

Radford University  
Sustainability Steering  
Committee  
Annual Report to the President  
2008-2009



<http://rugreen.radford.edu/>

## TABLE OF CONTENTS

Executive Summary	3
The 2008-09 RU Sustainability Steering Committee	4
Introduction	5
Working Groups	5
Campus Sustainability Policy	7
A Word from the Sustainability Coordinator	8
Sustainability Rationale, Action Steps, Recommendations and Goals	9
Curriculum	9
Energy and Water	10
Table 1 RU Energy and Water Usage	11
Buildings	11
Table 2 Main Campus Building Figures	12
Recycling	12
Table 3 Recycling and Waste Figures	13
Grounds	13
Transportation	14
Purchasing	15
Student Involvement	15
Public Awareness	16
Dining	17
Measurement	17
Appendix A – Policy: Sustainability Education	19
Appendix B – Policy: Campus Energy Management Set Points	20
Appendix C – Policy: New Construction and Renovation	23
Appendix D – Policy: Recycling	24
Appendix E – Motion to Remove Paper Telephone Directories	26

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## EXECUTIVE SUMMARY

The Radford University Sustainability Steering Committee (SSC) is pleased to present the inaugural Sustainability Status Report to the RU community. We trust that it represents just one in a long line of efforts to make Radford University the flagship “green” campus in the Commonwealth of Virginia. The Committee is proud of the achievements already accomplished on campus and excited about the immediate opportunities ahead. The work of the Committee in its first year built upon a strong campus culture of environmental stewardship. Prior to the establishment of the Committee, the RU administration had already:

- Hired a Sustainability Coordinator to spearhead its greening initiatives
- Joined the Association for Advancement of Sustainability in Higher Education (AASHE), the leading sustainability organization for colleges and universities across the globe
- Signed the Talloires Declaration declaring Radford University’s commitment to a sustainable future
- Implemented trayless dining in the major food court on campus
- Converted all buses to a biodiesel fuel blend
- Instituted a centralized electrical control system to maximize energy efficiency
- Converted several gasoline powered utility vehicles to electric vehicles
- Established a free campus bus system

Although RU was already taking its sustainability responsibilities seriously, the Steering Committee provided a mechanism to increase visibility, coordination and coherence and to develop a unifying theme for these disparate campus efforts.

Over the course of its first year, with the able assistance and leadership of the Sustainability Coordinator, Julio Stephens, the SSC has recommended:

- A comprehensive Sustainability Policy Statement to guide the campus greening initiatives
- A recycling policy
- A curriculum roadmap
- A new construction and renovation policy
- A temperature set point policy
- Signing the American Colleges and Universities Presidents’ Climate Commitment

In terms of tangible actions, the SSC has worked with and advocated on behalf of the Sustainability Coordinator to:

- Eliminate paper telephone directories
- Change the default settings on computers and printers to save energy and paper
- “Brand” the RU sustainability effort with a unique and recognizable logo
- Complete several national green rating surveys to place RU in a favorable national context
- Develop a sustainability web site with a link to the RU portal
- Complete a comprehensive lighting inventory and plan to maximize lighting efficiency in campus buildings

- Complete a commuter analysis to determine the potential for ride-sharing and alternative transportation opportunities for students, faculty and staff
- Promote RU’s green presence by being a “featured campus” on the AASHE weekly newsletter and in the RU magazine
- Develop a public awareness campaign for energy, water and paper conservation for the 09-10 academic year themed “You have the ABILITY!”
- Complete the first ever greenhouse gas inventory for the campus

While we can be proud of the efforts to date, much remains to be done if RU is to achieve its goal of being the most sustainable campus in the Commonwealth. The committee is dedicated to that goal.

## **The 2008-09 RU Sustainability Steering Committee**

### **Members**

John Albano	Steve Beach	Trae Cotton
Brittany Christian	Bill Dalton	Judy Guinan
Dennis Grady	Sarah Heintzelman	Michael Hemphill
Katherine Lavinder	Tommy Manning	Anne Pascucci
Rick Roth	Roy Saville	Lennie Scott-Webber
Debra Templeton	Gary Tilley	

### **Staff**

Julio Stephens – Sustainability Coordinator

Sandy Steele – Recorder

In the pages that follow the Committee describes the activities and recommendations emanating from the Working Groups. It is important to emphasize that this is just the beginning of RU’s efforts. However, by building upon a solid foundation and maintaining the momentum developed in the 2008-09 academic year, we are committed to meeting the challenge posed by the campus leadership.

### **Acknowledgements**

The Committee wishes to thank Martha Stephenson for providing editing assistance on this report and Lynn Zock for editing and production assistance on the final report.

# INTRODUCTION

The impact of a university on the natural environment is profound, both in positive and negative ways. From a positive perspective, universities are the place where the leaders of tomorrow gain a deeper understanding of their impact on the natural environment. They learn what they can do personally and collectively to make that impact a positive one. Universities create and disseminate new knowledge that untangles the complexities of ecosystems. This enhances our ability to live in harmony with the environment.

On the negative side, universities are large enterprises that continuously impact the environment. In many communities the university is the single largest polluter, the largest contributor to greenhouse gas emissions, and the largest source of solid waste within the community. Therefore, universities have an obligation to take seriously their role in improving the environment at the local, state, national and international levels.

Beginning in fall 2008, Radford University accepted that responsibility, dedicating itself to moving aggressively forward to improve its environmental profile. Under the leadership of President Penelope Kyle, the Radford University community initiated a bold campaign to reduce its carbon footprint, to adopt state of the art sustainability practices, and to serve as a model for how a university can live in harmony with its natural setting. Given its location on the banks of the federally designated Wild and Scenic New River, within the beautiful Appalachian Mountains, surrounded by forests and farms, RU should do nothing less.

President Kyle initiated a creative and comprehensive approach to address sustainability by bringing together campus leaders in the academic, business and student affairs communities. Sixteen members were appointed to the Sustainability Steering Committee to serve as a sounding board for ideas and to recommend to the President and the Cabinet specific policies that would make the campus more environmentally sound. The Committee quickly realized that it would need to create a series of working groups if it were to achieve its mission.

## Working Groups

The purpose of the working group structure was to ask interested individuals from the larger RU community to focus on specific areas of sustainability. The working groups were charged with:

- Identifying sustainability issues within their respective domains
- Conducting research on the current condition at RU pertaining to those issues
- Reviewing the literature on “best practices” addressing those issues
- Recommending to the Steering Committee policies, procedures, courses of action or other measures to address those issues

These working groups were organized around the following areas:

**New Construction and Renovations** – Chair, Roy Saville

To examine issues related to levels of LEED certification and other “green” building practices for new construction and renovation projects.

**Curriculum** – Chair, Judy Guinan

To examine how sustainable education programs might be developed and how environmental literacy could be interwoven across the curriculum.;

**Measurement** – Chair, Debra Templeton

To develop data and metrics to measure and report on GHG emissions and other sustainability indicators.

**Energy/Water Conservation and Use** – Chair, Tommy Manning

To look at ways to increase energy efficiency programs and water conservation across campus and recommend campus-wide policies for reducing electrical and water demand.

**Recycling** – Chair, Julio Stephens

To examine ways to increase the amount of waste recycled and develop policies to reduce the amount of waste produced.

**Grounds/Habitats** – Co-chairs, Judy Guinan and Tommy Manning

To examine ways that the campus’ natural assets can be tended in a more sustainable manner.

**Transportation** – Chair, Tommy Manning

To examine ways to increase the fuel efficiency of the motor fleet, use of alternative fuels, and reduction of VMT by students, faculty and staff.

**Purchasing** – Chair, Gary Tilley

To explore ways to increase the amount of local food in food contracts and green product purchasing, while holding vendors to a higher level of sustainability.

**Food Services** – Chair, Bill Dalton

To explore ways to reduce waste and water usage under our contract with Chartwells.

**Student Involvement** – Co-Chairs, Trae Cotton, Katherine Lavinder, Brittany Christian, Sarah Heintzelman

To look at best practices and programs for involving students as drivers of campus sustainability.

**Investments** – Chair, Steve Beach

To examine how the University invests its portfolio in socially responsible companies and funds.

**Public Awareness** – Chair, Michael Hemphill.

To publicize the on-going work regarding sustainability activities on campus.

Eventually, over 80 members of the campus community were involved in the working groups to develop ideas and policy recommendations to be discussed and voted on by the Steering Committee at its monthly meetings. The level of participation and the volume of ideas coming from the campus community made it clear that President Kyle had struck a receptive and responsive chord with her call for action on the environment.

At its February 19, 2009 meeting, the Sustainability Steering Committee accepted the recommendation of the Sustainability Coordinator to adopt the following overarching Policy Statement to guide the campus efforts:

## **CAMPUS SUSTAINABILITY POLICY**

Radford University is committed to modeling sustainable campus practices and policies, to achieving recognition for our stewardship of economic, social and environmental resources as well as for our academic commitment to sustainability. To accomplish this goal, the university has established and adopted a Campus Sustainability Policy.

This policy applies to all Radford University faculty, staff, students, visitors and contracted service providers and to all Radford University owned locations. This policy does not apply to facilities that are outside the scope of University control.

The Sustainability Steering Committee recognizes that achieving sustainability will evolve as campus needs, technologies, information and opportunities change.

Radford University is committed to:

- Creating awareness of environmental impacts, concerns and practices that preserve natural resources
- Establishing sustainability goals and implementing strategies to achieve these goals
- Meeting or exceeding all Federal and State environmental rules and regulations

The entire RU community plays a pivotal role in how the University progresses toward becoming a more sustainable campus. To that end, faculty, staff, students and campus community members have a responsibility to consider the environmental, economic and social impacts of their decisions.

## A WORD FROM THE SUSTAINABILITY COORDINATOR

When offered the position of Sustainability Coordinator, I was very excited by the opportunity to combine two of my favorite things: my passion for trying to create a more sustainable future and returning to my *alma mater* to do it on a larger, broader-reaching scale. I have long been interested in the processes and protection of the natural environment, part of my reason for attending RU and majoring in Biology. As a biology student, I wasn't exactly sure where future occupations would take me but I knew that the environment had to be the underlying factor. The position of Sustainability Coordinator had yet to be created here on campus.

This first year on campus has been a learning experience for me and, I'm sure, for many others, especially when I come and ask seemingly off-the-wall questions and look for obscure statistics. I have worked with a great number of individuals who are just as committed to creating a more sustainable campus as I am. I've learned that many initiatives have taken place in the past, whether labeled "sustainability" or not.

As we continue to compile information about current operations and look for new opportunities, we will need to continue to focus on the associated long-term effects and results. We need to continue to develop the campus in a sustainable manner, not just by individuals, departments and buildings, but holistically, and with the wider community. By developing a culture of sustainability on campus and beyond, RU will position itself as a leader for the next 100 years.

Julio Stephens

# SUSTAINABILITY ACTIONS AND GOALS

While literally hundreds of hours have gone into analyzing, discussing, debating and thinking about what the Radford University community can and should be doing to be a better steward of our beautiful and vibrant environmental setting, the essence of the deliberations and recommendations are summarized here.

## Curriculum

**RATIONALE:** As an educational institution, Radford University's mission is to train tomorrow's leaders to face tomorrow's challenges. One of those challenges will be to identify new ways for our society to live in a more sustainable future. To do this, we must assure that:

- All of our students understand the causes of the environmental challenges we are now facing and the impact that those problems are likely to have in the future if unabated
- We provide students with the necessary knowledge and tools to tackle those challenges successfully

**ACTION:** To accomplish the first task, we must be sure that all students graduating from Radford University have completed coursework that educates them on environmental issues and what it means to live in a sustainable society so that they can make informed decisions about their lifestyles.

To accomplish the second, we must develop new interdisciplinary programs, both undergraduate and graduate, that train students who wish to pursue environmental careers by providing them with the knowledge and technological background needed to develop and implement new solutions for sustainable living.

A list of courses from many disciplines with content on environmental issues and/or sustainability has been compiled and is now accessible from the [Radford University Environmental Center website](#). This list is a resource for students who are searching for courses with environmental content or focus.

**GOALS:** The Curriculum Working Group, comprised of faculty from various disciplines across campus, has developed a proposal to better incorporate environmental topics and programs into the curriculum. During the 2009-10 academic year, that proposal will be submitted to the wider academic community for discussion and action. The proposal developed by the Curriculum Working Group is found in **Appendix A: Policy: Sustainability Education**.

## Energy & Water

**RATIONALE:** Energy and water conservation and improved efficiencies both save money and ensure the future availability of these precious resources. Energy conservation, including electricity, water or steam, should be the first priority of any campus sustainability plan. If every member of the campus community is thoughtful about using only the water and electricity that is absolutely essential to complete tasks (e.g., powering down computers when leaving one’s office, taking the stairs instead of the elevator, making sure faucets are completely turned off) then smaller investments in energy efficiencies will be required in the future.

**ACTION:** To help decrease electrical and steam use, RU has installed occupancy sensors and window contacts in certain residence halls to detect whether or not an individual is in the room. If there is no one in the room or the window is left open, the heating/cooling system will automatically return to “unoccupied” energy settings. Many classrooms, restrooms, and other rooms also have occupancy sensors in them, so that if someone forgets to turn off the lights when they leave, the sensor automatically turns them off.

Also, 39 vending and 117 and snack machine misers have been installed across campus to help reduce the amount of energy these machines use. On the vending misers, there is a sensor above the machine that senses when there is someone near the machine and the lights come on. By turning the lights out when no one is looking at the selection, less energy is consumed. In the past several years, nearly 1,000 lower-flow toilet replacements and even a few waterless urinal installations have helped to reduce the amount of potable water that is used on campus. Replacing old windows and adding insulation to systems or buildings are other great ways that RU is conserving energy. The Committee also took under consideration a comprehensive temperature set-point policy [See **Appendix A: Policy – Temperature Set Points**].

During spring and summer 2009, the committee identified the best lighting solution for every fixture on campus. MBA student Nick Quitter conducted a room-by-room, fixture-by-fixture census to assess what energy savings were available given different lighting options, ranging from various CFLs to LEDs. From the analysis, Facility Management now has a list of priority lighting replacement recommendations to reduce energy consumption. In the future, the information gleaned from this project can be used to assess a number of different scenarios regarding lighting and other energy conservation measures.

**GOALS:** Moving forward, more emphasis is being placed on conserving water, electricity and other forms of energy. Approximately 800 low-flow showerheads (2.0 gpm) and 400 faucet aerators (.5 gpm) will be installed in campus residence halls as resources allow. While a 1.5 gallon-per-minute savings for faucet aerators may not sound like much, when multiplied by the number of on-campus students (~3,000), the water savings for 3 minutes of use a day would be over 13,000 gallons. Similar results for the showerheads can be expected as well. If we can replicate these savings campus-wide, the reductions in water usage would be very valuable. Not only would we be saving water supply costs, we’d also be reducing the wastewater charges that are associated with the supply.

Looking to the future and attempting to stabilize rising energy costs and the resulting emissions, renewable energy technologies will need to be incorporated into the energy portfolio. Renewable energy comes in many different forms – solar, wind, geothermal or other

technologies – and they all can reduce campus greenhouse gas emissions as well as help hedge against the volatility of energy markets, especially in tight economic times.

**Table 1**  
**RU Energy & Water Figures**

<b>Energy &amp; Water</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
kWh	28,731,978	28,608,998	29,076,359	<b>27,081,069</b>
kWh per ft <sup>2</sup> - Electrical Intensity	12.5	12.4	12.7	<b>11.5</b>
kWh per student	3,008.0	3,102.9	3,187.5	<b>2,957.4</b>
Water (gallons)- Main Campus	55,253,800	60,654,500	68,630,800	<b>55,302,200</b>
Water per ft <sup>2</sup>	24.0	26.3	30.0	<b>23.6</b>
Water per student	5,784.5	6,578.6	7,523.7	<b>6,039.3</b>

## **Buildings**

**RATIONALE:** New buildings and major renovations have a big impact on how the campus will evolve to become more efficient and sustainable. Buildings consume energy, and materials require resources, but if we can build to consume less energy, use sustainable materials, and offset the remainder of the energy cost, we'll be well on our way to a greener future.

**ACTION:** The new construction and renovation policy that requires LEED-Silver certification will certainly help to achieve our sustainability goals. [See **Appendix B: Policy: New Construction and Renovation**]

RU has been working on existing buildings as well. Some recently completed upgrades have earned Floyd and Norwood Halls Energy Star Award, demonstrating that the buildings use ~40% less energy than typical buildings and release 35% less carbon dioxide into the atmosphere. There are many more buildings that will benefit from these same strategies, as well as from greener, cleaner housekeeping programs. These programs include consideration of the types of paints or adhesives used. The future will require some on-going hard work, but RU is up to the task.

**Table 2**  
**Main Campus Building Figures**

<b>Buildings</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
Main Campus Buildings	66	64	61	<b>63</b>
Square Footage	2,304,219	2,302,725	2,290,279	<b>2,347,054</b>
Bldg. Efficiency (ft <sup>2</sup> /student)	241.2	249.8	251.1	<b>256.3</b>
Energy Star Bldgs.	0	0	0	<b>2</b>
Energy Star Percentage	0.0%	0.0%	0.0%	<b>3.2%</b>
LEED Certified Bldgs.	0	0	0	<b>0</b>
LEED Certified Percentage	0.0%	0.0%	0.0%	<b>0.0%</b>

**GOALS:** The Building subcommittee will develop a set of Web-based Performance/Design Standards to ensure the meeting of LEED Silver as a minimum accomplishment. With over 60 existing building on campus, there are multiple opportunities to achieve efficiency upgrades. Energy efficiency upgrades including lighting retrofits, installing occupancy sensors for lighting and heating/cooling systems, retro-commissioning of existing mechanical systems and other modifications, will help to reduce the amount of energy it takes to operate a building.

## Recycling

**RATIONALE:** Recycling is an important way to keep unwanted or unneeded items out of the landfills and to conserve energy and natural resources. Many items, including glass and metal, can be reused multiple times, avoiding the added energy required to mine, manufacture and transport new items made out of the same materials. Keeping items out of landfills will reduce methane gas emissions, which are approximately 25 times worse than CO<sub>2</sub> emissions for the environment. By recycling materials, there is a quantifiable greenhouse gas emission reduction in total campus emissions.



RU has been recycling since the early 1990's, but recently there has been an increased emphasis demonstrated by the hiring of staff and a work-study student, as well as by the participation of students in friendly recycling competitions. In calendar year 2008, RU had its highest recycling rate ever due in part to the increased cooperation between multiple departments (including housekeeping and grounds) and individuals here on campus. Also, better tracking and recording of recycled items and materials increases awareness of the

campus-wide efforts.

**ACTION:** As important as recycling is, waste minimization should be the first priority. By reducing the amount of waste generated through normal operations, there is a reduction in financial and energy related resources needed to handle it.

**Table 3**  
**Recycling & Wastes Figures**

Recycling	CY2005	CY2006	CY2007	<b>CY2008</b>
Recycling Rate	7.0%	9.5%	14.9%	<b>27.4%</b>
Recyclables (lbs.)	247,980	368,149	569,281	<b>1,185,328</b>
Recyclables per student	26.0	39.9	62.4	<b>129.4</b>
Landfill Wastes (lbs.)	3,252,040	3,489,440	3,260,444	<b>3,143,610</b>
Landfill Wastes per student	340.5	378.5	357.4	<b>343.3</b>

**GOALS:** Future efforts will continue to look at policies and processes for reducing the amount of waste on campus and for increasing student involvement. We will also continue to look at new recycling stream opportunities as different vendors become available. [See **Appendix C:**

**Policy: Recycling]**

## Grounds

**RATIONALE:** By maintaining campus grounds in a sustainable manner, we promote natural habitats and biodiversity, reduce dependence on synthetic fertilizers, and conserve natural resources. Continued growth on campus is vital for the next 100 years at Radford University but we will need to make sure that it is smart growth.

**ACTION:** RU's Stormwater Remediation Wetland Project received recognition as a Certified Wildlife Habitat by the National Wildlife Federation. Not only is the project a great solution to eliminating possible contaminants from run-off, resulting in healthy habitat for numerous aquatic organisms and nesting sites for some bird species, it is also being used as a laboratory for the training of future scientists in varied disciplines.

RU has long been known for its beautiful green campus and open spaces. The grounds are maintained in a manner that attempts to minimize irrigation needs, with only the athletic fields having irrigation systems installed. No potable water is used for irrigation of plants, lawn areas, or athletic areas. When additional watering is needed, the water that is used is from a natural spring or the nearby New River; thus, this water is recycled in the local hydrologic cycle.

**GOALS:** The Grounds department is currently testing an organic fertilizer and will continue to monitor results. Future areas of opportunity include developing policies that address native or adaptive plants, and the amount or type of fertilizers used on campus.

## Transportation

**RATIONALE:** Sustainable transportation initiatives reduce pollution and dependence on finite natural resources and create a healthier campus. Since walking and bicycling are excellent forms of exercise and do not use finite natural resources, these are seen as the most efficient forms of travel on a university campus. As the most recent campus master plan notes, most of campus is easily accessible by walking or biking. Future planning considerations will need to make sure that bicycle racks and paths, and safe pedestrian access, are available across campus.

**ACTION:** Reductions in RUs vehicle fleet size and elimination of older, inefficient vehicles improved the overall efficiency of our fleet. Electric cars have replaced some gasoline-powered vehicles; this replacement is significant because electric cars produce no tailpipe emissions and improve local air quality. By converting all diesel vehicles and equipment to accept a B20 blend of biodiesel, local particulate matter emissions are reduced, as is the demand for refined oil.

**GOALS:** Ongoing and future transportation considerations need to include bicycle- and car-sharing programs, incentives for individuals to carpool to campus and implementing a campus telecommuting policy. Older, inefficient vehicles will continue to be eliminated from the campus fleet as and the feasibility of incorporating hybrid and alternative fuel vehicles will be considered.



## Purchasing

**RATIONALE:** The Materiel Management and Contracts Department is committed to increase the University's sustainability efforts through our Procurement Policies and Procedures.

**ACTION:** The following are specific practices already in place or to be implemented soon:

- Solicitations for goods include the Special Term and Condition for Use of Recycled Materials. Vendors are required to state whether goods offered contain recycled materials and, if so, they must qualify the recycled material content.
- RU has requirements that only recycled copy paper (30% minimum) will be used by the University, except in cases where equipment limitations preclude the use of recycled paper or proper justification is approved by the Material Management and Contracts Department.
- Encourage the use of recycled printer toner cartridges by all users on campus.
- Recommend the use of green products to the campus. Our contractor for Office Supplies provides a green product catalogue to campus departments.
- Increase use of these green products utilizing the approval given the University recently for Level II Restructuring.
- All solicitations for applicable equipment will include the requirement to meet the Energy Star 4.0 Energy Efficiency Standards.

**GOALS:** The Material Management and Contracts Department will continue to examine opportunities to acquire the most sustainable materials in the most economical manner possible.

## Student Involvement

**RATIONALE** Student involvement in sustainability initiatives educates the leaders and policy makers of tomorrow. Students with an awareness of important environmental issues, both locally and globally, will be better prepared as they venture out into the workforce.

**ACTION:** Student involvement can take many forms. It might be a Residential Hall Resident Director challenging each floor to a recycling competition, focusing awareness on how much of what they throw away can actually be recycled. It might be an Area Coordinator planning an event that focuses on upcycling or taking an item otherwise considered waste and turning it into something that can be used again (e.g. making jewelry out of aluminum cans).

The lessons learned in planning, coordinating, fund-raising and all the other event planning responsibilities that go along with celebrating Earth Day on campus is also involvement students will not soon forget. Events like these help to engrain the values of sustainability into our future leaders, and create awareness in students who might otherwise be uninformed about the impact their actions and decisions have on sustainability issues.

**GOALS:** To help foster student involvement and awareness campaigns, the campus will continue to put tools and processes in place to conserve resources, monitor progress, and advance change. To make some of the broad changes that are required to help put RU and the country on a more sustainable path, we will need to continue to tap into the creativity and ingenuity of our students and rely heavily on future technologies created by them.

## Public Awareness

**RATIONALE:** Celebrating sustainability success stories and creating public awareness about campus initiatives calls attention to environmental issues. In the past, RU was reticent to bring attention to its sustainability efforts. However, in recognizing and sharing our green story with the campus community and beyond, we believe that others will be inspired to embrace sustainability as a lifestyle. Therefore, RU has increased its efforts to educate and inspire by collecting and compiling environmental success stories across multiple departments.

**ACTION:** Sustainability efforts have been profiled on the newly created RU Green Web site ([www.radford.edu/rugreen](http://www.radford.edu/rugreen)) and on a Facebook group page. Both were launched during the spring semester. Campus department newsletters, RU Today and RU's The Magazine have dedicated efforts to reach students, alumni and other interested individuals. Local and regional news outlets have documented RU's efforts. Most recently, RU was featured by the Association for the Advancement of Sustainability in Higher Education (AASHE) in its Member Spotlight in the June 22<sup>nd</sup> edition of the *Bulletin*. The *Bulletin* delivers the latest campus sustainability news, resources, opportunities and events in the U.S. and Canada.

Throughout the year, numerous campus events are held by various groups or departments to highlight local, regional and global issues that directly affect many of us in the Appalachian region. Events such as Campus Sustainability Day, Appalachian Awareness Day, Earth Day, and the Appalachian Environment Speaker Series provide insight through various forms of presentations, roundtable discussions, lectures and movies. During these events RU students, faculty, staff members, outside experts, community activists, artists, authors and others provide information on how individuals can make a difference. Topics for some of the events included environmental journalism, mountain top removal to mine coal and connecting children with nature.

During 2008, RU participated for the first time in The Princeton Review Green Rating program. The efforts so far earned the campus a score of 88, placing RU first among its Big South Conference peers and in the top half of state and national peers. By participating in surveys such as this, RU will be able to benchmark itself against national leaders in sustainability and better plan for growth and expansion.

**GOALS:** There is no end goal for sustainability. There will always be new technologies or issues to address and continuous improvement will be the overarching approach. RU will continue to publicize its efforts and progress toward sustainability in order to educate, inform, inspire and create awareness about the major issues that our communities need to address in a responsible manner.



## Dining

**RATIONALE:** How a campus acquires, prepares and serves its food is an increasingly important issue given the complexities of feeding what is essentially a small city. RU's Dining Services is contracted to the Compass Group, also known as Chartwells. Chartwells is responsible for providing thousands of meals, three times a day, as well as numerous shops where individuals can get everything from ice cream to bagels to iced coffee.

**ACTION:** For fiscal year 2008, Chartwells spent over 18% of its total budget on local and regional (less than 150 miles from campus) produce, meats and other products. This local trade is important for many reasons. Purchasing local items helps to support the local economy and fewer items have to be transported cross-country, thereby using less energy and oil. More and more people are making the connection that what they eat can have a major impact on the environmental, political and social issues we're facing today.

Chartwells provides sustainable coffee options and gives a 10% discount to individuals who use a reusable mug at its Au Bon Pain and Starbucks outlets. To help reduce water and energy use, Chartwells implemented tray-less dining for Earth Week 2008. It was so successful that the initiative was continued through the rest of the semester and implemented year round in fall of the 2008. By that time, Chartwells had already implemented several additional initiatives including transitioning to trans-fat free oils, purchasing seafood in accordance with the Monterey Bay Aquarium's Seafood Watch program and purchasing cage-free eggs. It is still looking for additional opportunities.

**GOALS:** One major opportunity for Chartwells and RU was to explore composting food waste from Dalton Dining Hall. A month-long pilot composting program was implemented in April, 2009 to evaluate costs, procedures and potential issues, while trying to redirect the approximately 1400 pounds of food and paper wastes away from the landfill. Another version of the pilot project has been implemented to evaluate various pick-up options with the composting vendor and to provide valuable information as Chartwells and RU continue to partner for a more sustainable campus.

## Measurement

**RATIONALE:** Tracking various campus sustainability metrics provides valuable information on historical and current operations or policies, and will assist in monitoring progress. Sustainability metrics will allow RU to determine various baselines, track trends in different areas, and benchmark itself against other institutions.

**ACTION:** RU recently began using the Clean Air-Cool Planet (v 6.2) Campus Carbon Calculator to compile and calculate the campus carbon footprint. After completing the calculator, RU will begin to develop a Climate Action Plan to minimize and offset negative

environmental effects. The campus greenhouse gas inventory will be a valuable tool as the basis for developing strategies and priorities for reducing campus emissions.

**GOALS:** While some of the information needed for measurement and reporting purposes is readily available, other information is difficult to obtain or not presently available. Directly financed air travel, student study abroad air travel, staff commuting, and student commuting information are just a few examples of information that are relevant to RU greenhouse gas inventories but are currently difficult to track and/or obtain. To get the most accurate and timely information, policies or procedures will need to be put in place to monitor these and future sustainability metrics.

## Appendix A

### Policy: Sustainability Education

#### Purpose

Radford University is committed to preparing students to be socially, economically, and environmentally responsible in promoting life in a culturally diverse, species rich, healthy, and equitable world. To that end, Radford University has established the following goals for our curriculum:

#### Goals

- To involve the RU community in teaching and learning, service and professional contributions which reflect the values and principles of sustainability: improving the current quality of life while ensuring the vitality of social, economic, and environmental systems for future generations;
- To ensure students recognize the interdependencies among social, economic, and environmental systems and are cognizant of the impact of human actions upon those systems;
- To engage students in curricular and co-curricular activities which enable them to develop the knowledge, skills, and dispositions for inquiring into the challenges to economic, social, and environmental sustainability and for seeking solutions to problems presented;
- To develop curricula to prepare our students who seek to enter educational programs and/or careers in areas related to conservation, sustainability management, or environmental education to be successful in those endeavors.

#### Strategies

In order to meet these goals, Radford University will implement the following strategies:

- Students will achieve goals one and two above before graduating
- Establish university-wide, interdisciplinary minors or certificates, majors, and masters programs in environmental or sustainability studies
- Encourage the incorporation of sustainability into international education
- Establish a university-wide Center for Sustainability Education under the University Provost or Graduate Dean with the charge of overseeing a sustainability curriculum in the programs above
- Encourage the development of discipline- or college-specific programs in areas related to sustainability, natural resource conservation, and environmental education

## Appendix B

### Policy: Campus Energy Management Set Points

#### I. Purpose

This policy describes the University's Energy Management Set Points that are designed to maintain reasonable comfort, foster energy conservation, and lower energy expenditures. To help accomplish this, the university will establish energy management set points.

The policies and procedures provided herein apply to all Radford University faculty, staff, students, visitors and contracted services. This policy applies to all Radford University owned locations. This policy does not apply to facilities that are leased by the University from other property owners since operation, design and maintenance of the buildings are outside the scope of University control.

#### II. Definitions

Energy Management Set Point- a mechanical systems desired temperature setting.

Executive Orders 48 and 82- require the Governor's Secretaries and all executive branch agencies and institutions to reduce energy consumption and costs in state government operations in the executive branch.

Portable- Heating Ventilation & Air Conditioning equipment used within a facility but without permanent connection to the building's utility services.

#### III. Policy

The University will comply with Federal and State energy conservation rules (including the Governor's Executive Orders 48 and 82 (2007 & 2009; [Energy Efficiency in State Government & Greening of State Government](#), respectively)) through RU's [Energy Department](#) which establishes campus-wide energy goals, implements strategies to achieve the goals, monitors energy usage, and documents the effectiveness of the program.

The following specific standards have been adopted and are applicable to all University buildings and occupants:

Room energy management set points:

- Winter: 68°F (Heating)- heating will be available beginning November 1 or sooner if there are three or more consecutive days where the temperature falls below 50 F during the day through May 10.
- Summer: 74°F (Cooling)- mechanical cooling will be available beginning April 15 until November 1. After November 1, mechanical cooling equipment will be shut down for winter maintenance; however, cooler outside will be made available if the outside temperature is lower than inside temperatures and mechanically available.

Exceptions to these guidelines must be approved by the Vice President for Finance & Administration.

#### **IV. Procedures**

##### **Responsible Parties**

The Vice President for Finance & Administration, Director of Facilities Management and the Campus Energy Manager will have the responsibilities for the Campus Energy Management Plan. The University's designated contact person for interface with outside agencies will be the Campus Energy Manager. The Campus Energy Management Set Point Policy will be available on the Facilities Management Website: [Campus Energy Management Set Point Policy](#).

##### **Implementation**

Each department head or supervisor should take the following actions:

1. Communicate this policy to everyone under his/her supervision by providing access to the policy and discussing with his/her employees.
2. Ensure outside windows and doors should be closed when heating and cooling systems are in operation.
3. Prohibit the use of portable electric space heaters in offices, residential areas, or classrooms due to safety and energy concerns. If a room(s) is/are not within the heating set-point range, Facilities Management should be notified so that the problem can be addressed. Exemptions allowing space heaters shall be granted by Facilities Management only in emergency or other unusual conditions.

##### **Holiday Periods**

University closure periods offer a great opportunity to save energy. Buildings will be only minimally heated/cooled during holiday periods; the heating temperatures will be set to 60°F for all buildings during the winter holiday season. The exception to the policy will be buildings that contain special collections or sensitive equipment, or buildings that are officially open during the holidays.

## Appendix C

### **Policy: New Construction and Renovation**

All new construction and renovation capital projects shall be designed and built to achieve a minimum Leadership in Energy and Environmental Design (LEED) Silver rating using the evaluation protocol published by the US Green Building Council (USGBC). The process shall begin at the project pre-design phase and shall become a component of the following established project criteria.

- 1) That the project be registered with the USGBC and documentation developed and submitted to the Council for certification.
- 2) That while some sustainable building and site features may have a higher first cost than conventional approaches, the implementation of sustainable features will have equal weight with other program requirements when competing for fund allocation.
- 3) That while a sustainable building feature(s) may sharply differ from what is currently accepted and expected by our community's members, this change shall be endorsed and included in all capital projects as a university-wide mission.
- 4) That in order to meet these new standards, design solutions may include re-used and recycled as well as new materials, and could include initiatives using grey water, combining natural and artificial lighting, and innovative energy efficiencies, etc.

## Appendix D

### Policy: Recycling

#### I. Purpose

Radford University recognizes its role as a leader in the community with regard to environmental policies and promotes responsible stewardship of the environmental resources under its influence. The overall purpose of this recycling policy is to set forth standards and organizational processes aimed at waste minimization, recycling, and the diversion of recyclable materials from landfills.

#### Objectives

1. Reduce waste at the source (Waste Minimization).
2. Encourage the purchase and use of environmentally friendly products.
3. Encourage the purchase of high post-consumer content recycled products.
4. Increase the total volume of waste materials diverted from landfills to recycling processes.
5. Ensure long-term viability of campus recycling operations through coordination and managerial oversight.
6. Promote recycling practices and procedures throughout the campus community.
7. Comply with Federal and State mandates in recycling processes.

#### II. Definitions

*Waste minimization* – to reduce the amount of waste generated

*Recycling streams* – sorted recyclable materials

*Life-cycle cost* – cost of a system or product over the entire lifespan

#### III. Policy

All departments that generate waste at Radford University should make waste minimization and recycling a top priority and an integral component of their daily operations. Each department shall consider the life-cycle costs and environmental aspects associated with purchases, and are encouraged to purchase items with recycled content and minimal wastes and packaging as appropriate. Every employee and student has the responsibility to exercise these behaviors, making Radford University a more sustainable campus and helping to reduce our carbon footprint.

#### IV. Procedures

Every student, employee and department shall recycle materials as current recycling streams allow. Radford University recycling operations cover three main and various alternate recycling streams:

Main Recycling Streams:

- Mixed Paper
- Containers (Cans/Plastic/Glass)
- Cardboard

Alternate Recycling Streams (include but are not limited to):

- Motor Oil
- Antifreeze
- Kitchen Grease
- Tires
- Batteries
- Toner Cartridges
- Scrap Metal
- Reusable Construction Waste
- Pallets
- Electronic Waste

A detailed description and procedural guidance for current recyclables may be located on the Radford University [Recycling Website](#).

### **Scavenging**

Separated recyclables, once deposited in official University containers, remain the property of the University. Therefore, scavenging is considered theft and is prohibited and punishable in accordance with established University policies and/or applicable laws.

### **Dumping**

Dumping, by individuals or organizations, of waste not generated as a result of official University activities conducted on University property is prohibited in accordance with established University policies and/or applicable laws.

### **Waste Minimization**

Waste minimization helps to protect the environment and makes good economic sense. Waste minimization saves University funds by avoiding labor and disposal costs, creates safer working conditions for employees, and protects our health and the environment.

## Appendix E

### **Motion to Eliminate Paper Telephone Directories**

Whereas, the most current and comprehensive source of telephone information is contained on-line, and is easily accessible from the University's home page to interested parties; and

Whereas, annual production of a paper telephone directory consumes a considerable amount of unnecessary paper to produce redundant information; and

Whereas, sustainability best practice policies of other universities has recommended the elimination of paper telephone directories; therefore

Be it resolved that Radford will discontinue the production of paper telephone directories beginning in the 2009-10 academic year.

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