissions. This ethic will be critical to our success in meeting our targets.

Costs: The primary cost will be the time and effort to ensure climate issues are considered where appropriate. While not a guaranteed outcome, it is likely that a leadership position in this arena will garner funding support and also positively affect student and staff recruiting.

Conservation and Efficiency

Target Date: Within 10 years. This captures the easiest gains in the short term, while recognizing the time for properly planning and implementing these steps.

Emissions target: 25% reduction based

Responsibility:

> Behavioral component—all campus constituencies will play a role with leadership from the Administration

Building systems and management component— the Vice President for Finance and Physical Plant office, with fundraising support from the President's Office and Institutional Advancement

Costs: In the case of new construction and planned renovation, the costs are likely to be a small increment of costs that would have been incurred anyway. In the case of major efforts focused solely on energy use reductions, the costs will depend on the projects.

A significant initial step will be upgrading and improving our ability to monitor energy use in buildings and to do focused studies (see also Planning and Choices above) on energy use within selected buildings. For a reference point, about 18 months ago I obtained estimates for studies that would determine potential energy savings in campus buildings. One proposal focused on three buildings (Campus Center, the library and the Carlson Administration Building) with a total cost was just under $50,000. Another proposal allotted $8000 for review of all buildings to determine where the most potential for savings lay, followed by focused building studies ranging from $37,000 to $66,000 per building.

In many cases, the costs of conservation and efficiency projects will be offset by savings in our energy bills. For a reference point, our electricity and natural gas costs are running about $2 to 2.5 million per year, a 20% reduction in energy costs would be an annual income stream of nearly $500,000 dollars. Conversely, in the event that future energy security issues caused by global demand and geopolitical turmoil cause precipitous rises in energy costs, a strong conservation program will offer a hedge against inflation.

A clear cost to pursuing such an aggressive energy conservation program will be in personnel. Getting this done will probably require the full-time attention of at least one staff person. Without this, the daily business of keeping this institution running well crowds out the energy planning effort.

Utility Context

Target Date: 2025 currently set by MN statute, other timetables may arise.

Emissions Target: Minnesota Renewable Portfolio Standard is driving a shift to 25% renewable electricity generation by 2025. If realized on schedule (current reports from utilities suggest it will be met, possibly ahead of schedule), this could reduce our greenhouse gas emissions by 8-10%.

Responsibility: While this emission reduction is the result of the external context, I include it as part of our strategy not only because it represents a real reduction, but also because it highlights the fact that we will make this effort in partnership with the surrounding communities.

It also points to a role that the ACUPCC organizers hope we will play as advocates for a society-wide reduction in greenhouse gas emissions.

Cost: NA

Renewable/Low-carbon Energy

Target Date: The previous sections suggest that by 2025 we could have up to a 35% reduction in greenhouse gas emissions. The ACUPCC commitment seeks an 80% reduction by 2050, leaving us to accomplish the remaining 45% in that time frame. As recent climate science has suggested a faster timetable may be necessary, and as Gustavus can take a leadership position, I have chosen a 2035 target date.

Responsibility: If the renewable energy assets are to be owned and operated by Gustavus, meeting this commitment will be a shared responsibility of the President, the Vice President for Finance, and Advancement Office (providing strategic direction and fundraising) and the Physical Plant operation (implementing and managing the effort).

At this point, I will also acknowledge the possibility of purchasing off-site renewable energy capacity or purchasing the carbon offset credits from such an installation. In general, this is a poor choice as it simply adds to our budget with no countering reduction in energy costs, but completeness requires a nod to the possibility. In this case, the President and Vice President for Finance would lead this effort.

Given that the clean energy field is undergoing rapid technical and institutional innovation, the options we have will be changing. Our faculty and staff with relevant expertise, as well as outside experts, will be needed to evaluate the developing menu of options.

Cost: Because of the long timetable, and the aforementioned pace of technological development, cost predictions are difficult to make.

For reference, data from our turbine effort suggest two turbines, costing at total of $5-7 million, could affect at least a 25% reduction in our greenhouse gas emissions.

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