

Radford University’s Climate Action Plan serves as partial fulfillment of the requirements as a signatory of the American College & University Presidents Climate Commitment and the foundation for achieving climate neutrality.

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EXECUTIVE SUMMARY

Climate Commitment

Building on a long and continuing history of using university resources wisely and in an efficient manner, Radford University has developed a comprehensive Climate Action Plan (CAP) that will serve as a living document tailored to the university to guide efforts to reach climate neutrality. On Campus Sustainability Day 2009, President Kyle and Radford University joined over 600 other colleges and universities in all 50 states representing over five million students in signing the American College and University Presidents Climate Commitment (ACUPCC). The ACUPCC's mission is to:

accelerate progress towards climate neutrality and sustainability by empowering the higher education sector to educate students, create solutions, and provide leadership-by-example for the rest of society(ACUPCC, n.d., ¶1).

Climate neutrality is further defined by the ACUPCC as “having no net greenhouse gas emissions”. To reach this aggressive goal, universities and colleges are called upon to take the following steps:

- Create an institutional structure to guide the university's efforts in the area
- Complete an comprehensive inventory of campus greenhouse gas emissions
- Develop an climate action plan to guide climate neutrality efforts
- Initiate at least two tangible actions to reduce greenhouse gas emissions

The Radford University Sustainability Steering Committee (SSC), formed in 2008 at President Kyle's direction, developed the following sustainability mission statement that was subsequently approved by the Board of Visitors in 2009. It is with this mission statement in mind that the SSC has developed and recommended the Radford University Climate Action Plan for acceptance and approval by the Board of Visitors and President Kyle.

Radford University is committed to being a model for sustainable campus practices and policies and recognized for our stewardship of economic, social, and environmental resources and for our academic commitment to sustainability.

Greenhouse Gas Inventory

The comprehensive baseline inventory of campus greenhouse gas emissions occurred for the fiscal year 2010 in which it was determined that 37,749 metric tons of carbon dioxide equivalent (MTCO²e) were emitted due to Radford University's operations. Using procedures consistent with the ACUPCC implementation guide where little or no data is available, some assumptions were used to estimate the amount of emissions. While some categories of emissions are relatively small, for example agriculture and wastewater, the inventory should be considered a comprehensive snapshot to be used as the foundation for the university's first climate action plan.

Climate Action Plan Process

While the CAP is a comprehensive document to guide climate neutrality efforts, it is recognized that not all related efforts within the university could be captured during development of the CAP. This plan represents countless hours of

Emissions Facts	
Serving Size 1 Campus (~185 acres)	
Students per Serving 8,878 students (FY2010)	
Amount per Serving	*MTCO ₂ e
GHG Emissions	37,749
GHG Emissions Percentage by Source	
Purchased Electricity	55.3%
Natural Gas	20.0%
Student Commuting	7.0%
Faculty/Staff Commuting	6.7%
Transmission & Distribution Losses	5.5%
Air Travel	2.5%
Fleet Fuel	1.1%
Solid Waste	0.9%
Refrigerant & Chemicals	0.7%
General Purpose/Copier Paper	0.2%
Agriculture	0.1%
Wastewater	0.1%
*Metric Tons of CO ₂ equivalent	
For More Info: www.radford.edu/rugreen	

dedication and hard work by students, faculty, staff, and community members who are motivated by strong beliefs around this effort. Abiding by the recommendations of the ACUPCC, the dedicated developers of the CAP focused on authoring a brief summary report that is comprehensible and accessible to the general public.

One of the commitments with signing the American College & University Presidents Climate Commitment is to achieve climate neutrality by developing an institutional plan including:

- A target date for achieving climate neutrality as soon as possible
- Interim target dates for goals and actions that will lead to climate neutrality
- Actions to make climate neutrality and sustainability a part of the curriculum and other educational experiences for all students
- Action to expand research or other efforts necessary to achieve climate neutrality
- Mechanisms for tracking progress on goals and actions

The following plan sets the foundation for that portion of the commitment. The Climate Action Planning process at Radford began in earnest during the Spring semester 2011. Over the course of many months, suggestions, recommendations, and ideas were collected and evaluated. Additional research as to the applicability of the recommendations to Radford University's campus was conducted before finalizing this document. To assist with organization and prioritization, the strategies were divided into various timeframes of implementation including short-term (0-5 years), mid-term (5-15 years), and long-term (15+ years).

Overall Strategies

While educating those on campus and beyond around issues on climate neutrality including behavior changes and sustainability in general. Conservation efforts, energy efficiency, & incorporating renewable energy generation opportunities are the overall strategies that Radford has chosen to embrace. It is expected that even if the efforts outlined in this report are fully implemented, there will be some level of remaining greenhouse gas emissions due to the ongoing operations of Radford University, including air travel and commuting, that will need to be addressed. These ongoing emissions will likely need to be offset by purchasing renewable energy credits (RECs) and/or carbon offsets to reach climate neutrality.

Climate Neutrality Target Date

The CAP has set forth goals to reach climate neutrality in what is considered an aggressive but obtainable goal. With over 450 climate action plans that have been publically submitted to the ACUPCC online reporting system, the most common target date is 2050. A range of target dates include those that have already achieved climate neutrality as early as 2009 to those that have set a target of 2099. Radford University has set 2040 as its climate neutrality target date, recognizing that this depends on many unforeseen factors at this time. The cost of current technologies and the development of future technologies are expected to heavily influence climate neutrality approaches. The availability of other resources including faculty, staff, and students will also play a large role in this and future updates of the CAP.

Looking accurately into the future poses multiple challenges and will require consistent CAP revisions after many current stakeholders have left campus. Incorporating different timeframes of implementation, tracking its progress over time, and modifying the plan as needed, will ensure that Radford University accomplishes its long-term plan. This report represents Radford University's commitment to use all of its resources in a sustainable manner for future generations with the vision, courage, and determination to lay out a realistic plan to reach climate neutrality.

Reference

ACUPCC (n.d.) Mission and history. Retrieved

from: <http://www.presidentsclimatecommitment.org/about/mission-history>

INTRODUCTION

BACKGROUND/HISTORY

The Climate Action Plan is the culmination of a process of increasing awareness and action on the part of Radford University. For example, in 1991, then-President Donald Dedmon along with the members of the Virginia College and University Presidents' Council, signed the Talloires Declaration, committing the university to a path to respond to environmental challenges faced by many. Radford continued its efforts on the facilities side as well including receiving grants in the mid-1990s to replace less efficient T12 fluorescent lighting style with the better quality, more efficient T8 style. In the mid-2000's, Radford began incorporating infrared technology and installing additional building automation systems to control Heating, Ventilation, and Air Conditioning (HVAC) controls in residential hall renovations.

With a long history of recognizing its leadership role in addressing environmental challenges that we face, during the Radford University convocation in August 2008, President Penelope Kyle announced that she was initiating an aggressive effort to make Radford University one of, if not the, most environmentally sustainable campus in the Commonwealth. She would be appointing a Sustainability Steering Committee (SSC) representing all parts of campus including student affairs, facility services, and academic affairs to recommend a course of action to meet that goal.

At the Steering Committee's first meeting in October 2008, President Kyle charged the committee with recommending to her and the Cabinet how to build new buildings that use less energy, to upgrade our recycling efforts and perhaps coordinate those with the City of Radford, and to consider other sustainability initiatives. Her goal was to have RU be recognized across the Commonwealth as a distinctly "green" campus. The Committee would serve as a venue for reviewing sustainability recommendations that cut across organizational boundaries and provide input into recommendations from the broad RU community.

Potential areas of focus included harnessing the energy of the student body as a driving force for sustainability initiatives; looking at LEED certification for all new buildings and renovations; conducting a baseline greenhouse gas emissions inventory; and, generally promoting sustainability which is a criteria by which external rating groups (e.g., Princeton Review) evaluate and rate universities. Another area of discussion should be exploring membership in the American College and the University Presidents' Climate Commitment (ACUPCC).

The ACUPCC was formally established in 2007 with the mission to "accelerate progress towards climate neutrality and sustainability by empowering the higher education sector to educate students, create solutions, and provide leadership-by-example for the rest of society". By signing the commitment, ACUPCC institutions have agreed to: 1) Complete an emissions inventory, 2) Within two years, set a target date and interim milestones for becoming climate neutral, 3) Take immediate steps to reduce greenhouse gas emissions by choosing from a list of short-term actions, 4) Integrate sustainability into the curriculum and make it part of the educational experience, and 5) Make the action plan, inventory and progress reports publicly available. The ACUPCC is celebrating five years of formal existence and has nearly 700 signatories including small technical colleges, community colleges, private and state-supported liberal arts universities, and large research universities.

Radford University's President, Penelope W. Kyle, signed the ACUPCC document in celebration of Campus Sustainability Day in October 2009 (implementation start date January 15, 2010). As an ACUPCC signatory, RU has committed itself to becoming climate neutral at some point in the future. Commitment step 1 included a) creating an institutional structure to guide the development and implementation of a CAP, b) completing a comprehensive GHG inventory within one year of the implementation start date, and c) developing a CAP within two years of the implementation start date. Commitment step 2 included initiating two or more actions from a list of seven to reduce greenhouse gases. At the time of the signing, RU had already taken many of the commitment steps that are outlined by the ACUPCC. RU had an institutional structure in place, the SustainABILITY Steering Committee (SSC). In addition, RU had initiated four tangible actions including a LEED-Silver minimum standard for new campus construction, an Energy Star purchasing requirement, providing and encouraging public transportation access for students, faculty, staff, and visitors, and by participating in the Waste Minimization component of the national RecycleMania competition along with adopting 3 or more associated measures to reduce waste (e.g. campus recycling program, campus surplus department, using inter-office reusable envelopes, implementing campus printing initiatives, etc.).

PROCESS

RU selected the Clean Air-Cool Planet's (CACP) Campus Carbon Calculator to assist with the collection, calculation, and analysis of its emissions. The CACP Campus Carbon Calculator is a preferred tool of the ACUPCC as it was designed specifically for campuses, is consistent with GHG protocol standards, and is commonly used. While starting the collection process with earlier versions of the calculator, the CACP Campus Carbon Calculator (V.6.6) was the latest at the time of reporting with which incorporated data from the Intergovernmental Panel on Climate Change's Third and Fourth Assessment Reports.

The organizational boundary selected included all RU buildings under operational control or the control approach. The determination whether to include or exclude certain buildings was based on whether or not the university paid the utility bills. The temporal boundary selection was based on the fiscal year 2010 data (July 1, 2009-June 30, 2010). These determinations were largely selected for future reporting consistency and the relative ease of data collection.

The greenhouse gas inventory process included many individuals, departments, and the continued support from the SustainABILITY Steering Committee (SSC), the administration, and others without whom this inventory could not be completed. Every effort was made to provide the most comprehensive snapshot of Radford University's greenhouse gas emissions including the most accurate and up to date data available with the resources available.

The greenhouse gas inventory process began with the data collection phase and the recognition that some data were not readily accessible or did not exist at all. For this reason, some data were collected over years while other data collected are for the most recent fiscal year only. An additional benefit from this method allows for the distribution of time, costs, and other resources to be dispersed over years. The next phase of the inventory included calculating the greenhouse gas emissions. As data were collected, they were entered into the CACP calculator to determine the relative amount of emissions. The final phase of the inventory includes the analyzing and summarizing of the results. Analyzing the data helps to understand what actions are contributing to the most emissions and where they come from. By summarizing the inventory and emissions results, the university is able to educate individuals and to take the steps necessary to reach its goal of carbon neutrality.

With the greenhouse gas inventory completed and publically available on the ACUPCC reporting website, attention then turned to developing the CAP. In determining the resources available, the SSC determined it was best to align the CAP development process with the upcoming academic year. So, an extension was filed with the ACUPCC to align the submission deadline with the next reporting deadline (May 15th, 2012).

In continued efforts, assistance from an outside consultant was sought to help launch the effort, gather information about campus attitudes and expectations, and provide technical expertise in a limited timeframe. Moseley Architects was selected as the consultant to assist Radford in this monumental effort. Along with Moseley, two other consultants, 2rw and LandDesign provided additional support.

To kick off the CAP development efforts, three one-hour workshops were hosted by RU's Sustainability Steering Committee on Thursday, April 28, in the Hurlburt Student Center to solicit campus input. The workshops were open to students, faculty, staff, and others that are interested in the development of the CAP. The workshops featured presentations on the CAP planning process, environmental issues and university efforts toward carbon neutrality as well as discussions during which ideas and suggestions were discussed.

Likely based on familiarity with the topic in general as well as personal beliefs, responses to questions on the CAP questionnaire varied greatly. When asked by what year should Radford commit to becoming carbon neutral, responses ranged from 2018 to 2050. Mitigation strategy recommendations included overall energy reduction, improved energy efficiency, implementing renewable energy, and transportation issues including "fixing" the Tartan Transit routes. Some recommendations on potential additional course offerings included alternative energy, special focus areas like the New River or environmental health topics, and including more Core or introductory courses that included sustainability-related topics. Additional responses to the most effective ways to inform and involve the broader campus included guest lectures, to campus competitions, community events, and more.

The SSC created two Technical Working Groups (TWG) to consider comments, study the options, and develop a comprehensive plan. The TWGs were formed during the 2011 Fall Semester. One of the TWGs was the Mitigation TWG which focused its efforts on energy usage and transportation related to campus operations, while the other, the Education, Research, and Outreach TWG, focused its efforts on curriculum, research, and the community. Both TWGs were tasked with submitting draft recommendations to the SSC by January 13th, 2012.

Invitations for volunteers to research and develop goals were sent out in September to the campus through various outlets including the RU Today, a newsletter published by the Office of University Relations, the sustainability website (www.radford.edu/rugreen), Facebook page, and others. Periodic progress reports were also relayed to campus using the same outlets. The SSC did not meet again until February to allow sufficient time to collect, analyze, and edit the recommendations. Collecting the recommendations and compiling them along with the other requisite info into a comprehensive document required considerable time and effort. So much so, that the SSC determined that a second four month extension would be beneficial to the overall process and document. With the draft recommendations and report in hand, it was time for routing the CAP document to various campus stakeholder groups to obtain comments, suggestions, and ultimately support for submitting the document to President Kyle and the Board of Visitors for approval. Upon receiving approval, the Sustainability Coordinator was responsible for submitting the CAP to the ACUPCC reporting website by September 15th, 2012.

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