University Sustainability Council

Meeting Summary

November 30, 2010

Attendees
Ann Wylie, Vice President for Administrative Affairs (Chair)
Linda Clement, Vice President for Student Affairs
Sally Koblinsky, Assistant President and Chief of Staff
Mahlon Straszheim, Associate Provost, Academic Affairs
Mary Ann Ottinger, Professor and Associate Vice President for Research
John Farley, Assistant Vice President for Administrative Affairs
Scott Lupin, Acting Director, Environmental Safety and Director, Office of Sustainability
Joan Kowal, Energy Manager, Facilities Management
Jay Elvove, Manager, OIT
Monette Bailey, Senior Writer/Editor, University Relations
Bruce James, Professor and Director, Environmental Science and Policy
Matthew Popkin, Undergraduate Student, Government and Politics

Invited Guests:
Susan Corry, Energy Conservation Manager
Marlow Leafty, Assistant Director for Electrical Systems
Karen Petroff, Assistant Director Arboretum/Horticultural Services
Colleen Wright-Riva, Director of Dining Services

Meeting Overview
The purpose of the meeting was to report on action items from the October 2010 meeting.

Meeting Highlights

Student Advisory Subcommittee Report
The Student Advisory Subcommittee met twice since the October Council meeting to discuss project proposals seeking money from the University Sustainability Fund (previously named the Campus Green Fund). Twenty-nine proposals were submitted by the November 1st deadline. The subcommittee members are still in the process of reviewing proposals but they unanimously approved six proposals to move forward for the Council's consideration. Ann Wylie requested that the full proposals be made available to the Council members through ELMS and asked the Council members to review proposals by December 3, 2010.

- Guilford Run Bioretention Project – Engineers Without Borders project to develop a rainwater catchment system on the edge of Lot 1d. Subcommittee recommends funding $9,000.
- Maryland Educational Solar Array – Photovoltaic installation on the roof of A/V Williams to be used for educational purposes. Subcommittee recommends funding $30,000.
- St. Mary's Compost Reconstruction and Garden Maintenance – Upgrade the composting operation for St Mary's Hall and install drip irrigation system for the St. Mary's Garden. Subcommittee recommends funding $1,050.

- Center for Young Children Greening Project – Develop video and website to educate students and parents about the CYC's "green school" efforts. FM will install touchless faucets and other water/energy upgrades. Subcommittee recommends funding $4,450.
- WaterShed Constructed Wetland – Develop a constructed wetland to manage the wastewater that will come from WaterShed, the University's entry in the 2011 Solar Decathlon competition. Subcommittee recommends funding $4,500.
- Rooftop Community Garden – Develop a garden on the roof of the South Campus Diner similar to the garden on the roof of the Ellicott Community Diner. Subcommittee recommends funding $4,450.

Total allocation requested to date: $53,450 (of $148,050 available this year). The rest of the proposals will be presented to the Council at the February 2011 meeting. Any money not allocated may be used to purchase renewable energy credits (RECs) for the University or carried over to the next year.

Landscape Master Plan Briefing

Karen Petroff gave a brief presentation on the water conservation and stormwater management aspects of the Landscape Master Plan, which is currently going through revision. **See Appendix A**. Issues that were discussed include:

- Possible upcoming regulation: zero stormwater discharge
- Campus may need more space around buildings to accommodate water infiltration
- Campus may utilize the Sustainable Sites Initiative to designate sites, attached to buildings or not, as sustainable
- Recovered/gray water cannot be aerialized (sprayed) due to health code rules but the campus does not work well with drip irrigation since most of the campus is on a hill
- Potable water may continue to be part of our irrigation system because we might not be able to get away from using sprinklers
- The draft Landscape Master Plan may be ready in March

Lighting Update

Susan Corry gave a brief update on campus lighting projects. **See Appendix B**.

- Hallway lighting: 28 buildings completed, 12 remaining
- ESCO comprehensive lighting upgrades: 9 buildings completed
- Classroom lighting: a few classrooms upgraded in SPH and Benjamin
- Under evaluation: classroom occupancy sensors, exterior lighting, high bays, offices, labs, and restrooms

Promotion of Zero Waste Catering

Colleen Wright-Riva attended this meeting to respond to the Council's request to better publicize zero-waste catering options. Colleen reported that there is a $1-2/person premium on the zero-waste option. Dining Services will promote this option on the website starting this winter.

In-Vessel Composting

Colleen Wright-Riva also provided an update on the two in-vessel compost machines Dining Services tested this year. The waste to water machine used much more water than expected and the soil amendment machine could not digest paper/bagasse products. The waste to water pilot is cancelled but Dining Services is still working with the soil amendment machine to see if they can get it to work for

their operations. Also, Facilities Management has agreed to haul organic waste to an offsite compost location, which is currently in Carroll County.

Composting at BARC

Mary Ann Ottinger recently met with staff at the Beltsville Agricultural Research Center (BARC) about the potential of composting the University's organic waste at that facility. The people at BARC have questions for Dining Services before moving forward. **See Appendix C**. One caveat is that anything that happens at BARC must be connected to a research project but it would be simple enough to design a project around composting.

Bottled Water at Athletics Events

Colleen Wright-Riva reported that 88,000 bottles of water were sold at athletic events last year. There are significant costs and logistical problems with letting customers bring in reusable bottles. There are also Pepsi contract implications.

ACTION: Ann Wylie will talk with Athletics about installing more water fountains at Athletic facilities.

Solar Installation at Severn Building

Joan Kowal provided an update on the Project Sunburst grant the University received to install photovoltaic panels. The Severn Building was selected for the installation. The large array will cover almost the entire roof and will be operational in June 2011. The University will not keep the solar renewable energy credits (SRECs) until year six, which works well for our solar Renewable Portfolio Standard (RPS) requirements.

Adjourn: 2:30pm

Appendix A

University of Maryland
University Sustainability Council

Tuesday, November 30, 2010

2011-2030 Facilities Master Plan Update - Landscape Master Plan Elements Briefing

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Objective Statement: The landscape master planning process strives to create a coherent campus design that promotes connectivity within a framework of recognizable districts utilizing the concept of performance landscapes which layer functions such as ecosystem services, academic resources, traffic and safety management, visual appeal, recreational and communal opportunity and quality of life for the campus community.

Planning elements related to water resources under discussion include:

1. Stormwater management including strategies for:

    a. Compliance with upcoming regulations for minimization of off-site discharge of both water and nutrients.

    b. Accommodation for stormwater through environmental site design for groundwater recharge and irrigation reuse and measurement of this ecosystem service.

    c. Revelatory and instructive treatment of water in visible ways where appropriate through bioretention facilities, stormwater amenities and reconnection of the campus community with our riparian, wetland and flood plain systems and their repair and protection.

2. Sustainable and regenerative landscape design

    a. Application of SITES criteria and rating system (The Sustainable Sites Initiative™ is a performance-based LEED-comparable rating system for landscapes, with or without associated buildings, currently under development by three partners: the American Society of landscape Architects, the Lady Bird Johnson Wildflower Center and the U.S. Botanic Garden. The initiative is in a pilot project phase and anticipates open enrollment of projects in 2013.)

    b. Identification of non-potable water sources for reuse as irrigation and maximization of efficiency of current systems through updated technology and system audits.

    c. Development of the Arboretum and Botanical Garden as a model of sustainable design inclusive of appropriate native and exotic plant material while excluding additional known invasive species use and supporting local biodiversity in all aspects.

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LIGHTING UPDATE
SUSTAINABILITLY COUNCIL MEETING 11/30/2010

Hallway Lighting Completed

- Began in May 2008
- 28 academic buildings completed to date; hallways represent 360k sq ft (12%) of 3M gross sq ft
- 75% reduction in energy: 1.1 Watts/sq ft to 0.3 Watts/sq ft
- $299,201 annual energy savings; 2,688,241 kWh; 2,137 tons carbon reduction
- Cost $1.3M; average payback 4.3 years; $3.55/sq ft
- Pepco rebates of $51,910 reduces payback to 4.1 years

Hallway Lighting In Progress/To Be Completed

- 12 academic buildings remaining
- Estimated completion date of 06/30/2011

ESCO Lighting Completed

- Began June 2009, substantial completion April 2010
- 9 buildings (1.23M sq ft) all spaces - offices, classrooms, restrooms, hallways, stairwells
- $341,075 annual energy savings; 3,018,366 kWh; 2,399 tons carbon reduction
- Cost $3.8M; average payback 11.2 years; $3.10/sq ft
- Pepco rebates of $355,405 reduces payback to 10.3 years

Classroom Lighting

- Comprehensive Approach
  - Proposed a standard using 2x4 T5 fixtures; achieving recommended light levels
  - A few classrooms completed in School of Public Health, Benjamin Hall
  - 61% reduction in energy: 1.8 Watts/sq ft to 0.7 Watts/sq ft
  - Potential annual savings of $193,899; 1,742,127 kWh; 1,385 tons carbon reduction
  - Estimated cost $904,000; average payback 4.7 years; $4.00/sq ft
  - Challenges
    - Type and cost of dimming system to utilize
    - Use of 2x2 fixtures vs. 2x4 fixtures to accommodate A/V equipment
      - increases cost by 130% and energy use by 20%--when compared to 2x4 fixtures
  - Can take several years to schedule classroom availability

Under Evaluation for Replacement/Retrofit

- Classrooms – Occupancy Sensors Only
  - Assume 30% reduction in energy consumption
  - With utility rebates, payback can be less than 1 year
  - Can accomplish installation in majority of classrooms in one summer
- Exterior lighting
- High bays
- Offices
- Labs
- Restrooms

Notes

- Pepco rebates available through 12/31/2011 or until all funds are committed
- While we've addressed lighting retrofits by space type, in some buildings it makes sense to use a comprehensive approach by developing a strategy for the entire building; e.g., Van Munching Hall and McKeldin Library.

Appendix C

Composting at USDA-BARC
MA Ottinger

The USDA-Beltsville Agricultural Research Center has a composting facility. There have been previous discussions that have positioned us to follow up on potential collaborative options.

- Pat Milner coordinates the composting facility
- Randy Townsend is the facility supervisor
- Their MD license allows composting for research purposes only!
- BARC does containerized composting
    - Interested in front end performance factors
    - They don't do well with knives and forks
    - High temperature has resulted in less break down of materials
        - Research on why these materials don't break down
        - Formulations that would resolve these issues
    - ASTM Standard—bench test is composting in 180 days at 58 degrees
        - Link bench test to real world
- White House Committee appointed to consider composting issues, so this is high visibility area of sustainability
- BARC needs information from us on:
    - Volume of compost materials
    - Liquid portion/biodegradable products
    - Limitations or changes in volume with semester and over the year
- Next Steps: Organize a meeting with Scott, Colleen, Pat and any others interested in this project; MAO will arrange for the meeting