

Energy and Sustainability Committee Meeting Minutes
November 28, 2011
2:00 – 3:00 p.m.
Presidents Board Room, Burruss Hall

Present: Fred Selby, Kayla Smith (for Sherwood Wilson), Savita Sharma (for Dwight Shelton), Mike Coleman, John Bush (for AVP - University Planning), Denny Cochrane, Rial Tomes (for Donna Ratcliffe), Rob Lowe, Mintai Kim, John Randolph, Nancy McGehee, Becky Saylor, and Alex Kosnett.

Absent: Bruce Ferguson, Georg Reichard, Tom Tucker, Paul Winistorfer, Michael Painter, James Dale, and Kyle Gardiner.

Guests: John Chermak, Richard Hirsh, Leigh LaClair, Angie De Soto, Alyssa Halle, and Maura Leveroos.

Call Meeting to Order and Welcome Guests

Chair Fred Selby called the meeting to order and welcomed everyone. He introduced Leigh LaClair, the new Deputy Chief Facilities Officer, to the Committee.

Approval of Agenda

The Committee approved the agenda as proposed.

Approval of the October 31, 2011 Minutes

Draft minutes from the October 31, 2011 meeting were presented to and approved by the Committee.

Old Business

1) 2011-2012 Request for Proposal for Student Organization Sustainability Initiatives (Green RFP)

Denny Cochrane provided a brief overview and the results of the Energy and Sustainability Committee review and prioritization process for the “2011-2012 Student Organization Sustainability Initiatives (Green RFP) Program.

The purpose of the Green RFP Program is to solicit student sustainability proposals that will help achieve goals outlined in the Virginia Tech Climate Action Commitment and Sustainability Plan: <http://www.facilities.vt.edu/documents/sustainability/sustPlan.pdf>. This year the Office of Energy and Sustainability (OES) received 19 Green RFPs from 8 student organizations. The Energy and Sustainability Committee (E&SC) is responsible for reviewing all proposals and for prioritizing proposals recommended for approval and funding consideration. To initiate and facilitate that tasking, the E&SC created a Green RFP Subcommittee. Using the same format as last year, the Green RFP Subcommittee was tasked to place each proposal in one of the following three categories:

Category 1: Proposal is recommend for approval and funding consideration.
Proposals in this category were placed in a proposed priority order.

Category 2: Proposal has merit, but is not recommend for approval and funding consideration at this time. Proposals in this category were not placed in a priority order.

Category 3: Proposal is not recommended for approval and funding consideration. Proposals in this category were not placed in a priority order.

The Green RFP Subcommittee completed their initial review and prioritization on November 4, 2011 and those results were subsequently presented to the Vice President for Administrative Services (VPAS) Dr. Sherwood Wilson and to the Associate Vice President and Chief Facilities Officer Mike Coleman for their review and comments. The VPAS provided valuable suggestions and recommendations to the Green RFP Subcommittee and all were accepted.

The results of the Green RFP Subcommittee and VPAS review and prioritization process are shown in the “Green RFP 2011-2012 Summary” table (see “E&SC 112811 Attachment 1 – Green RFP 2011-2012 Summary Table.xlsx”). The proposals are listed in categorical order and contain the title and brief description, the name of the student organization that submitted the proposal, the estimated cost, and remarks. The remarks include a statement as to how the proposal supports the VTCAC Resolution and Sustainability Plan, key points from the review process, and a summary statement from the Green RFP Subcommittee and VPAS.

Using the “Green RFP 2011-2012 Summary” table and an electronic voting process, the Energy and Sustainability Committee overwhelmingly approved the recommendations of the Green RFP Subcommittee and VPAS on November 21, 2011. The results are as follows:

Category 1: 12 proposals having a total cost estimate of \$78,440.
Category 2: 5 proposals having a total cost estimate of \$34,458.
Category 3: 2 proposals having a total cost estimate of \$45,300.
Grand Total: 19 proposals having a grand total cost estimate of \$158,308.

On November 22, 2011, Denny Cochrane presented the results of the Green RFP E&SC review and prioritization process to Travis Hundley, Assistant Director of Budget Operations, Office of Budget and Financial Planning.

By way of comparison, for the pilot program last year, the university approved 5 student proposals having a cost estimate of \$26,763.

New Business

2) Virginia Tech Climate Action Commitment and Sustainability Plan (VTCAC&SP) Discussion

- a. Immediate Term Action Item Status
OES Graduate Assistant Alyssa Halle presented an overview of the Virginia Tech Climate Action Commitment and Sustainability Plan "Status Report", which can be

found at http://www.facilities.vt.edu/documents/sustainability/vtcac_status.pdf. She pointed out the addition of a new color-coded “Status” column for readers to more readily determine whether individual actions are completed, implemented / ongoing, in progress, on hold, or cancelled. Of the original 85 total action items in the Immediate Phase, with 4 of the measures being duplicates, status of the remaining 81 are as follows:

- 53 items are “Completed” or “Implemented/Ongoing” (65.4%)
- 19 items are “In Progress” (23.5%)
- 9 items are “On Hold” or “Cancelled (11.1%)

b. Mid-Term Action Item Review / Reassessment Brainstorming

Fred Selby next shared a presentation (see “E&SC 112811 Attachment 2 - Sustainability Plan Mid-Term Actions Status Review.pptx”) that listed the 24 mid-term (2013-2025) action items and showed current activities in support of six of them.

This led to a follow-up discussion from October’s committee meeting regarding the decision that the committee would undertake a comprehensive reassessment of the 2009 Sustainability Plan, including a review of outstanding Immediate Term and Mid-Term actions/measures. Fred Selby asked the Committee for their suggestions on how to begin this and suggested as one option to form a subcommittee to work offline on this. John Randolph responded that a subcommittee should instead move a step level higher and reexamine the original Virginia Tech Climate Action Commitment Resolution, and particularly its campus greenhouse gas (GHG) emissions reduction commitments. The Committee agreed to this proposal and Fred Selby stated that he would form and charter a subcommittee prior to the Committee’s next scheduled meeting on January 31, 2012.

3) Open Discussion

John Randolph raised the issue of the Stadium Woods controversy and if the Committee plans to take a position on it. Because of time, further discussion will need to be tabled until a future meeting.

Future Meetings

Dates: The remaining scheduled meeting dates for Academic Year 2011-2012 are as follows:

- January 30, 2012
- February 27, 2012
- March 26, 2012
- April 30, 2012

Times and Location: All meetings will be held from 2:00 p.m. to 3:00 p.m. in the Presidents Board Room, 210 Burruss Hall unless noted above.

Adjourn

The meeting was adjourned.

GREEN RFP 2011-2012 SUMMARY

November 18, 2011

CATEGORY 1: Proposals Recommended for Approval and Funding Consideration (listed in priority order)

<u>No.</u>	<u>Description</u>	<u>Student Organization</u>	<u>Estimated Cost</u>	<u>Remarks</u>
1.	Outdoor Mixed Paper Recycling Containers. Requests five 1½ cubic yard tilt trucks with lids to be used as mixed paper recycling containers to be placed near campus student housing.	SGA, Director of Sustainability	\$3,670	Directly supports VTCAC&SP's goal to increase Virginia Tech's recycling rate to 50% by 2025. Virginia Tech is a jurisdictional member of the Montgomery Regional Solid Waste Authority (MRSWA). MRSWA's fee for mixed paper recycling is \$0 per ton, whereas its fee for trash is \$51 per ton. From an economic standpoint it behooves the university to capture as much mixed paper and keep it out of the landfill. The tilt truck with lid costs \$734 each. University approved and funded ten similar containers last year (Green RFP 2010-11, Priority No. 3). The Office of Energy and Sustainability (OES) provided funding for the signage, and Facilities Services personnel designed and attached signage to the containers. Units were deployed near the residence halls at strategic collection locations, and were extremely well received. No additional collection equipment or personnel was required. This request will build on previous success. OES will again fund the signage. Subcommittee supports the proposal. VPAS supports the proposal.
2.	Indoor Mixed Paper Recycling Bin "Pilot Program" for Residence Halls. Requests 350 paper recycling containers for use in each residence hall room in East AJ and Hillcrest Halls. This compliments the Outdoor Mixed Paper Recycling Containers proposal.	Honors Residential College Committee on Service and Sustainability	\$1,500	Directly supports the VTCAC&SP's goal to increase recycling rates. At the present time each residence hall room has a small recycling container that is dedicated for "bottles and cans" which occupants use to transport material to a nearby outside collection container. In a similar manner this request would provide room occupants with a small container dedicated for just "mixed paper." Mixed paper recycling is extremely important to our students and has the potential to provide the university with a substantial cost savings. Ken Belcher (Associate Director for Occupancy Management, Housing and Residence Life) assisted in the preparation of this Green RFP and obtained a price quote from the same supplier that has provided the "bottles and cans" container. Cost per container is \$4.28 and includes shipping. Subcommittee supports the proposal. VPAS supports the proposal.

<p>3. Waste Stations. Requests four MAX-R Brand Indoor, Triple Stream, 32 Gallon, Waste Sorting Stations. In addition to the trash and recycling sections of the waste station, the "Triple Stream" Waste Sorting Station introduces a post-consumer food waste section for composting. Proposal identifies four locations at buildings Poplar Manor Enterprises, Inc. (PME) currently provides composting services for, or is targeted to provide services in 2012 (two stations inside the Dietrick Dining Hall, one inside Squires Student Center near Au Bon Pain, and one inside the new Turner Place Dining Facility).</p>	Environmental Coalition	\$8,000	<p>Directly supports the VTCAC&SP's goal for Dining Services to develop food waste reduction strategies and for the university to achieve a 50% recycling rate by 2025. Top-load container w/ headboard is \$1,775 each, and with additional shipping costs results in a cost of \$8,000 for four containers. Elena Dulys (Dining Services Sustainability Coordinator) assisted in the preparation of this proposal. Ted Faulkner (Director of Dining Services) fully supports this proposal. Patty Justis (Interior Designer, University Planning & Design) approved the concept and supports the proposed MAX-R model. The original request was for 12 waste sorting stations with 8 to be located outside and at some locations not currently serviced by PME for composting.</p> <p>Subcommittee was concerned with these 8 outdoor locations as it would require additional unknown costs for collection from PME. The Subcommittee recommended the RFP be modified to include only the 4 indoor locations that PME currently services, or is projected to service, and make this a pilot program. The proposal was revised to request four waste sorting stations, and the Subcommittee is supportive of the proposal.</p> <p>VPAS had significant concerns with placing composting stations outside as it presented health issues, smell, bees and critter issues. VPAS is supportive of the proposal as revised to have only indoor containers and at locations currently serviced, or projected to serviced, by Dining Services.</p>
<p>4. Reusable Water Bottles. Requests 500 reusable water bottles to be used for promotional use during highly visible on- campus sustainability awareness events.</p>	SGA, Director of Sustainability	\$4,100	<p>Directly supports the VTCAC&SP's goal for waste minimization. Proposal requests funds for 500 water bottles at \$8 each and \$100 for advertising. Proposal modeled after a very successful program at Western Michigan University. Rather than hand out 6,000 bottles to the entire freshmen class, the intent is to have fewer bottles that can be used as rewards for presentation during highly visible educational opportunities and events such as Earth Week.</p> <p>Subcommittee supports the proposal.</p> <p>VPAS supports the proposal.</p>

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| 5. | Additions to Sustainable Farm.
Request is to purchase fruit trees, berry bushes, perimeter fencing, and netting for the Sustainable Food Corps (SFC) Farm located at the Smithfield Plantation. | Sustainable Food Corps | \$4,600 | <p>Directly supports the VTCAC&SP's goal to increase sustainability education and engagement. The SFC received \$1,130 last year for the installation of an irrigation system at the farm (Green RFP 2010-11, priority No. 5). Dr. Ron Morse provided oversight and assistance with the preparation of the Green RFP last year and with the purchase and installation of the irrigation system. The farm produced over 1,000 pounds of produce last summer. This proposal will provide two things. First, it will provide \$1,000 for the purchase of fruit trees and berry bushes which will allow the farm to go to the next level. Second, it provides \$3,600 for a perimeter fence and netting to keep out critters. Once again Dr. Morse participated in the preparation and validation of all costs.</p> <p>Subcommittee supports the proposal.
VPAS supports the proposal.</p> |
| 6. | Bike Racks & Bike Shelter.
Requests 10 standard Bike Racks and one standard Bike Shelter. | SGA, Director of Transportation | \$22,400 | <p>Directly supports the VTCAC&SP's goal to increase alternative transportation usage on campus. University approved and funded for 15 standard bike racks last year which were placed near academic and administration buildings (Green RFP 2010-11 priority item No. 1 and 2). A standard bike racks costs approximately \$1,000 each, and may vary depending on the specific site selected and installation requirements. The ten bike racks are primarily targeted for installation near the residence halls. In addition, \$10,400 is requested for a Bike Shelter to be placed near the Squires Student Center. Debby Freed (Alternative Transportation Manager) has reviewed feasibility and cost data and is very supportive. Partial funding is an option for the Bike Racks portion of this request.</p> <p>Subcommittee supports the proposal, and especially the Bike Shelter and its proposed location.
VPAS supports the proposal.</p> |

<p>7. Water Bottle Refill Stations. Requests four Elkay brand EZH20 Water Bottle Refilling Stations (two "Combination Kit-Water Cooler plus Refill Station", and two "Retrofit Refill Station"). One of each type to be installed in the Squires Student Center and Newman Library.</p>	Environmental Coalition	\$8,000	<p>Directly supports the VTCAC&SP's goal to increase the use of reusable bottles and to decrease the use of purchasing beverages in plastic bottles. Combination Kit unit is \$1,500 each and Facilities Services estimates the cost of installation is \$1,500 (total cost for 2 units is \$6,000). Retrofit unit is \$500 each and Facilities Services estimates the cost of installation is \$500 (total costs for 2 units is \$2,000). Scott Reed (Associate Director of Student Centers and Activities at the Squires Student Center) is supportive of the proposal, noted they have installed this particular Elkay model in Squires already, and is supportive of installing more. They are very popular with students. Dennis Herron (Facilities Manager, University Libraries) reviewed the proposal, supports placing two in Newman Library, and with some upcoming renovation work in Newman suggests flexibility is exact locations for installation.</p> <p>Subcommittee supports this proposal. VPAS supports this proposal.</p>
<p>8. Hokie Stone Rally Towels and Sustain Lane Initiative. Requests funding for the purchase of 3,000 rally towels.</p>	Sustain Lane Initiative Intern Team	\$11,475	<p>Seed funding is requested to launch the "Hokie Stone Wall" initiative for Lane Stadium - a creative funding mechanism. Proceeds from the rally towel sale will directly fund additional sustainability projects. 1,500 towels will be purchased at production cost (\$2.65) to be sold at the University Bookstore (\$5.00). The other 1,500 will be purchased at consumer cost (\$5.00) for marketing and give a-ways to build visibility and momentum for the initiative.</p> <p>Subcommittee supports the proposal. VPAS supports the proposal.</p>
<p>9. HOKIE Stone Rally Towel Purchase. Requests funding for the EC to purchase 500 rally towels.</p>	Environmental Coalition	\$2,625	<p>EC wishes to purchase 500 towels to help jumpstart the "Hokie Stone Wall" described in No. 8 shown directly above.</p> <p>Subcommittee supports the proposal. VPAS supports the proposal.</p>

<p>10. On Campus Food Market Support. Requests funding for rental space, tables, and electric power to host the ongoing monthly on campus farmer's market event held at the Graduate Center's Outdoor Plaza across from the Squires Student Center.</p>	Environmental Coalition	\$1,070	<p>Environmental Coalition is partnering with a number of student organizations to include the Center for Student Engagement & Community Partnership (CSECP) and Graduate School. Cost per event is \$133.35. Intent to have 4 events per semester (8 events per academic year). Subcommittee supports the proposal. VPAS supports the proposal.</p>
<p>11. Low-Tech Bike Share Program. Request funds for 20 bikes to be obtained from a variety of sources, placement at four locations with locking devices, some administrative oversight and maintenance (student intern). Patterned after a successful program at the University of Chicago.</p>	SGA, Director of Sustainability	\$10,000	<p>Supports the VTCAC&SP's goal to increase transportation energy efficiency, reduce GHGs, promote alternative transportation, and to introduce a bike share program on campus. Debby Freed (Alternative Transportation Manager, Transportation & Campus Services) reviewed the proposal and had several administrative and logistical concerns. The proposal suggests a student intern be hired to provide daily management of the program and at the present time her office does not have the resources to provide adequate oversight. Debby is aware that the Graduate School has initiated a very simple bike share program, but her office is not involved. Debby stated that a Bike Share Program would be included in the discussion for the future Multi-Modal Transfer Facility (MMTF) to be located along Perry Street. Subcommittee initially supportive, but given the comments from Debby felt that they should not recommend approval and funding consideration. VPAS felt that the proposal may have merit and worth possible reconsideration. He understands the Dean of the Graduate School Karen Depauw is very supportive of a Bike Share program. Debby has been tasked to obtain feedback from the Graduate School to see if it is worthy to revise and submit this Green RFP with the Graduate School as the student organization.</p>
<p>12. Bike Safety Lights. Requests for 200 bike safety lights to be used for prizes at sustainability events such as Earth Week.</p>	SGA, Director of Transportation	\$1,000	<p>Supports the VTCAC&SP's goal to increase transportation energy efficiency, promote alternative transportation, and to reduce GHGs. State law requires bikes to have safety light when operated at night. Intent is to encourage students to ride bikes at night to reduce automobile usage. Debby Freed verified that a set of light could be purchased for between \$5-10 per unit. Subcommittee felt that while they fully support bike safety, it did not feel the Green RFP program was an appropriate funding source for what they felt was an individual operator's responsibility. Therefore, it did not recommend for approval and funding consideration. VPAS felt that proposal had merit and encouraged it be advanced for approval and funding consideration.</p>
Category 1 Total Cost		\$78,440	12 Proposals

CATEGORY 2: Proposals Have Merit, but are Not Recommended for Approval and Funding Consideration at this time (not in priority order)

<u>No.</u>	<u>Description</u>	<u>Student Organization</u>	<u>Estimated Cost</u>	<u>Remarks</u>
13.	<p>Ytoss? Program Support. Requests funding to rent and position 10 PODS portable storage units near the residence halls during move-out in May, to store those PODS on campus during the summer, and to relocate them near McComas Hall for the sale during student move-in. In addition, the request includes the purchase of 60 promotional signs with the new Ytoss? logo.</p>	YMCA at Virginia Tech	\$5,189	<p>Ytoss? Program is a high-profile and successful partnership primarily between the YMCA at Virginia Tech and Virginia Tech Recycling. For the past 2 years Ytoss? kept nearly 20,000 pounds of reusable items of furniture, appliances, etc. from the local landfill, and has been featured in the annual Virginia Tech Calendar Year Locality Recycling Rate Report. Ytoss? will introduce McComas Hall as the location for the sale of reuse material in August 2012. Currently the YMCA pays the rental fee. The signs are needed for the collection during student move-in and can be reused each year. This is a one-time cost.</p> <p>Subcommittee supportive of the Ytoss? program and this proposal.</p> <p>VPAS supports Ytoss?, however, had concerns with the university providing funds for renting the PODS units when the profits from the reuse sale go to the YMCA. Did not believe it should be included as a category 1 proposal. Placed in category 2.</p>
14.	<p>Automatic Hand Dryers. Request to provide four Xlerator Automatic Hand Dryers in each of the two large restrooms in the Surge Building (total of eight units).</p>	Environmental Coalition	\$12,800	<p>Xlerator model XL-W costs \$625 per unit. For 8 units the total price is \$5,000. The installation cost per unit is \$1,000 (need a dedicated 15 amp electric line), and the total installation costs is \$8,000. Partial funding is an option. Original request was to provide a more expensive brand and a large number of hand dryers in seven buildings. The Subcommittee was initially supportive of the concept, but recommended making the proposal more specific (i.e. select one building for a pilot program, and identify # of units and installation costs). Wyatt Sasser (Director of Custodial Services, Facilities Service Department) reviewed and recommended selecting the Surge Building with placing 4 hand dryers in each of the 2 large restrooms. Wyatt noted we installed the Xlerator model in the New Visitors & Admissions Center and results seem favorable thus far. He further stated that for the one year period August 2010 to 2011, they used 47 cases of roll towels in the Surge Building at a cost of \$1,575.</p> <p>Subcommittee supportive of this revised proposal.</p> <p>VPAS concerned with the unknown energy costs. Need to conduct a cost analysis comparing the current paper towel method versus the introduction of automatic hand dryers. Energy study could be a good student project. The proposal has merit, but without sufficient data recommended to not seek approval and funding at this time.</p>

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| <p>15. Upgrade Processing Facility at the Catawba Sustainability Center (CSC).
Request will provide funding to outfit a building to support VT Earthworks with the post-harvest washing and processing of produce.</p> | <p>Students for the CSC</p> | <p>\$4,160</p> | <p>Directly supports the VTCAC&SP through student enagement and outreach. Christy Gabbard, Director of CSC, Outreach & International Affairs, directly participated in the preparation of this RFP. VT Earthworks is an incubation program for over 40 land-based businesses. The proposed processing facility will help provide some critical infrastructure so that more food producers can easily sell local food to Virginia Tech. Subcommittee was generally supportive. VPAS felt that since there was limited campus involvement with this proposal relative to others submitted, recommended we not seek approval and funding at this time.</p> |
| <p>16. Sustainability Center in Squires.
Request is to select a student room in the Squires Student Center that is dedicated to students for sustainability. Request includes funds to purchase furniture, an iMac computer, and other equipment.</p> | <p>SGA, Director of Sustainability</p> | <p>\$8,069</p> | <p>Directly supports the VTCAC&SP through student engagement and sustainability program collaboration. Itemized costs: \$6,000 furniture; \$1,200 iMac; \$70 Epson Printer; \$299 Compost Mach.\$500 Resource Mat. Scott Reed, Associate Director of Student Centers and Activities, in the Squires Student Center has discussed the proposal with the SGA Director of Sustainability, Kyle Gardiner. While in theory this sounds like a wonderful idea, the reality is there is no space available in the Squires Student Center for this initiative. In the future when Squires is being renovated or upgraded this proposal could be revisited. Subcommittee members questioned the need to buy new furniture when reused furniture could be obtained through such programs like Ytoss? Subcommittee feels proposal has merit, but did not recommend for approval and funding consideration at this time. VPAS concurs with Subcommittee's recommendation.</p> |

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| <p>17. SUNRNR Solar Generator.
 Request includes \$3,800 for the 3.5KW generator and \$500 for the 135 watt solar panel that will cut in half the charging time. Lightweight, portable, for use with drillfield events such as Relay for Life & Earth Week.</p> | <p>SGA, Director of Sustainability</p> | <p>\$4,350</p> | <p>RFP was submitted last year, but was not advanced due to questions about ownership, storage, & maintenance. Current proposal suggests the generator could be housed in the Squires Student Center and rented to various organizations. Scott Reed, Associate Director of Student Centers and Activities, located in the Squires Student Center has reviewed the RFP and has similar concerns as last year.
 Subcommittee feels proposal has merit and suggested contacting local rental companies encouraging them to consider purchasing this or a similar unit. Having a rental company own, store, and maintain the unit would eliminate concerns by Scott and others. The Subcommittee did not recommend the proposal as written for approval and funding consideration at this time.
 VPAS concurred with the Subcommittee's recommendation.</p> |
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Category 2 Total Cost \$34,568 5 Proposals

CATEGORY 3: Proposals Not Recommended for Approval and Funding Consideration (not in priority order)

<u>No.</u>	<u>Description</u>	<u>Student Organization</u>	<u>Estimated Cost</u>	<u>Remarks</u>
18.	High-Tech Bike Share Program. Request funds for 8 bikes and one bike station. Includes cost for a maintenance intern. Patterned after the BIXI company program for Washington State University.	SGA, Director of Sustainability	\$45,300	Supports the VTCAC&SP's goal to increase transportation energy efficiency, reduce GHGs, promote alternative transportation, and to introduce a bike share program on campus. Debby Freed reviewed and deemed not feasible. While public space and staffing would be included in a High Tech approach, the cost in this RFP seems very low and suspect. Transportation & Campus Services has plans for a Bike Share program to be included with the Multi-Modal Transportation Facility (MMTF) along Perry Street. Subcommittee does not recommend for approval and funding consideration. VPAS concurs with Subcommittee's recommendation.
19.	Green Roofing. General request for the further implementation of green roofing on campus. It is not building specific.	Environmental Coalition	Unknown	EC student J. Cabell Neterer encouraged the university to advance green roofing technology and provided an article from the <i>Science Direct</i> . The proposal did not identify a specific building, scope of work, who would install and maintain the roof, and overall costs. Student stated cost is \$20/ sq. ft. Subcommittee did not recommend for approval and funding consideration. VPAS concurred with the Subcommittee's recommendation.
		Category 3 Total Cost	\$ 45,300	2 Proposals (Green Roofing RFP is not included in the cost)
		GRAND TOTAL	\$158,308	19 Proposals (Green Roofing RFP is not included in the cost)

Sustainability Plan Excerpts

By its nature, the plan has a long time horizon since climate action and sustainability are long term issues that will not be addressed overnight. The plan includes prospective actions in three times periods:

1. Immediate: 0-3 years (2009-2012)
2. Midterm: 4-16 years (2013-2025)
3. Long term: 17-41 years (2026-2050)

“It is important to assess the prospective actions of VTCAC &SP for meeting the goals and targets of the commitment. This plan was developed in only six months and has a very long time horizon. Although it involved a large number of people and aimed to be comprehensive, it is limited by the capacity of the participants and the uncertainties of the future. The list of prospective actions is long, but cannot be expected to include the full range of possibilities that the future will hold for reducing energy and waste and replacing carbon-based fuels. Future measures that are currently unknown will certainly complement the log list of strategies presented here. **Therefore, it is important that this plan become a living document subject to continual review, critique, and revision as results of monitoring become known and new options are devised.**”

(Section XIII. Achieving the VTCAC: Assessing Actions to Meet Emission Reduction Targets)

Administrative Structure and Governance

- *No mid-term actions identified*

Facilities Infrastructure

Central Steam Plant and Steam Distribution System

1. Identify further upgrades of existing system, including co-firing biomass with coal to reduce costs, energy and emissions
 - Conduct performance evaluation of #7 Boiler Emissshield application; Determine whether to proceed further with #11 coal boiler
 - Conduct/support additional test burn(s) of biomass co-firing; develop strategic plan
2. Plan for next generation of University Steam and Distribution System (plan to replace current boilers and generators with new power plant system)

VTES

1. Develop distributed green electricity plan on campus (and "smart grid" improvements to accommodate on-site generation)

Chiller System

- *No mid-term actions identified*

Facilities Infrastructure (Cont.)

New and Renovated Buildings

1. Adopt Architecture 2030 interim goals for energy use reductions in new buildings relative to ASHRAE 90.1-2004 standards: 50% by 2016 and 75% by 2022.

Existing Buildings

1. Develop procedures to integrate life-cycle costing, energy efficiency, water efficiency, and other sustainability factors in all campus projects funding from maintenance reserve and operating funds.
 - [Implement ISO-14001 Environmental & Sustainability Management System in Facilities Operations](#)

Campus Planning, Landscape and Grounds

1. Plant 100-200 2”+ caliper trees per year to increase tree canopy land cover by 2% per year to maximize canopy cover by 2025 as we meet other campus land needs.

Facilities Operations

Thermostat Settings, Air Handling and Chiller System Operation

- *No mid-term actions identified*

Recycling

1. Reduce waste generated per student/employee and increase recycle rate to 50% by 2025 (expand and optimize program and increase participation)
 - Develop action plan to implement Comprehensive Waste Management Plan recommendations
 - Campus facilitation for MRSWA acceptance of plastics 3-7
 - Implement Printing Services Copier Management Program with Konica Minolta
 - Investigate re-use / recycling opportunities for Dining Services used cooking oil

Smart Procurement

- *No mid-term actions identified*

Facilities Operations (Cont.)

Transportation and Parking

1. Institute Bike Share Pilot Program with 30 bikes; Institute Bike Share Program on Campus, based on Pilot Program
2. Place high fuel efficiency and/or electric vehicle rental service on campus for cross-campus trips. Assuming 10 vehicles for pilot project, then establish program based on pilot
3. Institute a “no freshman car rule” at VT allowing for exceptions based upon special circumstances
4. Offer parking permit price discount for vehicles with a MPG rating of 35 or higher to promote higher efficiency and hybrid vehicles

Behavior & Campus Life

Student Culture & Engagement

1. Incorporate programmatic aspect of a campus sustainability into Hokie Camp
2. Develop a culture around sustainable living on campus

Faculty & Staff Engagement

1. Host competitions between buildings on electricity, heat, and water use

Housing Services and Residence Life

1. Energy Star® requirement for all on-campus appliances used by students or staff
2. Develop and implement a Sustainability Advisors Program for the residence halls
 - Complete prep work for future student intern project; communicate framework with Housing & Res. Life
3. Host sustainability competitions between halls
 - Provide OES support of re-vamped Eco-Olympics during Spring 2012

Behavior & Campus Life

Dining Services

1. Develop a student run farm that uses composted matter and grows food for Facilities
2. Complete energy efficient lighting upgrades
 - Implement high efficiency lighting in new ASA Turner Place dining center
 - Implement ESCO Phase 1 project lighting ECM in Dietrick
3. Create a policy on energy efficient equipment replacements

University Unions and Student Activities

- *No mid-term actions identified*

The Inn at Virginia Tech and Skelton Conference Center

1. Implement the efficiency and conservation plan, maintain membership with the Virginia Green Lodging program, and consider joining the “Green” Hotels Assn.

Athletics

1. Assess waste generation after implementation of recycling program and develop a waste reduction strategy

Academic Programs

Instruction and Learning

1. Implement recommendations from benchmark-inventory study (Benchmark peer institutions and inventory VT undergraduate and graduate degree, minor, and certificate programs to identify gaps and opportunities to enhance offerings available to students)

Research and Discovery

1. Implement recommendations from benchmark-inventory study (Benchmark peer institutions and inventory VT sustainability-related research expertise, centers, and institutes to identify gaps and opportunities to enhance sustainability research funding)

Outreach and Engagement

- *No mid-term actions identified*