

University of Richmond
Climate Action Plan
January 2014 Update

Executive Summary

In compliance with the responsibilities that the University of Richmond accepted as a signatory to the American College and University Presidents' Climate Commitment (ACUPCC), the Office for Sustainability prepares an update to the Climate Action Plan biannually. The 2014 update to the plan highlights recent accomplishments and immediate next steps planned for the 2014 and 2015 calendar years.

Accomplishments achieved since the 2012 update include expanded use of LEED on campus, successful implementation of campus-wide awareness campaigns, and the completion of an expanded campus-wide assessment of progress through the use of STARS (Sustainability Tracking Assessment and Reporting System) from AASHE (the Association for the Advancement of Sustainability in Higher Education.)

Campus greenhouse gas emissions remained constant from FY2012 to FY2013. Over the next two years, the University will implement energy efficiency projects identified through a campus-wide energy audit, focus on LEED building standards, and investigate and implement renewable energy strategies as feasible. Additionally, programming to increase awareness in the campus community will continue to expand. Student peer-to-peer programs piloted in FY2014 are already providing new opportunities to reach additional students.

A priority for the next two years will be to focus on monitoring progress in energy consumption reduction, waste management, and educational efforts through the continued use of STARS and public reporting. Regular review of progress will better enable the University to make timely decisions to improve sustainability efforts. A follow-up transportation survey will be used to evaluate the transportation program and capture valuable data.

The River City Project (piloted in 2013) is the first formal effort at the University to expand sustainability in the curriculum. This program supports the ACUPCC goal of educating all students about sustainability concerns. The University expanded its recycling program for the first time in many years, enabling the community to recycle a wide variety of items in a single stream system. This new program positions the University to significantly improve its recycling rate.

The University of Richmond has made significant progress in the three years since the completion of the original Climate Action Plan and will build upon that progress in the years to come.

Table of Contents

Executive Summary	i
Table of Figures	iv
Administration	1
Measurement and Verification.....	1
<i>STARS</i>	1
<i>Greenhouse Gas Emissions Calculations</i>	4
<i>Programmatic Accomplishments</i>	5
<i>Outreach</i>	6
<i>Hazard Mitigation Planning</i>	6
Infrastructure Energy Use	7
Status Update.....	7
<i>STARS</i>	7
<i>Energy Audit and Revolving Fund</i>	8
<i>Conservation</i>	8
<i>Construction Efficiency</i>	9
Next Steps and Goals.....	9
<i>Operations and Maintenance</i>	9
<i>New Construction</i>	9
<i>Renewables</i>	10
Transportation.....	11
Current Status.....	11
<i>STARS</i>	11
<i>University Fleet</i>	12
<i>Single Occupancy Vehicle Alternatives</i>	12
<i>Bicycle and Pedestrian Friendly Campus</i>	12
Next Steps and Goals.....	13
<i>University Fleet and Single Occupancy Vehicle Alternatives</i>	13
<i>Study Abroad</i>	13
<i>Bicycle and Pedestrian Friendly Campus</i>	13
<i>Additional Next Steps</i>	13
Materials Management	14
Current Status.....	14
<i>STARS</i>	14
<i>Purchasing</i>	15
<i>Recycling Program</i>	16
<i>RecycleMania</i>	16
Next Steps and Goals.....	17
<i>Purchasing</i>	17
<i>Target Recycling Rates</i>	18
Conservation	19
Current Status and Next Steps.....	19
<i>STARS</i>	19
Water.....	20
Landscaping.....	20

University of Richmond Climate Action Plan Update January 2014

Indoor Air Quality 21
 Green Cleaning..... 21
 Indoor Integrated Pest Management..... 21
Education 22
Current Status..... 22
 STARS..... 22
 Curriculum..... 24
 Co-Curricular Sustainability 24
Next Steps and Goals..... 24

Table of Figures

Figure 1: STARS Climate Action Points.....	2
Figure 2: STARS Coordination Planning Points.....	2
Figure 3: STARS Human Resources Points.....	3
Figure 4: STARS Diversity and Affordability Points.....	3
Figure 5: STARS Public Engagement Points.....	4
Figure 6: STARS Investment Points.....	4
Figure 7: Campus Greenhouse Gas Emissions by Source.....	5
Figure 8: STARS Energy Points.....	7
Figure 9: STARS Buildings Points.....	8
Figure 10: STARS Transportation Points.....	11
Figure 11: Campus Fleet Unleaded Fuel Use.....	12
Figure 12: STARS Purchasing Points.....	14
Figure 13: STARS Waste Points.....	15
Figure 14: FY 2013 Waste Report.....	16
Figure 15: RecycleMania Results.....	17
Figure 16: STARS Water Points.....	19
Figure 17: STARS Grounds Points.....	20
Figure 18: STARS Curriculum Points.....	22
Figure 19: STARS Research Points.....	23
Figure 20: STARS Co-Curricular Education Points.....	23

Administration

Measurement of sustainability progress includes all pillars of sustainability (environmental, social, and economic) and crosses all programs and goals included in the 2010 Climate Action Plan and related updates. Sustainability is inherently interdisciplinary and support from the administration creates opportunities for cross-departmental efforts to succeed.

Measurement and Verification

STARS

In 2012, the University completed the AASHE STARS Sustainability Tracking, Assessment, and Rating System) assessment report. Collection of data from across the University took about a year, and in February 2013 the University received a Silver STARS rating.



STARS points are divided across the categories of Education and Research; Operations; and Planning, Administration and Engagement. Innovation credits are also available. The University earned innovation points for Common Ground's Cultural Advisors Program and the campus disc golf course, which is made of recycled materials. The complete breakdown of STARS credits is distributed throughout this update. STARS credits cover all three pillars of sustainability: environmental, social, and economic. Credit categories that do not fall into other Climate Action Plan categories are included in the administration section. Many of these categories include points earned for work done in a variety of offices across the University. For additional information about a specific credit or STARS in general, please visit <https://stars.aashe.org/institutions/university-of-richmond-va/report/2013-02-18/> to read the University's first STARS submission.

The University earned points for greenhouse gas emissions inventories and for the progress that has been made to reduce those emissions.

Figure 1: STARS Climate Action Points

Climate		5.76 / 16.50
Credit	Status	Points
Greenhouse Gas Emissions Inventory	✓ Complete	2.00 / 2.00
Greenhouse Gas Emissions Reduction	✓ Complete	3.76 / 14.00
Air Travel Emissions	✗ Not Pursuing	0.00 / 0.25
Local Offsets Program	✗ Not Pursuing	0.00 / 0.25

Additionally, the University earned points for creating a Climate Action Plan that includes other elements of sustainability in addition to climate specific issues, including sustainability in the campus master plan, and incorporating the social and economic pillars of sustainability in the Richmond Promise.

Figure 2: STARS Coordination Planning Points

Coordination and Planning		16.00 / 18.00
Credit	Status	Points
Sustainability Coordination	✓ Complete	3.00 / 3.00
Strategic Plan	✓ Complete	4.00 / 6.00
Physical Campus Plan	✓ Complete	4.00 / 4.00
Sustainability Plan	✓ Complete	3.00 / 3.00
Climate Action Plan	✓ Complete	2.00 / 2.00

Human Resources-related points were earned for the University’s wellness program, employee satisfaction survey, and compensation program, which set a higher campus minimum salary than minimum wage. All new staff members receive information about the University’s sustainability initiatives during their orientation to campus.

Figure 3: STARS Human Resources Points

Human Resources		14.50 / 19.75
Credit	Status	Points
Sustainable Compensation	✓ Complete	8.00 / 8.00
Employee Satisfaction Evaluation	✓ Complete	2.00 / 2.00
Staff Professional Development in Sustainability	✓ Complete	2.00 / 2.00
Sustainability in New Employee Orientation	✓ Complete	2.00 / 2.00
Employee Sustainability Educators Program	✗ Not Pursuing	0.00 / 5.00
Childcare	✗ Not Pursuing	0.00 / 0.25
Employee Wellness Program	✓ Complete	0.25 / 0.25
Socially Responsible Retirement Plan	✓ Complete	0.25 / 0.25

Additional points are awarded for the University’s commitments to diversity and community engagement. The School of Professional and Continuing Studies offers sustainability-related educational opportunities to the campus and local community. Points are also available for investment management.

Figure 4: STARS Diversity and Affordability Points

Diversity and Affordability		7.75 / 13.75
Credit	Status	Points
Diversity and Equity Coordination	✓ Complete	2.00 / 2.00
Measuring Campus Diversity Culture	✗ Not Pursuing	0.00 / 2.00
Support Programs for Underrepresented Groups	✓ Complete	2.00 / 2.00
Support Programs for Future Faculty	✗ Not Pursuing	0.00 / 4.00
Affordability and Access Programs	✓ Complete	3.00 / 3.00
Gender Neutral Housing	✓ Complete	0.25 / 0.25
Employee Training Opportunities	✓ Complete	0.25 / 0.25
Student Training Opportunities	✓ Complete	0.25 / 0.25

Figure 5: STARS Public Engagement Points

Public Engagement		23.99 / 31.75
Credit	Status	Points
Community Sustainability Partnerships	✓ Complete	2.00 / 2.00
Inter-Campus Collaboration on Sustainability	✓ Complete	2.00 / 2.00
Sustainability in Continuing Education	✓ Complete	5.26 / 7.00
Community Service Participation	✓ Complete	4.48 / 6.00
Community Service Hours	✓ Complete	6.00 / 6.00
Sustainability Policy Advocacy	✓ Complete	4.00 / 4.00
Trademark Licensing	✗ Not Pursuing	0.00 / 4.00
Graduation Pledge	✗ Not Pursuing	0.00 / 0.25
Community Service on Transcripts	✗ Not Pursuing	0.00 / 0.25
Farmers' Market	✓ Complete	0.25 / 0.25

Figure 6: STARS Investment Points

Investment		0.00 / 16.75
Credit	Status	Points
Committee on Investor Responsibility	✗ Not Pursuing	0.00 / 2.00
Shareholder Advocacy	✗ Not Pursuing	0.00 / 5.00
Positive Sustainability Investments	✗ Not Pursuing	0.00 / 9.00
Student-Managed Sustainable Investment Fund	✗ Not Pursuing	0.00 / 0.25
Sustainable Investment Policy	✗ Not Pursuing	0.00 / 0.25
Investment Disclosure	✗ Not Pursuing	0.00 / 0.25

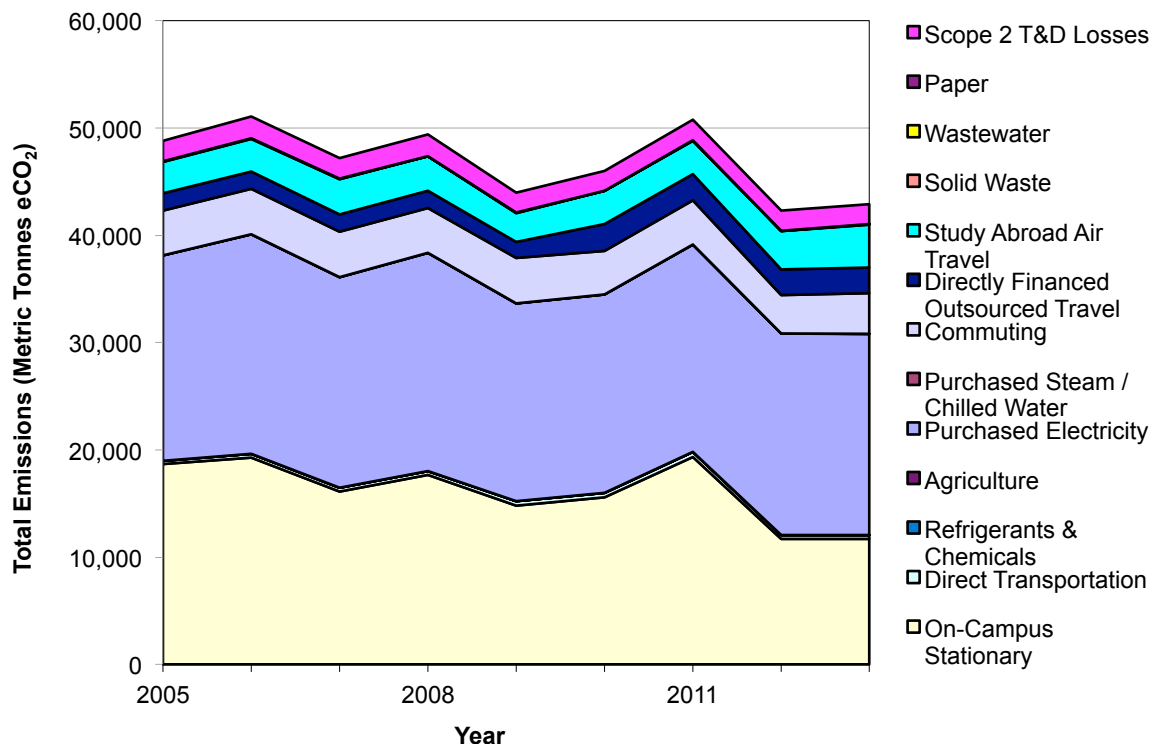
In Fall 2013, AASHE released the next version of STARS: STARS 2.0. During calendar year 2014, the Office for Sustainability will gather data under the new guidelines for the University's second STARS submission.

Greenhouse Gas Emissions Calculations

The University completes an annual inventory of campus greenhouse gas emissions. The steep decline in emissions in 2012 is attributed to the elimination of coal use at the on campus steam plant (represented as on-campus stationary in Figure 7.) The University's

goal is to achieve climate neutrality by 2050 with an interim goal of a 30% reduction from 2008 levels by 2020. The University has achieved a 17% reduction as of June 30, 2013¹.

Figure 7: Campus Greenhouse Gas Emissions by Source



Programmatic Accomplishments

The Be ONE campaign ran during the 2012-2013 school year. University community members were encouraged to make one change to their behaviors each month. Over the course of the year, the goal was to show that action at the individual level will collectively contribute to large reductions in environmental impacts. The Communications Office earned an Extended Events and Observances, Award of Merit from the Public Relations Society of America for its work on the yearlong campaign. During the campaign, programming focused on a different sustainability topic each month, and whenever possible additional offices on campus worked with the Office for Sustainability.

During the Campaign, the University partnered with VCU to create a cross-town competition within Campus Conservation Nationals. UR and VCU residence halls competed against each other to see who could reduce energy consumption by the highest percent. VCU came away with the win, but the competition will take place again in spring of 2014.

¹ Emissions reporting is fiscal year based. The 2013 emissions are for July 1, 2012 through June 30, 2013.

Outreach

The Office for Sustainability distributes a monthly newsletter with information about campus sustainability events, accomplishments, and goals. Social media is used to reach out and to request feedback. The sustainability book club meets monthly and provides interested individuals with an opportunity to discuss a wide variety of sustainability topics. The University participated in Campus Sustainability Day in fall 2013. The event included participation from multiple student groups and included crafts (such as make your own environmental reminder magnet and bling your bottle), a tap waste taste test, and sustainability trivia. The Transportation and Common Ground offices also participated in the event.

Hazard Mitigation Planning

The Office of Emergency Management is completing the University's first Hazard Mitigation Plan in spring of 2014. Discussions of climate change are being included in the planning process.

Infrastructure Energy Use

Greenhouse gas emissions from energy use in campus infrastructure comes primarily from steam and electricity use. These two components combine to produce the majority of campus greenhouse gas emissions. New buildings and construction projects, combined with audits of existing structures, create numerous opportunities for energy efficiency, conservation, and evaluation of various new technologies including renewables.

Status Update

STARS

The 2013 STARS data collection process enabled the University to better evaluate energy consumption across campus and identify specific opportunities for energy efficient building construction and operation.

Figure 8: STARS Energy Points

Energy		5.51 / 16.50
Credit	Status	Points
Building Energy Consumption	✓ Complete	4.01 / 8.00
Clean and Renewable Energy	✓ Complete	0.00 / 7.00
Timers for Temperature Control	✓ Complete	0.25 / 0.25
Lighting Sensors	✓ Complete	0.25 / 0.25
LED Lighting	✓ Complete	0.25 / 0.25
Vending Machine Sensors	✓ Complete	0.25 / 0.25
Energy Management System	✓ Complete	0.25 / 0.25
Energy Metering	✓ Complete	0.25 / 0.25

Figure 9: STARS Buildings Points

Buildings		2.11 / 13.00
Credit	Status	Points
Building Operations and Maintenance	✘ Not Pursuing	0.00 / 7.00
Building Design and Construction	✔ Complete	1.79 / 4.00
Indoor Air Quality	✔ Complete	0.32 / 2.00

Energy Audit and Revolving Fund

Following the completion of the campus wide energy audit, the University mobilized cash reserves for investment in improving campus efficiency through the creation of a revolving loan fund. The fund is designed to finance three rounds of energy efficiency updates after which point the opportunity to reinvest additional funds will be evaluated. All projects that utilize the revolving loan fund have a relatively small payback period. The dollars saved from the project up to the cost of the project, plus interest, will be repaid to the fund. The initial round of projects is currently in progress with building level metering being the first priority. Meters for electricity, steam, and chilled water will be online for all campus buildings by early 2014. During the University Forest Apartment renovations new thermostats were installed, which are controlled remotely by facilities and provide occupants with the ability to adjust the temperature within a few degrees of a set point. Additional initial phase projects include retro-commissioning, evaluation of HVAC systems (heating, ventilation and air conditioning systems) during the metering installation process, lighting upgrades, and a new chiller in Jepson Hall.

Conservation

While building efficiency plays a critical role in energy use reduction on campus, behavior change also provides significant opportunities for emissions reductions. Facilitating behavior change has been a focus for the past two years as the Office for Sustainability has devoted time and resources to improving campus education and outreach. The University continues to participate in Campus Conservation Nationals, an annual energy reduction competition. The Lucid dashboards around campus allow students to track their residence hall or apartment's energy use. In 2013, the best performing residence hall reduced energy by 5% and one apartment block achieved nearly a 30% reduction during the competition against VCU.

The 2012-2013 Be ONE campaign focused on one opportunity for behavior change each month. During the competition, the University focused on specific opportunities for energy consumption reduction. The Green Office program was reevaluated in 2013 and the 2.0 versions of checklists have a greater focus on energy consumption reduction within offices.

Construction Efficiency

New construction creates a significant challenge for achieving climate neutrality; but new buildings also create the opportunity to utilize technologies that create ultra-efficient buildings. LEED Silver standards for new construction on campus are important for this goal, but a focus on the energy and atmosphere credits is critical. Standard practice for new construction is to evaluate all potential energy saving opportunities, including solar energy, geothermal opportunities, variable refrigerant flow (VRF), lighting efficiency opportunities, and other new technologies or techniques that might be available. The renovation of the Robins Center included a complete transition to LED lighting in the arena.

Next Steps and Goals

Many of the previous progress carries forward into new projects and into ongoing maintenance. Using STARS and LEED as guidelines for projects helps ensure that all possible opportunities for efficiency are discussed, even when a rating is not pursued.

Operations and Maintenance

Creating building operating plans is an opportunity to capture the practices that are already in place to reduce energy consumption and ensure that opportunities are not overlooked during routine maintenance. Using the LEED:EBOM guidelines for operating plans can help create procedures across campus that are easy to turn over to new personnel and will help ensure that buildings operate as efficiently as possible long after construction ends.

Creating a method of capturing, evaluating, and when appropriate, acting upon all space temperature concerns can help with both energy efficiency and conservation. Building space heaters are already not allowed in residence halls because they are energy hogs and potential fire hazards. Space heaters often mask real building issues and make identifying problems difficult. Recognizing that some buildings on the campus are a century old, evaluation and correction of space may be a larger project in some areas than others. Additionally, areas deemed to be within the acceptable temperature range should not have space heaters.

New Construction

Continuing the use of LEED as a guide for establishing best practices in construction projects should expand into smaller renovation projects. The Office for Sustainability will work with Facilities to use LEED for Commercial Interiors and other LEED programs to define design standards and best practices for sustainability in all projects. Many techniques, such as using low-flow fixtures, are already standard practice. This effort will capture and expand those practices and increase the cumulative impact. Additionally,

signage will be displayed at each project to describe environmentally friendly features and the construction process to passers-by.

Renewables

Evaluation of renewables for campus recently became appealing when power purchase agreements became allowable in Virginia. While there are restrictions and limitations to the systems that may be installed, this change provides an important opportunity for investigation of new opportunities and achievement of the renewable energy goals set forth in the 2010 Climate Action Plan of 1% by 2015 and 5% by 2020.

Transportation

Transportation emissions include those from the University fleet, commuting, study abroad travel, and travel on behalf of the University including travel related to athletics, conferences, or other travel funded by the University. Efforts to curb these emissions include creating a bicycle and pedestrian friendly campus, providing and promoting alternatives to single-occupancy vehicle travel, promoting remote meeting options such as teleconferencing, and ultimately offsetting emissions that cannot be curbed.

Current Status

STARS

The 2013 STARS report identified several programs that the University has already implemented to provide and promote alternatives to single occupancy vehicle travel along with opportunities for expansion, improvement, or creation of additional programming.

Figure 10: STARS Transportation Points

Transportation		5.29 / 12.00
Credit	Status	Points
Campus Fleet	✓ Complete	0.29 / 2.00
Student Commute Modal Split	✓ Complete	2.76 / 4.00
Employee Commute Modal Split	✓ Complete	0.24 / 3.00
Bicycle Sharing	✓ Complete	0.25 / 0.25
Facilities for Bicyclists	✗ Not Pursuing	0.00 / 0.25
Bicycle and Pedestrian Plan	✓ Complete	0.25 / 0.25
Mass Transit Programs	✓ Complete	0.25 / 0.25
Condensed Work Week	✓ Complete	0.25 / 0.25
Telecommuting	✓ Complete	0.25 / 0.25
Carpool/Vanpool Matching	✓ Complete	0.25 / 0.25
Cash-out of Parking	✗ Not Pursuing	0.00 / 0.25
Carpool Discount	✗ Not Pursuing	0.00 / 0.25
Local Housing	✗ Not Pursuing	0.00 / 0.25
Prohibiting Idling	✓ Complete	0.25 / 0.25
Car Sharing	✓ Complete	0.25 / 0.25

University Fleet

The University fleet includes four hybrid vehicles and 14 electric carts out of 126 cars, trucks, and carts. Additionally, the University’s shuttle fleet is fueled primarily with propane fuel. These shuttles provide transportation to many offsite locations including UR Downtown, Short Pump, and local shopping options. This year the addition of a bus route to the Pony Pastures and Belle Isle sections of the James River Park System proved very popular. Fuel consumption by campus vehicles has declined since the last update to the Climate Action Plan.

Figure 11: Campus Fleet Unleaded Fuel Use

Fiscal Year	Gallons Unleaded Fuel
2006	36,414
2007	38,948
2008	40,138
2009	41,536
2010	43,748
2011	48,067
2012	40,461
2013	38,596

Single Occupancy Vehicle Alternatives

The University increased the number of ZipCars on campus from two to three this year to meet demand. Additionally, the University promotes the use of Ridefinders for commuters. This service helps match carpool partners and also provides trip planning and emergency ride home services for bicyclists and carpoolers.

Bicycle and Pedestrian Friendly Campus

Upon the recommendation of the 2012-2013 Earth Lodge class, the University completed the application for recognition as a Bicycle Friendly University from the League of American Bicyclists. The University earned Honorable Mention for displaying dedication and commitment to creating a bicycle friendly university. It is important to recognize that there is significant work to do to earn an award level. Additional steps will include improved infrastructure, such as complete streets, and education through signage and formal programs.

Next Steps and Goals

University Fleet and Single Occupancy Vehicle Alternatives

The University will continue to evaluate all options when a new vehicle is required. The vehicle that meets the needs of the department with the highest efficiency will be selected. Additionally opportunities to reduce the campus vehicle fleet will be evaluated as appropriate. The University will continue to promote Ridefinders through all available options. Ultimately, the University should consider creating a disincentive for driving to campus by decreasing parking availability, charging for parking, or expanding the priority parking available to carpoolers, fuel efficient vehicles, scooters, bicycles, and other alternatives to single-occupancy vehicles.

Study Abroad

Study abroad opportunities provide an important educational opportunity for University of Richmond students. This opportunity is an important part of the University's identity, but it is important that students understand the impacts of travel on the environment. Opportunities for local offsets in either host countries or near the University will be investigated to offset study abroad travel.

Bicycle and Pedestrian Friendly Campus

The League of American Bicyclists provides recommendations based on application answers for Bicycle Friendly University recognition. These recommendations will be carefully reviewed and implemented as appropriate after received. The University will continue to convene an informal group of University representatives to work toward the expansion of bicycle and pedestrian friendly roads and paths on campus. The University will also continue to work with local officials to safe create regional bike paths, including one that passes through the campus.

Additional Next Steps

The Office for Sustainability and the Transportation Office will work together to send out a new transportation survey to the campus community in spring of 2014. Following the survey conducted prior to the creation of the transportation plan and the 2012 follow-up, this survey will identify opportunities for improvement and expansion of the existing transportation programs as well as capture current campus commuting behavior for use in the campus greenhouse gas emissions calculation.

Materials Management

Materials management includes both purchasing and disposal. Waste reduction goals focus on responsible purchasing combined with increasing the percentage of waste that is reused or recycled while decreasing overall waste numbers.

Current Status

STARS

For purchasing, STARS evaluated electronics, cleaning chemicals, paper, and socially responsible purchasing practices. The University’s Supplier Diversity program is recognized under this STARS category. The University has purchased all EPEAT² computers for the last few years, which is also recognized in this section.

Figure 12: STARS Purchasing Points

Purchasing		3.96 / 7.50
Credit	Status	Points
Computer Purchasing	✓ Complete	1.50 / 2.00
Cleaning Products Purchasing	✓ Complete	0.96 / 2.00
Office Paper Purchasing	✗ Not Pursuing	0.00 / 2.00
Vendor Code of Conduct	✓ Complete	1.00 / 1.00
Historically Underutilized Businesses	✓ Complete	0.25 / 0.25
Local Businesses	✓ Complete	0.25 / 0.25

The waste section includes evaluation of the University’s waste reduction since the implementation of a sustainability plan, recycling rate on campus and for construction materials, electronic waste management, and other specific waste reduction efforts. The University’s office supply exchange is recognized in this section for reducing waste and providing offices with the opportunity to acquire needed and useful office supplies without tapping into their budgets. The year-end campus yard sale, run in partnership with the Fall of the James Sierra Club chapter, is also recognized in this section for preventing housewares, furniture, clothing, and more from entering the landfill as students depart campus in the spring.

² “EPEAT is a comprehensive global environmental rating system that helps purchasers identify greener computers and other electronics.” www.epeat.net

Figure 13: STARS Waste Points

Waste		6.92 / 12.50
Credit	Status	Points
Waste Reduction	✓ Complete	1.31 / 5.00
Waste Diversion	✓ Complete	1.19 / 3.00
Construction and Demolition Waste Diversion	✓ Complete	0.92 / 1.00
Electronic Waste Recycling Program	✓ Complete	1.00 / 1.00
Hazardous Waste Management	✓ Complete	1.00 / 1.00
Materials Exchange	✓ Complete	0.25 / 0.25
Limiting Printing	✓ Complete	0.25 / 0.25
Materials Online	✓ Complete	0.25 / 0.25
Chemical Reuse Inventory	✓ Complete	0.25 / 0.25
Move-In Waste Reduction	✓ Complete	0.25 / 0.25
Move-Out Waste Reduction	✓ Complete	0.25 / 0.25

Purchasing

Food

University of Richmond Dining Services continues to make strides towards creating a sustainable dining program. Last year the Heilman Dining Center implemented a sustainable dining program called Live Well, Dine Green. This program continues during the 2013-2014 year. The executive chef, dietician and purchasing director worked together to develop a series of specials, which featured seafood (wild, natural, sustainable, local), Virginia apples, Virginia peanuts, Virginia dairy, heart healthy chocolate, and berry celebration. In addition to the menu options, Dining Services focuses on wellness education while addressing environmental concerns.

Dining Services continued to work on waste stream management and recycled 100% (1,685 pounds) of the used frying oil for high energy fat used in animal feeds or into biofuel replacement for traditional fossil fuels in industrial environments. In addition, the Heilman Dining Center partnered with the State Farm Virginia Department of Corrections for composting. Compostable material is pulped and delivered (39,746 pounds last year) bi-weekly to the State Farm site.

The dining hall now features “farm to table” sausage products from a local pork farm. The executive chef works closely with ProFish, a local seafood company that is committed to seafood preservation. The vendor tries to purchase seafood from certifiable sources. The

Heilman Dining Center features a sustainable fish option each week, which has led to the introduction of new menu options. In addition, ProFish helps educate consumers on sustainable seafood.

Dining Services will continue to resource sustainable products as well as encourage our vendors to provide resources and services and adopt those practices that are environmentally beneficial.

Campus Wide Purchasing

The University provides green purchasing recommendations online. The Green Office program recognizes offices that choose to purchase office supplies made from recycled or environmentally friendly materials, reduce the number of orders placed to reduce packaging materials, utilize the office supply exchange, and reduce printing.

Recycling Program

In March 2013, the University rolled out an expanded recycling program. Previously, paper was separated from bottles and cans across campus and only plastics #1 and #2 could be collected. Under the new program, all recycling can be collected in any recycling bin and plastics #1 through #7 are now accepted, along with other materials that were previously not accepted including wax covered paper containers. Immediately following the release of the program, an improvement in the recycling rate was detected during RecycleMania. All custodial staff involved in the recycling program rollout met with the sustainability manager, the custodial and environmental services manager, representatives from the recycling vendor, and team leaders for a training session to learn about the new program and have an opportunity to ask questions.

Figure 14: FY 2013 Waste Report

	Tons	Rate
Landfilled Trash	1801.76	88%
Building Recycling ³	247.24	12%

RecycleMania

The University's 2013 RecycleMania performance provides an important baseline as the University moves forward with an expanded recycling program, new outreach efforts, and a renewed focus on recycling efforts. While the University's 2013 RecycleMania results are

³ This figure does not include scrap metal, wood pallets, yard waste, cinderblocks, tires, grease from food services, bulbs, ballast, batteries, carpet, electronic waste, or construction waste, which is all recycled through separate programming.

a step back from previous results, improved awareness combined with an expanded program should improve recycling rates for the 2014 RecycleMania program.

The University participated in the electronics-recycling portion of RecycleMania for the first time in 2013. The rules of this category differ from the other categories of RecycleMania in that community recycling may count and the recycling efforts are based on just one month of data, rather than eight weeks. University of Richmond achieved 14th place of 79 participating schools with a total electronics recycling weight of 12,372 pounds. This weight includes both University electronic waste recycled during the time frame and all the material collected during the spring campus community e-waste collection event.

Compost, or food service organics, remains a pre-consumer program in the dining hall and catering kitchen. University staff deliver organic material to a local penitentiary for processing.

Waste minimization increases may be partially due to a change in recording procedures. Facilities related waste is not included in RecycleMania and may have been included in the current year's numbers. Care will be taken to ensure that only waste from appropriate locations is counted.

Figure 15: RecycleMania Results

Year	Competition Recycling Rate	Compost (cumulative pounds per person)	Waste Minimization (total pounds trash +recycling per person)
2010	16.59%		
2011	20.37%		80.38
2012	15.70%	0.47	67.14
2013	10.41%	1.748	82.36

Next Steps and Goals

Purchasing

Efforts to expand green purchasing will include a review of how better to incorporate best practices into the Green Office Program and how better to advertise the existing resources to the campus community. The EPA's Preferred Purchasing Program will be utilized where appropriate as a resource as new products are evaluated. A centralized travel and e-procurement system is being investigated. This program will greatly improve the ease of tracking University travel and purchasing and make the identification of opportunities for improvement easier. The University continues to prioritize surplus furniture as an option for offices across campus and prevents materials from entering the landfill by donating surplus University property when possible.

Target Recycling Rates

Under the new University recycling system, the University is aiming for a 50% recycling rate by 2015 and an 80% recycling rate by 2020. It is important to remember that the RecycleMania number includes only waste generated through business activities across campus. Additional landfill avoidance comes from effectively recycling construction waste, recycling metal and wood, composting landscaping waste and pre-consumer dining waste, reusing furniture on campus whenever possible, donating items past their useful life on campus, and other activities. Measurement of these activities will be conducted through the year.

To achieve these goals, building waste audits that involve a review of trash and recycling bin availability, use, and building waste streams will be conducted across campus. The results of these audits will provide data that will aid in the creation of a waste management plan for each building. The University will create a method to capture full diversion rates as well to capture materials recycled and reused through other means. Training for all staff involved in the process will be reviewed and be an ongoing effort to ensure consistency across campus. Facilities and sustainability staff will work together on these plans. During the audit, building occupants will be invited to provide feedback.

Conservation

Upon completion of the 2012 Climate Action Plan update, topics about landscaping, water use, and indoor and outdoor air quality rose to the surface as issues that deserved a separate section rather than just under the umbrella of other related sections.

Current Status and Next Steps

STARS

STARS captures progress made with water consumption reduction and landscaping practices. The University is a Nutrient Management Site and we use less than the recommended amount of chemicals in landscaping. Upon completion of STARS, the University hired an integrated pest management (IPM) specialist who began work on an outdoor IPM plan. Guidelines from both LEED and STARS have been used to evaluate practices and establish a plan.

Water metering on campus is limited to the city and county meters and does not provide data at a granular level. Water use reduction strategies have decreased consumption slightly. New opportunities for reduction are utilized in construction activities.

Figure 16: STARS Water Points

Water		3.85 / 10.25
Credit	Status	Points
Water Consumption	✓ Complete	1.10 / 7.00
Stormwater Management	✓ Complete	2.00 / 2.00
Waterless Urinals	✓ Complete	0.25 / 0.25
Building Water Metering	✗ Not Pursuing	0.00 / 0.25
Non-Potable Water Usage	✓ Complete	0.25 / 0.25
Xeriscaping	✗ Not Pursuing	0.00 / 0.25
Weather-Informed Irrigation	✓ Complete	0.25 / 0.25

Figure 17: STARS Grounds Points

Grounds		0.75 / 3.25
Credit	Status	Points
Integrated Pest Management	✘ Not Pursuing	0.00 / 2.00
Native Plants	✔ Complete	0.25 / 0.25
Wildlife Habitat	✘ Not Pursuing	0.00 / 0.25
Tree Campus USA	✘ Not Pursuing	0.00 / 0.25
Snow and Ice Removal	✔ Complete	0.25 / 0.25
Landscape Waste Composting	✔ Complete	0.25 / 0.25

Water

The University’s relationship to water begins with the Westhampton Lake. Centrally located on campus, all members of the community are familiar with the lake. Students and faculty in a variety of disciplines conduct research on water quality and species in the lake. Ultimately, the lake flows to the James River and the Chesapeake Bay. The University has been evaluating filtration possibilities to clean the water that runs through the campus to the river. The University will continue to evaluate technological options and will continue to seek funding. The University will investigate the option of establishing a formal working group from offices across campus that will investigate watershed management best practices and techniques for potential adoption on campus.

Water use reduction in buildings is prioritized in new construction through the use of low flow fixtures and efficient building systems. The University does not install irrigation systems for landscaping and only uses hand watering when required by the weather.

Landscaping

The University completed an outdoor integrated pest management (IPM) plan, which meets the requirements of LEED and STARS. The working document is available on the University’s facilities’ website. The University will also investigate the requirements of a building exterior and hardscape management plan, erosion control plan, and a landscape management plan as described in LEED for Existing Buildings.

Indoor Air Quality

Green Cleaning

The University is investigating new methods for green cleaning and is working to greatly expand the percentage of products that meet green cleaning standards while decreasing the number of chemicals on campus and ensuring consistency across campus. This program will meet LEED requirements and will be implemented in all buildings, not just those applying for LEED certification.

Indoor Integrated Pest Management

The University will ensure that it is meeting the standards of IPM plans established by LEED and STARS for use in buildings across campus. These standards include notification to occupants of pest management applications in the building.

Education

In addition to the commitment to creating a greenhouse gas emissions neutral campus, the commitment under the ACUPCC also commits the University to take “[a]ctions to make climate neutrality and sustainability a part of the curriculum and other educational experience for all students.” The University has approached this goal by creating co-curricular opportunities for interested students as well as experimenting with methods of incorporating sustainability into the classroom.

Current Status

STARS

STARS includes opportunities to earn points related to curriculum, research, and co-curricular efforts. Curriculum points include recognition of courses, programs, and living and learning programs related to sustainability. The University has conducted a sustainability course identification survey in which courses were divided into those related to and focused on sustainability categories. Earth Lodge and the new River City Project are also recognized in this section.

Figure 18: STARS Curriculum Points

<u>Curriculum</u>		18.16 / 51.00
Credit	Status	Points
Sustainability Course Identification	✓ Complete	3.00 / 3.00
Sustainability-Focused Courses	✓ Complete	1.28 / 10.00
Sustainability-Related Courses	✓ Complete	1.19 / 10.00
Sustainability Courses by Department	✓ Complete	3.40 / 7.00
Sustainability Learning Outcomes	✓ Complete	0.29 / 10.00
Undergraduate Program in Sustainability	✓ Complete	4.00 / 4.00
Graduate Program in Sustainability	✗ Not Applicable	0.00 / 2
Sustainability Immersive Experience	✓ Complete	2.00 / 2.00
Sustainability Literacy Assessment	✗ Not Pursuing	0.00 / 2.00
Incentives for Developing Sustainability Courses	✓ Complete	3.00 / 3.00

STARS also recognizes research related to sustainability conducted by faculty across the University.

Figure 19: STARS Research Points

Research		8.31 / 27.00
Credit	Status	Points
Sustainability Research Identification	✓ Complete	2.00 / 3.00
Faculty Engaged in Sustainability Research	✓ Complete	2.06 / 10.00
Departments Engaged in Sustainability Research	✓ Complete	2.25 / 6.00
Sustainability Research Incentives	✗ Not Pursuing	0.00 / 6.00
Interdisciplinary Research in Tenure and Promotion	✓ Complete	2.00 / 2.00

Student organizations, programing through the sustainability office, Earth Lodge, and outreach efforts including the newsletter and social media are all included in the co-curricular education section. After completing STARS, several new programs (Eco-Reps and Greeks Going Green) were identified and have been implemented.

Figure 20: STARS Co-Curricular Education Points

Co-Curricular Education		12.25 / 18.00
Credit	Status	Points
Student Sustainability Educators Program	✗ Not Pursuing	0.00 / 5.00
Student Sustainability Outreach Campaign	✓ Complete	5.00 / 5.00
Sustainability in New Student Orientation	✓ Complete	2.00 / 2.00
Sustainability Outreach and Publications	✓ Complete	4.00 / 4.00
Student Group	✓ Complete	0.25 / 0.25
Organic Garden	✓ Complete	0.25 / 0.25
Model Room in a Residence Hall	✗ Not Pursuing	0.00 / 0.25
Themed Housing	✓ Complete	0.25 / 0.25
Sustainable Enterprise	✗ Not Pursuing	0.00 / 0.25
Sustainability Events	✓ Complete	0.25 / 0.25
Outdoors Program	✓ Complete	0.25 / 0.25
Themed Semester or Year	✗ Not Pursuing	0.00 / 0.25

Curriculum

The River City Project pilot took place in May 2013; six faculty members participated as River City Fellows. The fellows agreed to incorporate sustainability into an existing course following their participation in a two-day workshop held on campus. The workshop included activities, field trips, and guided discussion of sustainability topics and exposed participants to campus and community workshops related to sustainability. This program will continue with a second year in 2014 and will expand the number of courses that incorporate sustainability topics.

The School of Professional and Continuing Studies offers a wide range of sustainability related courses including a sustainability certificate program, landscaping program, and even culinary classes that teach about sustainable food options.

Co-Curricular Sustainability

GreenUR

The campus sustainability student organization, GreenUR, focuses on sustainability on campus and is also involved in several community outreach efforts. Students are involved in Connect the Dots through the JRGBC. This program connects the students with a local elementary school where they aid in bringing nature into the classroom. The group also connected with the James River Park System and worked on trail maintenance. On campus, GreenUR is focused on reducing bottled water use and making sure students are aware of sustainability efforts already underway on campus. GreenUR is a USGBC Students chapter.

Greeks Going Green

Greeks Going Green began as the result of student interest in fall of 2013. After outreach to all Greek organizations, all Panhellenic sororities and Alpha Kappa Alpha participate in weekly challenges to increase sustainable behavior among the women. This program provides a new avenue to reach large groups of students about sustainability efforts on campus.

Eco-Reps

Eco-Reps also began in fall of 2013. Six students were selected to serve as representatives of the sustainability office in their residence halls. These students participated in a series of educational meetings in the fall and will manage campus participation in the energy use reduction and recycling challenges in the spring.

Next Steps and Goals

The Office for Sustainability plans to continue offering the River City Project as an opportunity for all faculty members who wish to incorporate sustainability topics into their

courses. The Office for Sustainability and the Environmental Awareness Group⁴ will pursue additional opportunities for outreach.

For the first time, the Environmental Awareness Group and the Office for Sustainability are sponsoring an award recognizing the best student and faculty research/scholarship on environmental or sustainability topics presented at the annual Arts & Science Student Symposium. The award is intended to encourage students and faculty here at University of Richmond to investigate their environment and advocate for best practices to the university community.

Greeks Going Green and Eco-Reps are still in their pilot year, so future plans for those programs are to evaluate and expand as appropriate. The Office for Sustainability is excited to have these new avenues for outreach and is working closely with student leaders to create successful long-lasting programs.

⁴ The Environmental Awareness Group, or EAG, is a faculty committee charged with increasing the University community's knowledge and understanding of environmental issues and objectives. Additional information is available online: <http://provost.richmond.edu/committees/index.html>