Social Concerns Committee Meeting
Monday, February 8, 2010
12:30 ~ 2:00 p.m.
Morrill Hall, room 238A

Present: Tim Sheldon (chair), Austin Loeb, Michael Sommers, Rebecca Von Dissen, Ahmed Heikal, Elizabeth Shay, Kaari Nelson, Benton Schnabel, Christine Dolph, Shannon Biegger, Joe Marchesani, Lisa Pogoff, Kim Robien, Carolyn Wardell, Katherine Fennelly, Sandra Krebsbach, Marynell Ryan Van

Guests: Chris Suedbeck, director, Asset Management; Mike Berthelsen, associate vice president, Facilities Management; John Sheehan, scientific program coordinator, Institute on the Environment; Mike Nagel, assistant director, Facilities Management; Dick Hemmingsen, director, Initiative of Renewable Energy

Chair Sheldon called the meeting to order at 12:32 p.m. A motion was made to approve the minutes of November 2009. The motion was seconded and approved unanimously.

Energy Use at the University ~ Facilities Management

Vice President Berthelsen gave an overview of how Facilities Management manages the University's energy use. The Facilities Management's Energy Management unit is responsible for managing the University's $90 million annual energy budget and the electrical and steam distribution infrastructure required to light, heat and cool the facilities on the Twin Cities campus. This energy comes in the form of purchased electricity and on-campus steam production, which runs on natural gas. The Twin Cities campus covers approximately 24 million square feet and is served by two steam plants that heat and cool large portions of the University but produces very little of its own electricity. A large amount of the University's electricity is bought retail from Xcel Energy and because of contracts and limited resource providers, there are few options to choose from, which limits choices for the University on energy suppliers.

Coordinate campuses add an additional five million square feet for the University to maintain and each facility has independent needs. Electricity, heat and cooling are the largest energy users for the University. Facilities Management is focusing on sustainability, reliability and cost control, which is in alignment with the University's mission. To meet these goals, upgrading old facilities and systems is important in order to maintain affordability. Facilities Management replaced old boilers with new gas/oil fired boilers and one circulating fluidized bed boiler (CFB). The CFB burns solid fuels, natural gas, or a mixture in combination with lime. The new CFB boiler can burn a combination of oat hulls, coal or natural gas. Oat hulls are a very efficient fuel but they are in limited supply and require being burned with coal to be maintenance friendly. Geothermal resources are being investigated as a future source of energy for the University.

Berthelsen said that there are new state laws that will require a tracking system for pollutants. There are a series of filters used throughout the University that help meet the State requirements. Facilities Management is working on tracking the utility carbon footprint of the University. They know how much energy it takes to heat the University and works with Xcel to find out

what it takes to make the electricity the University uses. There has been a reduction of energy use due to the steam energy created at the University's steam plants. It was noted that the cleanest piece of energy is the one you do not use. There can be a large impact if everyone works together by shutting off lights when not in use, turning off computers and using power strips in offices, etc. The *It All Adds Up* campaign at the University is geared to reduce energy use by 5% by the end of 2010. So far, there have been many people that took a pledge to be a part of energy savings by turning lights out, taking the stairs and shutting off items that are not in use.

Facilities Management is working in conjunction with Classroom Management to reduce energy use. It is important that University buildings are running as efficiently as possible and that requires finding the trouble spots in each building that burn energy unnecessarily. With that in mind, a recommissioning team has been formed to improve building energy efficiency. Simple, low-cost measures can reduce energy consumption while maintaining or improving a building's performance. Studies show between 5% and 15% energy savings, depending on the type of building once updated. The University is looking to further that savings by finding ways that new technology or different operating methods can improve efficiency and performance. To date, the University's energy management group has implemented more than $1.9 million in energy saving measures with another $4.3 million in savings over the next year.

Initiative for Renewable Energy and the Environment (IREE) ~ Dick Hemmingsen

Dick Hemmingsen ~ Established in 2003 to disburse revenues from the Xcel Energy Renewable Development Fund, IREE promotes statewide economic development, sustainable, healthy and diverse ecosystems and national energy security. To date, the initiative has funded 450 researchers in renewable energy and sustainability with a focus on bio products. The bio products that are of most interest at this time include bio power, bio energy, solar energy, renewable hydrogen and wind energy. They are also looking toward geothermal energy as a possible future renewable source of energy.

Mr. Sheehan, Institute on the Environment, talked with members about corn stover as a viable, renewable resource. Corn stover is a residue that is thrown back on the fields after harvest and incorporated to feed the soil. After searching seven local counties they found that only one, Dakota County, could produce enough corn stover to replace oat hull energy production. The new boiler systems were created flexible enough to use various bio mass materials and corn stover is relatively affordable. At the other end, however, they need to look at costs of delivery, trucking, etc. Seven to eight truckloads per day could be problematic. Bio mass fuels offer the technology of coal without the negative effects of coal use. Professor Heikal asked if there was technology available to condense the corn stover for shipping purposes. Sheehan said yes, that it can be converted to pellets. Hemmingsen added that it could also be condensed or liquefied but that using the current form of bio mass is the best system to use for now. Chair Sheldon asked about pollutants and Hemmingsen said that the pollutants expelled depend on the bio mass burned, how it was grown and how it is transformed for burning. Anything that is burned will give off pollutants. Co2 reduction is big for bio mass energy.

A member asked if there has been any before and after measure of buildings energy efficiency after being renovated. Berthelsen said building renovations by themselves do not offer much savings of energy. One reason is that different buildings operate in different ways and when adding new technology to older buildings, that does not necessarily fix all the building's energy efficiency problems. With the newer technology of units that exchange a buildings air supply 12 times per day is less efficient than running window air units. They would like to zone buildings to expend only the energy needed within the rooms in the building being used instead of the whole building. The largest future savings in building control is to understand how the building is operated and supply the energy accordingly.

Ms. Dolph asked if wind energy was being researched for the Twin Cities campus. VP Berthelsen said there is interest and research into wind energy and though the Morris campus has great space for that technology, the Twin Cities campus does not. He also said that there is no research they have found that suggests wind energy would be financially beneficial to the University at this time. Mr. Hemmingsen added that the wind available in any given area and the transporting system are limiting factors to using wind energy. This is true for solar energy as well. Professor Heikal asked if there is worry about the storage of solar energy. Hemmingsen said the challenges for storage are that the grid in this country is badly outdated. There are many updates needed in order to make the transition of storage happen seamlessly. There are challenges to the systems integration of how you produce it to how you use it.

Mr. Sheehan stated that there is a lot of work going on with switch grass, which is a monoculture. It does offer some promising possibilities but they would need to find farmers that would dedicate their work to producing the switch grass for a long period of time. Competition for land is another issue for growing bio mass material.

Update on Russell Contract in Honduras

Ashley Gaschk said a conclusion was reached with workers. 1,200 jobs were lost last February as a result of the unionization drive but a decision was made to open a new factory with the 1,200 workers that lost their jobs. Russell decided to take a neutral stance on all unionization efforts in the future.

Next Month's Meeting

The Local Foods Initiative will be a topic during March' meeting and Jean Kinsey, program director, Applied Economics will come to inform members about the initiative. Professor Robien suggested Dr. Mindy Kurzer, director, Food Science and Nutrition or Kristine Igo, assistant director, Food Science and Nutrition to come and speak to the topic as well. Chair Sheldon asked Professor Robein to contact one or both of them and she agreed.

Having heard no further business, the meeting was adjourned at 1:50 p.m.

Lisa Towry
University Senate Office