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# CLIMATE ACTION PLAN

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January 2013

## Spelman College Establishes a Target Date for Climate Neutrality

Atlanta, Georgia, January 15, 2013

The Vision of a Sustainable Spelman requires all of us to adopt an ethic of conservation. The Spelman College CAP outlines Spelman College's plan for conserving resources and achieving climate neutrality and is a tangible expression of our commitment to our mission.



The Suites, Spelman's LEED Silver Residence Hall

### Sustainable Spelman Vision

"Consistent with Spelman's historical mission of promoting ethical leadership and positive social change, we are committed to achieving climate neutrality by reducing our ecological footprint and practicing sustainability as a way of life."

### A Choice to Change the World

Dr. Beverly Daniel Tatum, Spelman College President,  
Opening Convocation Speech, August 30 2007

"A choice to change the world also means taking responsibility for the ways each of us is always changing the world - and not always for the better - through our excessive consumption of the world's resources. Understanding our own environmental impact and seeking to reduce it is a choice that all of us can make every day."



## TABLE OF CONTENTS

An Introduction by Dr. Beverly Daniel Tatum.....	v
Spelman College Climate Action Plan.....	v
Executive Summary.....	viii
Acknowledgements.....	xii
1. Introduction.....	1
1.1 Institutional Background: Spelman College.....	1
1.2 Program Background: Sustainability at Spelman College.....	1
1.3 Science Background: Climate Change Impact.....	2
1.4 Policy Background: Evolving Climate Change Policy and Legislation.....	3
1.5 Background: The ACUPCC and Spelman College.....	3
1.6 Overall Approach: Development of the CAP within the ACUPCC Framework.....	5
1.7 Aligning the CAP with Spelman College’s Future: College Planning Initiatives.....	6
1.8 References.....	8
2. Baseline Greenhouse Gas Emissions.....	9
2.1 GHG Inventory Methodology.....	9
2.2 Inventory Boundaries and Definitions.....	9
2.3 GHG Activity Description.....	10
2.4 GHG Data Collection.....	11
2.5 Baseline Year (FY 2009) Carbon Footprint.....	11
2.6 Historical Trends in GHG Emissions.....	13
2.6.1 Historical Trends in GHG Emission Intensity.....	14
2.6.2 Data Uncertainty and Proposed Improvements.....	14
2.7 Mitigation.....	15
2.7.1 Demand-Side Management.....	15
2.7.2 Alternative Fuels.....	15
2.7.3 Recycling.....	15
2.7.4 Commuting.....	17
2.8 References.....	17
3. Forecasting Business-As-Usual Emissions.....	18
3.1 Available Data Sources.....	18
3.2 Forecasting Methodology.....	18
3.3 Results.....	19
3.4 Uncertainty.....	20
3.5 References.....	20
4. Interim and Long-Term Emissions Reduction Goals.....	21
4.1 Background.....	21
4.2 Methods.....	22



4.3 Results..... 22

    4.3.1 Economic Feasibility..... 23

    4.3.2 Regulatory Framework..... 23

4.4 References..... 24

5. Identification and Prioritization of GHG Emission Reduction Projects..... 25

    5.1 Emission Reduction Strategies..... 25

    5.2 Campus Evaluations..... 25

    5.3 Identification of Potential GHG Emission Reduction Projects ..... 25

    5.4 Prioritization of Potential GHG Emission Reduction Projects ..... 29

    5.4 References..... 31

6. Education, Research, and Public Engagement..... 32

    6.1 Background..... 32

    6.2 Education for Sustainability at Spelman College..... 33

        6.2.1 Curriculum ..... 33

            6.2.1.1 Relevant Course Offerings ..... 33

            6.2.1.2 Curriculum Development Workshops..... 34

            6.2.1.3 General Education..... 34

        6.2.2 Research in Sustainability ..... 34

            6.2.2.1 Research Day..... 34

            6.2.2.2 Outside Conferences (Regional, National and International) ..... 34

        6.2.3 Co-Curricular Activities and Programs..... 35

            6.2.3.1 New Student Orientation (NSO)..... 35

            6.2.3.2 Expanding Internship Opportunities in Sustainability ..... 35

            6.2.3.3 Social Justice Fellows..... 36

            6.2.3.4 Sustainability Pledge..... 36

            6.2.3.5 Incorporating Sustainability in Other Educational experiences..... 36

            6.2.3.6 The Spelman College Victory Garden ..... 36

            6.2.3.7 *Green Move Out*..... 37

            6.2.3.8 *Recyclemania* ..... 37

            6.2.3.9 Trayless Dining Hall and *Green Café* ..... 37

            6.2.3.10 Sustainability-Focused Student Organizations..... 38

            6.2.3.11 Earth Day Activities..... 38

            6.2.3.12 Student *Green Fees*..... 38

            6.2.3.13 Spelman College Wellness Revolution..... 38

    6.3 Community Outreach, Engagement and Service ..... 39

        6.3.1 Communications..... 39

            6.3.1.1 Website..... 39

            6.3.1.2 Participation in Competitions..... 39

        6.3.2 Partnership and Collaboration with Other Institutions and Educators ..... 39

            6.3.3.1 Spelman College / USEPA Collegiate Environmental Sustainability Initiative ..... 39

6.3.3.2 Partnership with UNCF.....	40
6.3.3.3 Partnership Initiatives with Other Institutions.....	42
6.4.1 Additional Proposed Actions.....	42
6.5 References.....	42

Appendix A: Spelman STARS™ Report

Appendix B: Sustainable Spelman Timeline

List of Acronyms

AASHE	Association for the Advancement of Sustainability in Higher Education
ACESA	American Clean Energy and Security Act of 2009
ACS	Associated Colleges of the South
ACUPCC	American College and University Presidents' Climate Commitment
ADW	African Diaspora and the World
AUC	Atlanta University Center
AUCC	Atlanta University Center Consortium
CACP	Clean Air Cool Planet
CAP	Climate Action Plan
CAU	Clark-Atlanta University
CCX	Chicago Climate Exchange
DDC	Direct Digital Control
EBOM	Existing Building Operation and Maintenance
EIA	Energy Information Administration
EMP	Energy Management Policy
ESG	Energy Systems Group
ETF	Environmental Task Force
EU ETS	European Union Emissions Trading Scheme
FIEP	Facilities and Infrastructure Enhancement Program
FTE	Full time equivalent
FY	Fiscal Year
GDP	Gross Domestic Product
GHG	Greenhouse Gases
GHP	Geothermal Heat Pump
GSF	Gross Square Footage
HBCU	Historically Black Colleges and Universities
ICB	Institute for Capacity Building
IPA	Intergovernmental Personnel Act
IPCC	Intergovernmental Panel on Climate Change
ITC	Interdenominational Theological Center
LEED	Leadership in Energy and Environmental Design
MOU	Memorandum of Understanding
MSI	Minority Serving Institutions
MSW	Municipal Solid Waste
MTCO <sub>2</sub> e	metric tons carbon dioxide equivalent
NHTSA	National Highway Traffic Safety Administration
NSO	New Student Orientation
OIRAP	Office of Institutional Research, Assessment and Planning
ppm	Parts Per Million



PSD	Prevention of Significant Deterioration
PV	Photovoltaic
RECs	Renewable Energy Certificates
RGGI	Regional Greenhouse Gas Initiative
RSM	Resource Supply Management
SSC	Sustainable Spelman Committee
SEI	Sustainable Endowment Institute
STARS™	Sustainability Tracking, Assessment and Rating System
tpy	Tons per year
TRRC	Teaching Research and Resource Center
UNCF	United Negro College Fund
UNDP	United Nations Human Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
USEPA	United States Environmental Protection Agency
USGBC	United States <i>Green</i> Building Council

## AN INTRODUCTION BY DR. BEVERLY DANIEL TATUM



### Spelman College Climate Action Plan

*Spelman College, a historically Black college and a global leader in the education of women of African descent, is dedicated to academic excellence in the liberal arts and sciences and the intellectual, creative, ethical and leadership development of its students. Spelman College empowers the whole person to engage the many cultures of the world and inspires a commitment to positive social change.*

These words, the Spelman College Mission Statement, provide a guiding light for all that we do at Spelman College. When I signed the American College and University Presidents' Climate Commitment (ACUPCC) in August, 2010, it was with the understanding that such action was not only in complete alignment with our mission but necessary in order to fulfill our mission in the 21<sup>st</sup> century.

How can we be a *global leader in the education of women of African descent* without paying attention to the global impact of our environmental choices? How can we foster *ethical leadership* without educating our students about environmental responsibility? How can we honestly *engage the many cultures* of the world without acknowledging the American over-use of the world's resources? How can we *inspire a commitment to positive social change* without setting a clear institutional example ourselves?

When the founders of Spelman College, Sophia B. Packard and Harriet E. Giles, began creating the physical campus in the late 19<sup>th</sup> century, they often said they were "building for 100 years." In April 2013 we will celebrate the 132<sup>nd</sup> anniversary of the founding of Spelman College, and we can see all around us evidence of their 100-year foresight. Now in the 21<sup>st</sup> century, we too have to take the long view and think about the generations that are coming after us.

In his influential book, *Hot, Flat, and Crowded*, Thomas Friedman makes clear the urgent need for action to address the environmental degradation that is taking place around us and the necessity to educate our students about our collective environmental responsibility if we are to preserve a life-giving planet.

Thomas Friedman writes,

*If we want to maintain...a habitable planet, rich with flora and fauna, leopards and lions, and human communities that can grow in a sustainable way – things will have to change around here, and fast...*

*We are the first generation of Americans in the Energy-Climate Era. This is not about the whales anymore. It's about us. And what we do about the challenges of energy and climate, conservation and preservation, will tell our kids who we really are...*

At Spelman College we have recognized the need for action, and have already taken positive steps for which we have been recognized by the media, other higher education institutions, and even the United States Environmental Protection Agency (USEPA). Environmental science and environmental studies are rapidly growing interests among students and faculty at Spelman College. Our Leadership in Energy and Environmental

Design (LEED)-certified residence hall known as “The Suites” was the first building of its kind on a Historically Black Colleges and Universities (HBCU) campus. We have been praised for our “green” cleaning program using non-toxic cleaning supplies, our paperless business processes, and our beautiful low maintenance landscaping partially watered with recycled water from storm water and our cooling systems. We have done energy audits and begun retrofitting the heating and cooling system of our Science Center, the largest source of energy consumption on the campus. Our recycling program is underway. These are all important efforts but are just the beginning of what we can do and must do to reduce our collective carbon footprint – to slow the tide of environmental degradation occurring as a result of our overconsumption of the world’s resources.

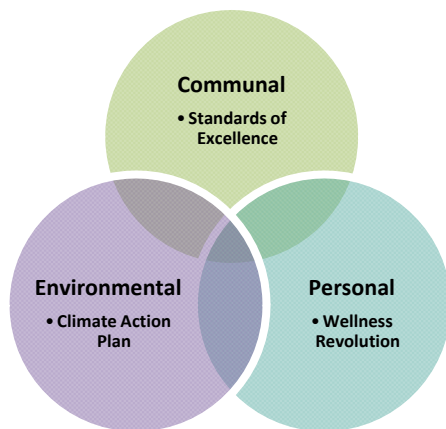
The Spelman College Climate Action Plan (CAP) that follows is our long-term plan for achieving climate neutrality. We know that our efforts will be by necessity incremental, and our plan may be revised many times in the process, but we cannot in good conscience ignore the science that tells us we have to change our ways, and do it as quickly as we can.

We often hear the phrase – “think globally, act locally” – and indeed that is what attention to environmental sustainability requires us to do. The choices we make here at Spelman College and in our daily lives have ripple effects not just at home but around the world. We must have an ethic of conservation on our campus.

In *Hot, Flat and Crowded*, Thomas Friedman quotes Michael Sandel, a political philosopher at Harvard, who describes an ethic of conservation as “an ethic of restraint,” understanding that we cannot just use our natural resources as though they were limitless. An ethic of conservation requires us to be good stewards of our resources now, so there will be resources available in the future – not only for us but for those who will come after us.

*The Vision of a Sustainable Spelman* requires all of us to adopt an ethic of conservation. The Spelman College CAP outlines Spelman College’s plan for conserving resources and achieving climate neutrality and is a tangible expression of our commitment to our mission.

It is important to acknowledge here that while the focus of our CAP is environmental sustainability, we understand the concept of sustainability at Spelman College in terms of three broad and overlapping categories. Environmental sustainability is just one dimension. When we think about sustainability, we must think about personal health and wellness, a topic of particular importance to African-American women who suffer disproportionately from chronic and life-threatening health conditions, the result of over-exposure to physically and emotionally toxic environments in a societal context that has historically oppressed and devalued Black



women. Ever conscious of our mission to empower the whole person – mind, spirit, and body – in 2012 Spelman College launched a “Wellness Revolution” at Spelman College to focus attention on personal sustainability, the need to develop life-long habits of self-care as part of the educational process. As we deepen our knowledge about what is necessary to maintain health, we can easily see the interconnection with environmental action, ensuring a planet able to produce and sustain healthy food, air and water. We also think about communal sustainability, which in this context refers to preserving the Spelman College brand, our reputation for excellence. The Spelman College Standards of Excellence – Civility, Commitment, and Consistency –

collectively known as the “Spelman Way” undergird our communal values and ensure that the decisions we make regarding the ACUPCC will be carried forth with integrity and an unwavering dedication to excellence and sustainability. With this enhanced understanding of sustainability, we clearly see the Spelman College CAP as a tangible expression of our commitment to our mission.

Our CAP provides the framework for Spelman College to advance sustainability in four key ways:



■ **Educational**

- » expanding our curriculum to further integrate sustainability across courses and disciplines with the goal of graduating empowered women who embody all three dimensions of Sustainable Spelman

■ **Campus Emissions**

- » Spelman College plans a 50% reduction in baseline greenhouse gas emissions by 2031, the 150th anniversary of the founding of the College
- » Spelman College intends to achieve carbon neutrality by, or as soon after 2056, the 175th anniversary of the College

■ **Mitigation Strategies**

- » Implementing Demand and Supply Side Reduction Strategies
- » Offset Strategies

■ **Community Outreach Efforts**

- » Continue to promote sustainability at other institutions through our partnerships with Second Nature, USEPA and United Negro College Fund (UNCF) Building *Green*
- » Provide sustainability based community service activities through our Bonner Office of Community Service and Student Development



EXECUTIVE SUMMARY

***Spelman is a choice to change the world. But before we can change the world, we have to change ourselves... Understanding our own environmental impact and seeking to reduce it is a choice that all of us can make every day." -- Dr. Beverly Daniel Tatum, President, Spelman College***

Spelman College was founded as Atlanta Baptist Female Seminary by Sophia B. Packard and Harriet E. Giles in 1881 in the basement of Friendship Baptist Church of Atlanta. In the 132 years since, Spelman College has risen to become one of the nation's most highly regarded liberal arts colleges for women. Spelman College is a historically Black college, established for the sole purpose of empowering women of African descent through education. It is committed through its standards of excellence to the development of the intellectual, ethical, and leadership potential of the students. Most recently, it incorporates the purpose of providing a sustainable way of thinking and living.

As a historically Black college, Spelman College occupies a special niche in tying climate change to climate justice. Communities of color are most likely to be negatively impacted by exposure to pollution and the disastrous impact of climate change. As we educate our students to make a choice to change the world, we recognize the social justice imperative to help students understand a multidimensional view of sustainability (communal, personal, and environmental) and take into account social and environmental rewards in addition to financial rewards – the “triple bottom line” – in their personal and professional lives.

In 2008, Spelman College’s Strategic Planning Committee formed a Sustainability Task Force that developed “Strengthening the Core: The Spelman College Plan for 2015” which identified the following Strategic Plan Objective related to sustainability:

*Identify opportunities to improve Spelman College’s operating efficiency and, at the same time, establish the College as a model academic institution dedicated to reducing its impact on the environment by developing and implementing sustainability initiatives to generate environmental action by students, faculty and administrators as an aspect of positive social change.*

This sustainability Strategic Plan Objective includes strategic initiatives for Sustainable Scholarship, Sustainable Society and Sustainable Infrastructure.

2010 marked a milestone year for Sustainable Spelman’s stewardship efforts as President Beverly Daniel Tatum committed the campus as a whole to environmental stewardship by signing the ACUPCC.

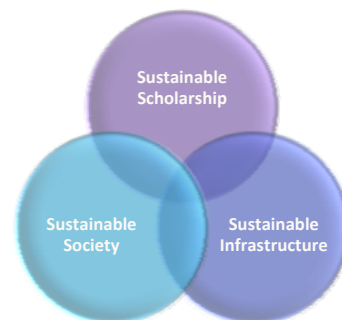
Spelman College has developed this CAP in support of its participation in the ACUPCC. This commitment establishes the following for Spelman College:

Our commitment to advancing sustainability as a leading liberal arts college, informed by the understanding that the next generation of leaders must be sustainability-literate, is demonstrated by:

“Green is the New Spelman Blue”



**President planting the Sustainability Tree on Sustainability Day October 24, 2008**



- graduating global citizens who will be better stewards of the Earth both in their personal and professional lives, and
- expanding our curriculum to further integrate sustainability across courses and disciplines.

In addition to this long-term goal, Spelman College intends to achieve near-term emission reductions.

Spelman College has developed this CAP in support of these above pedagogical objectives and the below physical infrastructure objectives. The ACUPCC commitment requires Spelman College to:

- **Establish a baseline estimate and regularly monitor gross greenhouse gas (GHG) emissions for the College.** Spelman College established Fiscal Year (FY) 2009 as its baseline year for GHG emissions reporting. Spelman College's gross GHG emissions were 26,063 metric tons carbon dioxide equivalent (MTCO<sub>2e</sub>) for the baseline FY 2009. Since establishing the FY 2009 baseline and in recognition of reduction efforts already implemented, Spelman College has lowered its carbon dioxide equivalent emissions to 22,680 MTCO<sub>2e</sub> for FY 2011. After accounting for institutional growth and assuming a business-as-usual projection moving forward, Spelman College's gross emissions are estimated to increase to 25,475 MTCO<sub>2e</sub> by mid-century.
- **Commit to a long-range institutional goal of achieving carbon neutrality (no net GHG emissions) by questioning and evolving its future business operating scenarios and instituting improvements to reduce GHG emissions.** Spelman College intends to achieve carbon neutrality by, or as soon after, 2056 (the 175th anniversary of the founding of the College) as technology will allow. Spelman College will utilize a portfolio of strategies to mitigate these emissions.
- **Participate in the Atlanta Better Building Challenge where participants pledge building-specific energy savings goals** (e.g., Spelman Albrow-Falconer Manley Science Center).
- **Implement specific facility and behavior change initiatives identified and managed directly through Spelman College.**

Although carbon neutrality in 2056 is the ultimate target, the strategies to mitigate emissions identified in the CAP are focused toward meeting near term goals by 2031 (150th anniversary of the College). It is recognized that the CAP will be continually reviewed and revised as progress is made toward this intermediate milestone and that adjustments in strategies will be made before and after this milestone date in order to achieve the ultimate neutrality target.

In addition to the emissions reduction initiatives, Spelman College is also undertaking initiatives to encourage sustainable resource use, focused on re-use, recycling and reduction of water, electricity, pesticides, irrigation water, and other natural resources.

To achieve Spelman College's sustainability target and to implement the recommendations of the CAP, Spelman College has established the Sustainable Spelman Committee (SSC) with the following subcommittees:

- Education and Research
- Operations
- Planning, Administration and Engagement.

Incorporating these objectives, the SSC established the following sustainability vision for the College on March 15, 2011:

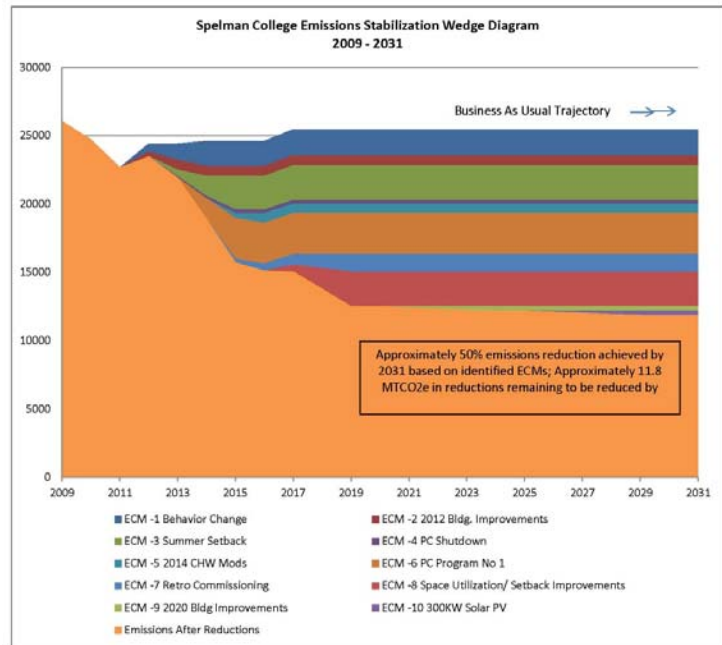
*“Consistent with Spelman’s historical mission of promoting ethical leadership and positive social change, we are committed to achieving climate neutrality by reducing our ecological footprint and practicing sustainability as a way of life.”*

Also on March 15, 2011, the SSC established the following near term goals as shown in the diagram below:

This CAP includes potential emission reduction projects that are aligned with this vision and identified goals. Each potential emissions reduction project that is outlined in the CAP, or otherwise identified as proposed to meet the commitment, will be sponsored by at least one subgroup of the SSC. The sponsor’s role will be to guide the funding, implementation, and measurement/verification of the project.

Figure E.1 represents the potential types of emissions reduction projects for consideration under the CAP and a nominal graphical representation of the contribution of each project toward reaching carbon neutrality.

A sequential process of engineering, cost-benefit, implementation, and funding analyses is planned to set targets and develop the strategies. Preliminary engineering analyses have been completed for some strategies and a possible set of GHG goals and near term and long term projects developed. These possible projects are summarized in Tables E.1 and E.2. Implementation of these projects will be governed by priorities established through future cost-benefit analysis and influenced by funding probabilities, including state and federal grant and loan opportunities.



**Figure E.1 – Spelman College Emissions Stabilization Wedge Diagram (2009-2031)**

**Table E.1 - Near Term (Initiated between 2013 and 2020) GHG Emission Reduction Projects**

GHG Emissions Reduction Projects	Annual Electrical Savings (kWh) Average	Annual NG Savings (MMBTU) Average	GHG Reductions (MTCO <sub>2</sub> e) (Thru 2031)
ECM -1: Behavior Change/Policy Improvements (campus wide)	1,802,883	10,385	35,852
ECM -2: 2012 Facility Improvements (Laura Spelman Hall, McAlpin Hall, Science Center)	711,580	4,048	13,976
ECM-3: Improve Space Setback Control during Summer Session	2,404,607	13,681	44,867
ECM-4: PC/Computer Auto-Shutdown	384,194	0	4,975
ECM-5: 2014 Chilled Water Loop Modifications (Manley College Center, Bookstore, Cosby Academic Center)	982,297	0	11,381
ECM-6: 2013 Performance Contracting Program	2,970,007	16,897	52,500
ECM-7: Implement Retro-Commissioning Program	1,136,829	6,468	18,979
ECM-8: Improved Space Utilization/Setback	2,373,901	13,506	34,969
<b>Totals</b>	<b>12,766,298</b>	<b>64,985</b>	<b>217,498</b>

**Table E.2 - Long-Term (Initiated between 2021 and 2031) GHG Emissions Reduction Projects**

Energy Efficiency Measure	Annual Electrical Savings (kWh) Average	Annual NG Savings (MMBTU) Average	GHG Reductions (MTCO <sub>2</sub> e) (Thru 2031)
<b>ECM-9: 2020 Facility Improvement Program (Howard-Harrelld Hall, Manley Hall, Morehouse-James Hall, Abby Rockefeller Hall)</b>	293,174	1,668	3,167
<b>ECM-10: Solar PV Initiative</b>	335,272	0	1,371
<b>Totals</b>	<b>628,446</b>	<b>1,668</b>	<b>4,538</b>

The ACUPCC also asks signatories to commit to taking “actions to make climate neutrality and sustainability a part of the curriculum and other educational experience for all students.” The CAP describes Spelman College’s current educational offerings (curricular and co-curricular) related to climate change and sustainability. It also describes planned actions to make climate action and sustainability a part of the curriculum and other educational experience for all students. Finally, the CAP explains how the implementation of the ACUPCC will be integrated into Spelman College’s educational efforts (e.g., having students or classes update the GHG inventory), as well as how the entire campus community, including alumnae, will be made aware of Spelman College’s participation in, and progress toward, implementing the ACUPCC. To address these elements, Spelman College worked with its faculty, staff, and students to identify how its sustainability curriculum can support the CAP effort.

## ACKNOWLEDGEMENTS

The authors would like to acknowledge those individuals and organizations that have contributed to the development of this CAP, including Spelman College President Dr. Beverly Daniel Tatum, who has provided the leadership to make visionary commitments on behalf of the College. We also acknowledge O'Brien and Gere Engineers, Inc. ([www.obg.com](http://www.obg.com)) for assisting with the engineering and scientific analysis in the development of this CAP.

### *Spelman College Senior Leadership*

Beverly Daniel Tatum, Ph.D.	President
Johnnella Butler, Ed.D.	Provost
Delores Barton	Vice President of Media and Information Technology
Danny Flanigan	Vice President for Business and Financial Affairs
Darnita Killian, Ed. D. C'79	Vice President for Student Affairs
Tamaria Kai Davis C'2001	Secretary of the College

### *Sustainable Leadership Team*

Fatemeh Shafiei, Ph.D.	Associate Professor and Chair/Department of Political Science, Sustainable Spelman Co-Chair
Arthur Frazier III, AIA	Director of Facilities Management and Services, Sustainable Spelman Co-Chair
Jacqueline James	Director of Procurement Services, Operations Committee Chair
Shelese Lane	Director of Corporate and Foundation Relations, Planning, Administration and Engagement Committee Chair
Jerry Wever, Ph.D.	Assistant Professor of Anthropology/Education and Research Committee Chair

### *Students*

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Arturo Lindsay, Ph.D.	Professor of Art
Akua McDaniel, Ph.D. C'69	Associate Professor of Art
Carmen Sidbury, Ph.D.	Associate Provost for Research

### *Staff*

Montez Bell	Computer Support Technician
Don Blackston	Assistant Director of Facilities Management and Services
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Angelo Carr	Help Desk Manager
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Kelvin Harris  
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Aramark Dining Services Manager  
Aramark Dining Services Manager Sustainability Intern  
Admissions Counselor  
Director Interactive Communications  
Environmental Health and Safety Compliance Officer  
Program Coordinator, Gordon-Zeto Center for Global Education  
Bonner Office Community Service Coordinator

## 1. INTRODUCTION

### 1.1 INSTITUTIONAL BACKGROUND: SPELMAN COLLEGE

*The function of the university is not simply to teach bread winning, or furnish teachers for public schools or to be a center of polite society; it is, above all, to be the organ of that fine adjustment between real life and the growing knowledge of life, an adjustment which forms the secret of civilization. - - W.E.B. DuBois, The Souls of Black Folk (1903)*

Founded as Atlanta Baptist Female Seminary by Sophia B. Packard and Harriet E. Giles in 1881 in the basement of Friendship Baptist Church of Atlanta, Spelman College is now one of the nation's most highly regarded liberal arts colleges for women. The founders were two Baptist missionaries who were commissioned in 1879 by the Woman's American Baptist Home Mission Society to study the living conditions "among the freedmen of the South."

The first eleven pupils were mostly former slaves. Their goals were to learn how to read the Bible and how to write. Two more teachers were hired in 1882, the same year that philanthropist John D. Rockefeller pledged \$250 to the school. In 1883, the Atlanta Female Baptist Seminary moved to its present site comprising nine acres at this time with five frame buildings on the property. In 1884, the school changed its name to Spelman Seminary in honor of Mrs. Laura Spelman Rockefeller, the wife of John D. Rockefeller, and her parents Harvey Buel and Lucy Henry Spelman, who were longtime activists in the anti-slavery movement. The "Model School" to train new student teachers opened that same year.

In 1886, Rockefeller Hall was dedicated as the first permanent building on the campus of Spelman Seminary. Thus began the long evolution of the campus, with more than thirty buildings constructed in the 126 years since Rockefeller Hall's construction and now serving a student body of approximately 2,050 students. Spelman proudly affirms its mission in this statement:

*"Spelman College, a historically Black college and a global leader in the education of women of African descent, is dedicated to academic excellence in the liberal arts and sciences and the intellectual, creative, ethical, and leadership development of its students. Spelman empowers the whole person to engage the many cultures of the world and inspires a commitment to positive social change."*

The Spelman College campus is roughly located within a 39-acre circle just west of downtown Atlanta, in what is known as the historic West End. The College is located in an area known as Atlanta University Center (AUC) which includes Morehouse College, Morehouse School of Medicine, Clark-Atlanta University (CAU), the Interdenominational Theological Center (ITC), and Morris-Brown College. From this group, Spelman College, Morehouse College, Morehouse School and Medicine, and CAU have formed the Atlanta University Center Consortium (AUCC). The Consortium shares the Robert W. Woodruff Library and some of the utilities from the John B. Shepherd Central Utility Plant (Shepherd Plant). Spelman College shares cross-registration with its undergraduate AUCC partners.

### 1.2 PROGRAM BACKGROUND: SUSTAINABILITY AT SPELMAN COLLEGE

In August of 2007, Spelman College President Dr. Beverly Daniel Tatum opened the school year by delivering her "Choice to Change the World" Opening Convocation Speech.



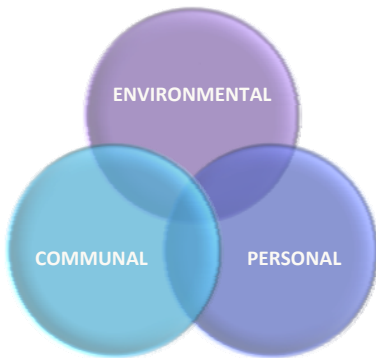
Spelman Founders  
Sophia B. Packard and Harriet E. Giles

***“A choice to change the world also means taking responsibility for the ways each of us is always changing the world - and not always for the better - through our excessive consumption of the world’s resources. Understanding our own environmental impact and seeking to reduce it is a choice that all of us can make every day.”***

Following this speech sustainability became a focus area of the planning process as the College developed its current Strategic Plan. Spelman College formed an initial sustainability focus group which eventually became the SSC. This group worked to elevate the importance of environmental stewardship at Spelman College and began to define the sustainability initiatives for the College. In the “Strengthening the Core: The Spelman College Strategic Plan for 2015,” pedestrian access and *greening* campus buildings were highlighted. The plan’s priorities cover everything from

**Strengthening the Core Strategic Plan for 2015 Sustainability Goal:** To expand and improve the physical campus, technology infrastructure and residential programs in order to facilitate a seamless living and learning environment with (a) increased focus on environmental responsibility, (b) increased student engagement and student-faculty interactions, and (c) increase student achievement and overall satisfaction with the collegiate experience.”

incorporating sustainability into the curriculum to educating the Spelman community to be global citizens.



2010 marked a milestone year for Spelman College’s environmental stewardship efforts as President Beverly Daniel Tatum delivered her “Sustainable Spelman” Opening Convocation Speech. Dr. Tatum defined Sustainable Spelman as consisting of three kinds of sustainability—environmental, personal, and communal. In speaking about environmental sustainability she stated, “Because we can do more and must do more, I am pleased to announce that yesterday I signed the American College and University President’s Climate Commitment, joining more than 670 other college and university presidents who have signed.”

Personal sustainability calls for members of the Spelman community to demonstrate self-care to ensure their good health and longevity, while communal sustainability calls for everyone to sustaining the Spelman College brand, through a commitment to our standards of excellence.

That year also marked the beginning of the completion of a campus-wide GHG emissions inventory conducted by the College. The SSC serves as the driving force behind Spelman College’s CAP, recycling promotion, and student involvement in sustainability. To effectively implement the mission of the SSC, the committee includes subcommittees in the following focus areas:

**Sustainable Spelman Vision:** Consistent with Spelman’s historical mission of promoting ethical leadership and positive social change, we are committed to achieving climate neutrality by reducing our ecological footprint and practicing sustainability as a way of life.

- Education and Research
- Operations
- Planning, Administration and Engagement.

This CAP includes all facilities locations where the College has operational control and can enforce a change in policy. All references to ‘College buildings’ refer to those within the organizational boundary of the GHG emission inventory only (i.e., those buildings and operations which daily operations are within the direct control of Spelman College).

### 1.3 SCIENCE BACKGROUND: CLIMATE CHANGE IMPACT

In its Fourth Assessment Report released in 2007, the United Nations (UN) Intergovernmental Panel on Climate Change (IPCC) stated that:



- Warming of the climate system is “unequivocal” based on observations of temperatures, sea levels, and snow melts;
- Global concentrations of GHG in 2005 far exceeded the natural range observed over the last 650,000 years; and
- Most of the observed increase in global average temperatures since the mid-20th century is “very likely” (i.e., greater than 90% confidence) due to the observed increase in anthropogenic or human-caused GHG concentrations.

Climate change will cause impacts on water resources, food production, ecosystems, weather patterns and human health in all parts of the world, including:

- Decreased water availability and increasing drought in mid-latitudes and semi-arid low latitudes;
- Decreased cereal productivity at low latitudes;
- Risk of extinction of global plant and animal species (up to 30% or even more depending on scenario);
- Increased warm spells, heat waves and heavy precipitation events; and
- Increased morbidity and mortality from changing weather patterns, changed disease vector distributions, and malnutrition.

Further, these effects will be felt over several decades due to the long atmospheric life spans of GHGs.

#### 1.4 POLICY BACKGROUND: EVOLVING CLIMATE CHANGE POLICY AND LEGISLATION

The United Nations Framework Convention on Climate Change (UNFCCC) coordinates international efforts to combat climate change. The Kyoto Protocol to the UNFCCC (1997) called on developed countries to reduce their total GHG emissions in the 2008 to 2012 commitment period by an average of 5% versus a 1990 baseline. Over the past decade, the European Union (EU) has undertaken high-profile steps to meet their Kyoto targets, including the establishment of the EU Emissions Trading Scheme (EU ETS, 2007).

While the United States (US) has not participated in the Kyoto Protocol commitments, US Federal policy on climate change and GHG emissions continue to evolve. While numerous high profile Federal environmental policies are emerging from the Obama Administration, voluntary and mandatory programs have been on-going for some time at the local, state, and regional levels. Prominent among these are:

- USEPA Climate Leaders
- The Climate Registry
- Regional Greenhouse Gas Initiative (RGGI)
- California’s Global Warming Solutions Act (Assembly Bill 32)
- US Mayors’ Climate Protection Agreement
- ACUPCC.

There is continuing national and international pressure for the United States to establish a national policy for climate change.

#### 1.5 BACKGROUND: THE ACUPCC AND SPELMAN COLLEGE

The ACUPCC is an effort to make the US Higher Education sector more sustainable, obtaining institutional commitments to “reduce and ultimately neutralize GHG emissions on campus” and “accelerate the research and educational efforts of higher education to equip society to re-stabilize the Earth’s climate” (ACUPCC, 2007).

Climate change poses a fundamental challenge to the way individuals and organizations use energy and resources. The ACUPCC presents an opportunity to lead by example, educating the next generation of leaders on how to address this challenge.

*ACUPCC Commitment*

*"We believe colleges and universities must exercise leadership in their communities and throughout society by modeling ways to minimize global warming emissions, and by providing the knowledge and the educated graduates to achieve climate neutrality."*



AMERICAN COLLEGE & UNIVERSITY  
PRESIDENTS CLIMATE COMMITMENT

Over 660 colleges and universities have committed to being carbon neutral at some point in the future. In August 2010, Spelman College became a signatory of the ACUPCC. Becoming a signatory to the ACUPCC requires implementation of the following:

- **Establishment of an institutional structure to oversee the school's ACUPCC:** Spelman College has developed a comprehensive structure designed to engage a cross-section of the Spelman community in collaboration and consensus building through the creation of a SSC.
- **Completion of a GHG emissions inventory within one year:** Spelman College has prepared a baseline GHG inventory and publicly posted it on the ACUPCC online reporting tool (Association for the Advancement of Sustainability in Higher Education [AASHE], 2009).
- The following provides a summary of the key metrics as reported in Spelman College's initial 2009 GHG inventory reporting under the ACUPCC.

» **Environmental Metrics at Spelman College per initial 2009 ACUPCC Report: A Snapshot**

- › Climate: 26,063 metric tons of carbon dioxide equivalent per year (MTCO<sub>2e</sub>/yr) (gross emissions); 24,525 MTCO<sub>2e</sub>/yr (net emissions); 19.6 MTCO<sub>2e</sub>/GSF (gross), 19.6 MTCO<sub>2e</sub>/GSF (net); 11.1 MTCO<sub>2e</sub>/FTE student (gross), 11.1 MTCO<sub>2e</sub>/FTE student (net)
- › Electricity: conventional = 22.9 million kWh; Purchased renewable energy = 0 kWh
- › Stationary source fuel consumption: natural gas = 124,084 MMBtu; propane = 90 gallons; distillate oil = 1,212 gallons
- › Potable water usage: 26.3 million gallons
- › Waste: waste to energy = 0 US tons/yr, landfill = 517 US tons, recyclables = 50 US tons; Spelman College recycling rate: 21%, Recyclemania recycling rate: 11.56 lbs. per capital
- › Fleet fuel consumption: gasoline = 7,113 gallons; diesel = 0 gallons
- › Commuting: faculty/staff = 870,172 miles, students = 2,950,750 miles
- › Agriculture sources: inorganic fertilizer = 2,969 lb; organic fertilizer = 0 lb; livestock = 0
- › Directly financed outsourced travel: faculty/staff air travel = 15,930 miles; student air travel = 6,827 miles; train = 0 miles; taxi/ferry/rental = 17,500 miles;
  - bus = 25,000 miles; personal mileage = 50,000 miles; abroad studies air
  - travel = 71,994 miles
- › Wastewater treatment: 25.3 million gallons

- **Develop a climate neutrality action plan (i.e., this CAP) – including a target date for climate neutrality and interim progress milestones.** In coordination with ACUPCC, a deadline of January 15, 2013 for Spelman College to submit the CAP has been established. Spelman College is proceeding with the development of the CAP in accordance with this timeline.

- **Establish a policy that all new campus construction will be built to at least the United States Green Building Council's (USGBC) LEED Silver standard or equivalent.** On October 16, 2010, the Spelman College Board of Trustees approved a resolution requiring all new and renovated construction to be designed to achieve the USGBC's LEED Silver Certification at a minimum. Design standards and specifications are being developed to reflect LEED requirements. The first campus building to receive LEED Silver certification, the 300-bed residence hall known as "The Suites", was completed in 2008 prior to the establishment of the policy. Currently, Spelman College is pursuing LEED Gold certification for the renovation of Laura Spelman Residence Hall, completed in 2012.



- **Establish an Energy Management Policy (EMP) for the College.** On Wednesday, February 18, 2009, the Spelman College Senior Leadership Team approved an EMP. Spelman College's EMP is being revised to include an expansion of energy-efficient purchasing policy requirements. The initial EMP was focused on the purchase of ENERGY STAR certified products in all areas for which such ratings exist. The expansion extended the EMP to the purchase of computers and associated equipment.
- **Encourage use of and provide access to public transportation for all faculty, staff, students and visitors at the college.** Spelman College participates in the Woodruff Library AUC Shuttle Service. Currently this shuttle service transports students, faculty and staff to public transportation, Woodruff Library, and between AUC college campuses during the academic year. Spelman College is currently studying ways to expand this service to all times of the year.
- **Implement the work products of the CAP**
- **Integrate sustainability into the educational curriculum**
- **Make the CAP, GHG inventory, and progress reports publicly available:** Spelman College's GHG inventory and CAP have been made available on the AASHE website <http://www.aashe.org/>.

#### 1.6 OVERALL APPROACH: DEVELOPMENT OF THE CAP WITHIN THE ACUPCC FRAMEWORK

The requirements of the ACUPCC signatory letter include development of an institutional action plan for becoming climate neutral (no net GHG emissions) by minimizing GHG emissions as much as possible through demand and supply side management and using carbon offsets or other measures to mitigate the remaining emissions.

The action plan has been developed within the approved ACUPCC timeline and includes:

- A target date for achieving climate neutrality by 2056 (the 175<sup>th</sup> anniversary of the founding of Spelman College) or as soon as technically possible;
- Interim goals and action targets for 2031 (the 150<sup>th</sup> anniversary of the founding of Spelman College) that will make significant progress toward climate neutrality;
- Actions to make climate neutrality and sustainability a part of the curriculum and other educational experience for all students;
- Actions to expand research or other efforts necessary to achieve climate neutrality; and,
- Mechanisms for tracking progress on goals and actions.

## 1.7 ALIGNING THE CAP WITH SPELMAN COLLEGE'S FUTURE: COLLEGE PLANNING INITIATIVES

Opportunities exist to align the goals and actions of the CAP with concurrent key initiatives already implemented as part of sustainability programs (e.g., Grants-To-Green, Atlanta Better Buildings Challenge and AASHE's Sustainability Tracking, Assessment and Rating System [STARS™]). Spelman College has already implemented a number of mitigation measures (both capital investments, as well as behavior change programs) as part of its campus operations and administrative and academic programs.

The SSC includes three subcommittees that focus on each of the STARS™ categories. STARS™ is being utilized as a planning tool for Spelman College sustainability initiatives and the College is evaluating participating in STARS™ in the future. Below are examples of actions already taken.

### Category 1 – Education and Research:

- Co-Curricular Education
  - » An introduction to sustainability is included in new student orientation
  - » The student Environmental Task Force has a mission to promote a greater sense of sustainability, environmental responsibility and consciousness on campus, in the AUC and beyond, and provides environmental education to students.
  - » A close collaboration with the USEPA provides students many opportunities to help organize and attend Spelman College-hosted USEPA conferences.
- Curriculum
  - » Sustainability Learning Outcomes are being implemented throughout the College curriculum
  - » Sustainability module is being developed for all first-year students in a course called First Year Experience
  - » The Environmental Studies Program has a number of Sustainability-Focused Courses
  - » The Social Sciences have multiple Interdisciplinary Sustainability-Focused Courses
  - » Sustainability-Related Courses exist campus wide
- Research
  - » A number of departments are engaged in Sustainability Research.
  - » The theme of Spelman College's Research Day in 2011 was Sustainable Spelman.

### Category 2 – Operations:

- Buildings
  - » Spelman College has a LEED construction policy and has completed two LEED buildings. The Operations and Maintenance procedures have been revised to incorporate LEED-Existing Building Operation and Maintenance (EBOM) principles.
- Climate
  - » Spelman College has completed its GHG inventory and developed a CAP. Spelman College is considering developing a local offsets program through which the institution offsets its GHG emissions by implementing projects that reduce GHG emissions in the local community.
- Dining Services
  - » Aramark Dining Services has a local purchasing guideline, has implemented trayless dining, offers vegan options and utilizes oil that is free of trans-fats.
- Energy
  - » Numerous strategies have been employed to reduce energy consumption.



- Grounds
  - » Spelman College has an Integrated Pest Management process
  - » Spelman College has a preference for the use of native plants
  - » Spelman College is working on recognition by the Arbor Day Foundation's Tree Campus USA program
  - » Spelman College composts or mulches waste from grounds keeping, including grass trimmings
- Purchasing
  - » The College's energy management policy requires that all appliances and computers by ENERGY STAR model
  - » Green Seal cleaning products and ionized water are used for cleaning
  - » Currently 30% of office paper purchased contains recycled content
  - » A preferred vendor list, 90% of which are local businesses, is in use at the College
  - » The procurement department has an internal goal to assure that business is conducted with historically underutilized businesses. Currently there are 200 such businesses in the data base; 95% are local.
  - » Spelman College has a Vendor Code of Conduct
- Transportation
  - » Numerous electric and hybrid vehicles have replaced gas vehicles
  - » An AUC Shuttle system provides direct connection to mass transit
  - » Carpool matching is available
- Waste
  - » Spelman College has a policy for campus waste that addresses responsibility in construction and demolition waste diversion, electronic waste recycling, and hazardous waste management. This includes an extensive recycling program and a secure document destruction program that provides recycling.
  - » Move-In and Move-Out Waste Reduction strategies include recycling and donations to women's shelters.
- Water
  - » Numerous strategies have been employed to reduce water use and capture storm water and condensate for reuse.

### **Category 3 – Planning, Administration and Engagement:**

- Coordination and Planning
  - » Sustainability objectives are included in the College's strategic plan
- Diversity and Affordability
  - » Spelman College is a historically Black institution and has a commitment to creating an inclusive environment that values all of its members, irrespective of race, ethnicity, religion, disability, sexual orientation or gender expression.
- Human Resources
  - » Sustainable Compensation: Spelman College evaluates, and updates as appropriate, its wages and benefits policies to ensure that total compensation(wages plus benefits) for all on-campus workers is sufficient to enable these employees to meet their basic needs, as defined by the institution.
  - » Spelman College is incorporating sustainability into orientation and leadership training programs



- » Spelman College provides a wellness program that focuses on prevention, healthcare and fitness.
- Investment
  - » The College invests in: 1) sustainable industries such as renewable energy and sustainable forestry; 2) sustainable investment funds such as a Renewable Energy Investment Fund
- Public Engagement
  - » Through student community service requirements Spelman College has established a number of community sustainable partnerships.
  - » Spelman College participates with its neighboring campuses in an inter-campus collaboration with Recyclemania.
  - » Spelman College works closely with the UNCF Building *Green* Initiative and others to promote building *green* at minority serving institutions.

A more detailed presentation of the completed initiatives can be found in the STARS™ Reporting presented as Appendix A.

Many components of these existing initiatives lend support to Spelman College's CAP or, in turn, can be supported and enhanced by the CAP. The development and implementation of this CAP provides opportunities for shaping existing internal and external initiatives. In turn, these initiatives provide guidance for the priorities outlined in this CAP. In summary, this CAP has been developed in the context of complementary objectives including:

- Spelman College's institutional mission and academic vision
- Spelman College's sustainability vision and master planning objectives
- Federal, state and local government and community sustainability objectives.

These concurrent programs have the aim of making Spelman College a more vibrant, livable, and resourceful community that is committed to leaving our environment better than we found it.

## 1.8 REFERENCES

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## 2. BASELINE GREENHOUSE GAS EMISSIONS

As a signatory to the ACUPCC, Spelman College developed a baseline GHG emissions inventory to establish a benchmark against which future progress towards carbon neutrality can be measured, and to help establish priorities with regards to the primary emission sources responsible for the bulk of Spelman College's emissions (Spelman, 2009a). The baseline GHG inventory is an integrated measure of Spelman College's institution-wide energy and resource usage. The inventory was developed for the baseline year, FY 2009 (July 1, 2008 through June 30, 2009). Sufficient, reliable information to estimate GHG emissions for prior fiscal years was not readily available.

Through this CAP, Spelman College will establish a long-term plan for achieving carbon neutrality, which will include prioritizing emission reduction projects to achieve meaningful overall GHG emissions reductions. Spelman College has already implemented a number of mitigation measures as part of its campus operations and administrative and academic programs, as identified in the Introduction section of the CAP. Section 2.7 provides additional details on mitigation measures implemented by Spelman College.

### 2.1 GHG INVENTORY METHODOLOGY

Spelman College's GHG emission inventory completed by the College was developed with the Clean Air – Cool Planet (CACP, 2008) Campus Carbon Calculator, Version 6.1, which is based on the IPCC guidelines for national-level inventories, and represents state-of-the-art scientific methods for calculating GHG emissions. Emissions were considered from the six categories of GHG included in the Kyoto Protocol:

- CO<sub>2</sub>
- Methane (CH<sub>4</sub>)
- Nitrous oxide (N<sub>2</sub>O)
- Sulfur hexafluoride (SF<sub>6</sub>)
- Hydrofluorocarbons (HFC)
- Perfluorocarbons (PFC).

### 2.2 INVENTORY BOUNDARIES AND DEFINITIONS

The establishment of inventory boundaries and definitions was the first step in developing a GHG inventory program. The two key inventory boundaries were:

- Organizational boundary – extent of the reporting organization defined on the basis of operational control, which includes all sources which Spelman College manages on a day-to-day basis. For clarification, the Woodruff Library Complex is a facility with access shared by Spelman College, CAU, the ITC, and Morehouse College. The daily operation of this facility is outside of the control of Spelman College and therefore was not included in the GHG inventory. These institutions also share steam and chilled water produced by the Shepherd Plant. Utilities consumed on behalf of Spelman College are generated by the Shepherd Plant which is located on the campus of CAU where the campuses of Spelman College, Morehouse College and CAU intersect. Under the operation of Energy Systems Group (ESG), the plant supplies all three campuses with steam and Spelman College and CAU with medium temperature hot water and chilled water. In lieu of entering the volumes of purchased steam and chilled water, the utilities consumed to produce steam and chilled water are included in the GHG emissions calculation.
- Operational boundary – the scopes of emission sources (direct and indirect) that were included in the inventory:
  - » Scope 1: Direct emissions (within the organizational boundary) including stationary, mobile, process, fugitive, and agricultural emissions.
  - » Scope 2: Indirect emissions (outside the organizational boundary) from purchased electricity, steam (used as direct utility and to generate medium temperature hot water), and chilled water



- » Scope 3: Other indirect emissions (outside the organizational boundary) from landfilled solid waste, employee and student commuting, business and study abroad air travel, wastewater, and transmission and distribution (T&D) losses from purchased electricity.

The following key definitions were established as part of the process:

- **Baseline year** – FY 2009, the earliest year for which comprehensive emissions data was available.
- **Reporting frequency** – at least every other year on a fiscal year basis, where the fiscal year occurs from July 1 to June 30.
- **De minimis threshold** – 5% (Climate Registry, 2007); emission sources that collectively contribute less than 5% of total GHG emissions were classified as de minimis and approximated using upper bound emission estimates in lieu of compiling detailed data. For Spelman College, the de minimis sources are mobile combustion, fugitive emissions, air travel and solid waste.
- **Emission intensity metrics** – gross square footage (GSF) and full-time equivalent (FTE) students, as required by the ACUPCC.

### 2.3 GHG ACTIVITY DESCRIPTION

A critical step in GHG inventory development was the identification of comprehensive activities that lead to GHG emissions from the organization. To identify these activities at Spelman College, an ad hoc committee comprised of staff, faculty and students was organized to meet the requirements of the ACUPCC agreement. This committee eventually became the SSC. Based on the committee’s efforts, the following emission sources were identified:

#### 1) Scope 1 Emissions Sources

##### a) On-Campus Stationary Sources

- i) On-Campus Cogeneration Plant(s) - Not Applicable
- ii) Other On-Campus Stationary Sources –

- (1) Distillate Oil (#1-4) – Diesel fuel is used in five emergency generators. Davis Oil provided fuel records.
- (2) Natural Gas – The majority of the natural gas is used to produce steam in the central plant. Natural gas is also used for cooking and research. ESG provided Spelman College’s central plant gas usage while Resource Supply Management (RSM) provided records of on-campus gas usage.
- (3) LPG (Propane) - Propane is used as a backup fuel to produce steam in the central plant. ESG provided Spelman College’s central plant propane usage.

##### b) Direct Transportation Sources

##### i) University Fleet

- (1) Gasoline Fleet – Vehicles used by the President, Public Safety and Facilities are fueled at a PSG Energy Fleet fueling station near campus. The Provost Office, Athletics and Community Service use a BP account for fueling their vehicles.

##### c) Refrigerants and Chemicals – Refrigerants are installed by Siemens. Siemens’ HVAC Technician provided records.

##### d) Agriculture Sources

- i) Fertilizer Application – Fertilization is applied by Davey Tree which provided documentation of fertilization applied for the period of the calculation.





2) Scope 2 Emissions Sources

a) Purchased Electricity, Steam, and Chilled Water

- i) Electricity – On-campus electrical usage was taken from the Georgia Power Energy Direct website. ESG provided Spelman College’s Central Plant electricity usage. Electricity is used in the production of steam and chilled water.
- ii) Steam – the utilities used to generate steam (direct consumption and to generate medium temperature hot water) are included in the calculation
- iii) Chilled Water - the utilities used to generate chilled water are included in the calculation

3) Scope 3 Emissions Sources

a) Commuting

- i) Commuting Faculty/Staff – Spelman Sustainability Interns conducted a survey that was used to measure the impact of commuting
- ii) Commuting Students - Spelman Sustainability Interns conducted a survey that was used to measure the impact of commuting

b) Directly Financed Outsourced Travel

c) Air Travel

- i) Faculty/Staff – The majority of travel is billed using a Diners Club credit card that provides air miles of destinations.
- ii) Students - The majority of travel is billed using a Diners Club credit card that provides air miles of destinations.
- iii) Study Abroad Travel – The Study Abroad office provided the destinations of students in the program. A Spelman Sustainability Intern calculated the air miles for each destination.

d) Solid Waste – All waste from the Spelman Campus is removed by Waste Management. Waste that is not recycled is taken to a landfill that employs CH<sub>4</sub> Recovery and Electric Generation. Waste Management provided waste data.

e) Wastewater - All wastewater from the Spelman Campus is piped to an Atlanta Watershed Management Central Treatment facility and treated aerobically. Atlanta Watershed bills in the Controller’s Office and Facilities Management were reviewed to calculate this data.

**2.4 GHG DATA COLLECTION**

Spelman College’s Facilities Management Services served as a clearinghouse for identifying, collecting and developing the data. Budget information was provided by Associate Vice President of Business and Financial Affairs. Population data was provided by the Office of Institutional Research, Assessment and Planning (OIRAP). Physical Size data was provided by the Facilities Management Services.

**2.5 BASELINE YEAR (FY 2009) CARBON FOOTPRINT**

Total GHG emissions for the baseline year FY 2009 for Spelman College were 26,063 MTCO<sub>2e</sub>. The primary emission sources were purchased electricity, stationary source combustion, and transmission and distribution losses. Together, these four source types accounted for 84% of total emissions, as shown in the following figure - Figure 2.1 - GHG Emissions by Source for FY 2009. As Spelman College develops its long-term plan for achieving carbon neutrality, these sources will have to be prioritized in order to achieve meaningful overall GHG emissions reductions.

**Figure 2.1 – GHG Emissions by Source for FY 2009 (Baseline Year)**

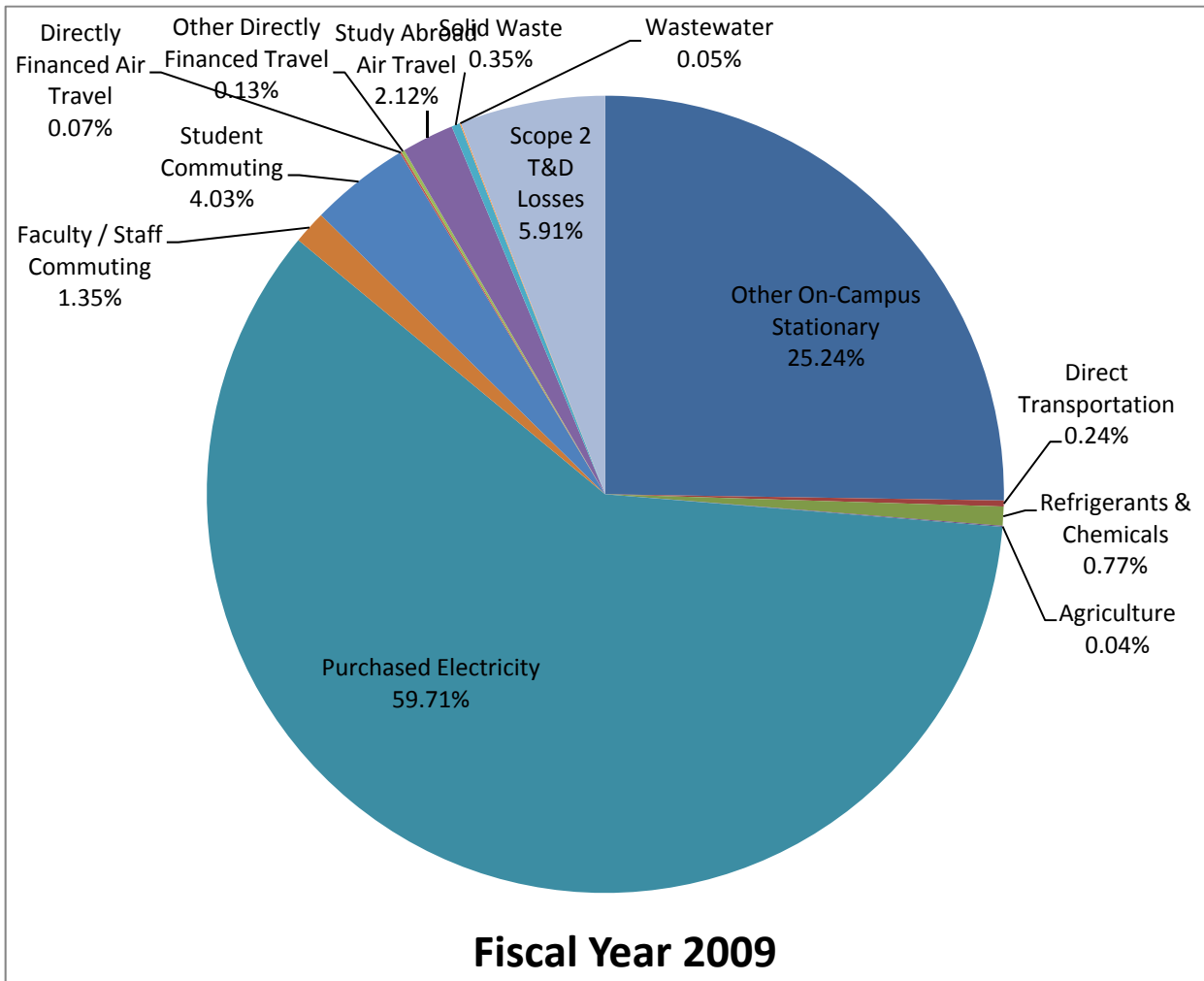


Table 2.1 lists emissions and emissions intensity by scope and source type for FY 2009.

**Table 2.1 – Emissions and Emissions Intensity by Scope and Source Type for FY 2009**

Scope	Source	FY 2009
<b>Scope 1 Emissions (MTCO<sub>2</sub>e)</b>	Stationary Sources	6,579
	Mobile Sources	64
	Refrigerants and Chemicals	201
	Agriculture	11
	<b>Total Gross Emissions</b>	<b>6,855</b>
<b>Scope 2 Emissions (MTCO<sub>2</sub>e)</b>	Purchased Electricity	15,563
	Purchased Steam/ Chilled Water	0
	<b>Total Gross Emissions</b>	<b>15,563</b>
<b>Scope 3 Emissions (MTCO<sub>2</sub>e)</b>	Faculty/ Staff Commuting	351
	Student Commuting	1,050
	Air Travel (directly financed, other financed, and study abroad)	604
	Solid Waste	90
	Scope 2 T and D Losses	1,539
	Wastewater	12
	<b>Total Gross Emissions</b>	<b>3,646</b>
<b>Total Gross Emissions</b>	<b>26,063</b>	

Scope	Source	FY 2009
<b>Scope 1 – 3 Gross Emissions (MTCO<sub>2</sub>e)</b>	Gross Square Footage (GSF)	1,252,911
	Full-time Equivalent Students (FTE)	2,211
	Total Gross Emission Intensity per 1000 GSF	20.8
	Total Gross Emission Intensity per FTE	11.8
	Purchased Offsets	0
<b>Scope 1 – 3 Net Emissions (MTCO<sub>2</sub>e)</b>	<b>Total Net Emissions</b>	<b>26,063</b>
	Total Net Emission Intensity per 1000 GSF	20.8
	Total Net Emission Intensity per FTE	11.8

On a normalized basis, Spelman College’s institutional gross GHG emissions in FY 2009 were below average with its peer institutions (baccalaureate colleges; AASHE, 2009, <http://acupcc.aashe.org/ghg-scope-statistics.php>) on a MTCO<sub>2</sub>e per 1000 GSF of building space basis (20.8 versus 28.0). However, on a FTE student basis for FY 2009, Spelman College’s gross GHG emissions were above average at 11.8 MTCO<sub>2</sub>e per FTE, compared to the average emissions per FTE of its peer institutions of 9.3

Purchased electricity represents the largest source of emissions associated with Spelman College. Based on USEPA’s Power Profiler ([http://oaspub.epa.gov/powerpro/ept\\_pack.charts](http://oaspub.epa.gov/powerpro/ept_pack.charts)) for Spelman College’s zip code (30314), the fuel mix for sources used to generate electricity in Spelman College’s region consists of the following:

**Table 2.2 - Fuel Generation Mix for Grid Electricity in Atlanta, GA**

Fuel Mix Type	Spelman College’s Regional Fuel Mix	Average National Fuel Mix
Coal	52.2%	44.5%
Gas	22.3%	23.3%
Oil	0.3%	1.1%
Nuclear	18.1%	20.2%
Hydro	4.1%	6.8%
Non-Hydro Renewables	2.9%	3.6%

Based on this data, Spelman College’s regional fuel mix for coal is approximately 17% higher than the average national fuel mix and is lower or similar to the average national fuel mix for the remaining fuel types. The Power Profiler report also indicates that the regional electricity emission factor for CO<sub>2</sub> is approximately 9% greater than the national average. This fuel generation mix contributes to emissions from purchased electricity at Spelman College accounting for 60% of the overall GHG emissions.

## 2.6 HISTORICAL TRENDS IN GHG EMISSIONS

Due to the lack of reliable historical data, Spelman College was not able to estimate GHG emissions for additional years preceding the 2009 baseline. However, since establishing the 2009 baseline emissions report, Spelman College has updated the campus GHG emissions estimate for fiscal years 2010 and 2011. A summary of these estimates along with the 2009 is presented in Table 2.3:

**Table 2.3 – Summary of GHG Emission Estimates for Fiscal Years 2010 and 2011**

Source	FY2009 (MTCO <sub>2</sub> e)	FY2010 (MTCO <sub>2</sub> e)	FY2011 (MTCO <sub>2</sub> e)
<b>Other On-Campus Stationary</b>	6,579	5,598	4,148
<b>Direct Transportation</b>	64	90	91
<b>Refrigerants and Chemicals</b>	200.9	200.9	200.9
<b>Agriculture</b>	10.57	8.37	8.37
<b>Purchased Electricity</b>	15,563	15,013	14,618
<b>Faculty / Staff Commuting</b>	351	349	341
<b>Student Commuting</b>	1,050	1,033	948
<b>Directly Financed Air Travel</b>	18	20	22

Source	FY2009 (MTCO <sub>2</sub> e)	FY2010 (MTCO <sub>2</sub> e)	FY2011 (MTCO <sub>2</sub> e)
Other Directly Financed Travel	33.6	33.6	32.3
Study Abroad Air Travel	553	792	741
Solid Waste	90	81	74
Wastewater	12	10	10
Scope 2 T&D Losses	1,539	1,485	1,446
<b>Total</b>	<b>26,063</b>	<b>24,714</b>	<b>22,680</b>
	<b>FY2009</b>	<b>FY2010</b>	<b>FY2011</b>
FTE Students	2,211	2,175	2,129
GSF	1,252,911	1,252,911	1,252,911

### 2.6.1 Historical Trends in GHG Emission Intensity

Similar to 2.6, reliable historical data was not readily available for years preceding the 2009 baseline, but the revised emissions estimates in fiscal years 2010 and 2011 were used to update the estimate for GHG emission intensity. The results of these additional intensity analyses are presented in Table 2.4:

**Table 2.4 – Results of Additional Intensity Analyses for 2010 and 2011**

Intensity	Intensity Metric (per 1000 units*)	FY2009	FY2010	FY2011	Average
Other On-Campus Stationary	GSF	5.25	4.47	3.31	4.34
Direct Transportation	FTE	28.73	41.37	42.65	37.6
Refrigerants and Chemicals	GSF	0.16	0.16	0.16	0.16
Agriculture	GSF	0.0084	0.0067	0.0067	0.0073
Purchased Electricity	GSF	12.42	11.98	11.67	12.0
Faculty / Staff Commuting	FTE	158.67	160.61	160.39	160
Student Commuting	FTE	474.92	474.92	445.48	465
Directly Financed Air Travel	FTE	7.99	9.12	10.22	9
Other Directly Financed Travel	FTE	15.21	15.46	15.17	15.3
Study Abroad Air Travel	FTE	250.07	364.23	348.27	320.9
Solid Waste	FTE	40.85	37.15	34.63	37.5
Wastewater	FTE	5.56	4.65	4.64	5.0
Scope 2 T&D Losses	GSF	1.23	1.19	1.15	1.19

### 2.6.2 Data Uncertainty and Proposed Improvements

Uncertainty in GHG emission estimates is minimized for Scope 1 and 2 sources through the use of metered utility and resource data. The uncertainty is higher for Scope 3 sources, which relied on a commuting survey for commuting emission estimates. An insufficient number of students responded to a written survey regarding commuting. Therefore, the GHG emissions estimate for student commuting is based on the mailing address zip code. Based on this information, Spelman College estimates that there are 846 students who commute.

Approximately 16% of the faculty and staff completed an on-line survey. College-reimbursed travel is currently not tracked in a way that is conducive for ACUPCC data collection purposes; therefore, the values included in the inventory represent an estimate.

Air travel is currently a de minimis source. Spelman College utilized travel itineraries to estimate air travel emissions and may not reflect the actual travel completed. Therefore, air travel emissions could be miss estimated. Spelman College will evaluate potential methods to improve the accuracy and availability of air travel records, thereby improving the quality of emission estimates for air travel. Since this evaluation will potentially impact multiple departments within Spelman College, a short-term solution may not be available.

## 2.7 MITIGATION

Spelman College has conducted a variety of emission reduction activities in the last several years since establishing their emissions baseline. The impact of these efforts can clearly be seen in the downward trending of emissions in fiscal years 2010 and 2011. Spelman College's past and current mitigation activities are summarized in Section 2.0 and described in more detail below.

### 2.7.1 Demand-Side Management

Spelman College has implemented, and continues to implement, demand-side management opportunities that will increase energy efficiency on campus. These efforts include abiding by the recently enacted policy that all new and renovated construction to be designed to achieve the USGBC's LEED Silver Certification at a minimum. Design standards and specifications are being developed to reflect LEED requirements.

Within existing buildings, Spelman College's facility staff is uniformly establishing building operations in compliance with Spelman College's energy management policy including adherence to building temperature setpoint and setback policies and prohibition of supplemental heating and cooling equipment.

Energy-efficient purchasing policies have been established requiring the purchase of ENERGY STAR certified products in all areas for which such ratings exist. Spelman College has also implemented procurement policies specifying Energy EPEAT registered computers.

In addition, Spelman College has implemented multiple building renovation and upgrade projects including:

- Replacement of steam traps/leaks (12 locations)
- Condensate pump replacements (4 locations)
- HVAC Upgrades (4 locations)
- Chiller/heat exchanger replacements (2 locations)
- Lighting fixture and control upgrades (campus wide)
- Power management features for printers, copiers, vending machines and office equipment (campus wide).

### 2.7.2 Alternative Fuels

Spelman's College fleet includes 11 electric carts for on-campus use in the following departments:

- 3 in Facilities Management and Services
- 3 in Aramark Custodial
- 2 in Aramark Dining
- 2 in Media and Information Technology
- 1 in Special Events.

It is also noted that the Spelman College president utilizes a hybrid gas/electric vehicle owned by the College.

### 2.7.3 Recycling

In 2006, Facilities Management and Services re-established the Spelman College Recycling program. On average over 15 tons per week of waste are removed from the Spelman Campus. Spelman College supports environmental awareness by encouraging recycling and regulated waste management in its business practices and operating procedures. This support includes a commitment to the purchase, use, and disposal of products and materials in a manner that will best utilize natural resources and minimize any negative impact on the Earth's environment.

Many of the items we discard fall into regulated waste or recyclable categories and need to be separated. When disposing of all waste, Spelman College employees are encouraged to make recycling the first choice and trash cans the second choice.

### **GENERAL WASTE**

Special recycling containers have been set up to promote the separation and collection of the following recyclable materials at Spelman College:

The following items can be placed in Spelman College recycling containers:

- Mixed paper, newspapers, magazines, brochures, paper binder dividers, bond stock
- Letterhead/forms, manila cards, writing paper, drawing paper, note paper
- Printed or typed reports, used files, photocopy paper and wrappers, computer printouts (no carbon)
- Envelopes (with windows are acceptable), index card/sheets, invoices, register rolls, wrapping paper
- Cardboard boxes, phone books, plastic containers, aluminum cans, steel cans.

The following items cannot be placed in Spelman College recycling containers:

- Foil wrappers, carbon paper, food scraps/wrappers, typewriter ribbons
- Polystyrene cups, sticky tape, adhesive labels, facial tissues, paper towels
- Cellophane, rubber bands, metal binder fasteners, dead flowers, waxed cardboard boxes.

### **SECURE DOCUMENT DESTRUCTION**

Spelman College seeks to ensure the integrity of its information assets. To support this effort, the College provides secure (locked) consoles in designated areas to reduce the liability of exposure caused by unauthorized access to its confidential information.

Confidential documents are collected by authorized trained personnel of the document destruction company on a scheduled pick up date and the documents are shredded off site at a secure facility that meets applicable state and local codes. Shredded documents are bailed and transported to recycle companies throughout the US. The College receives a certificate of destruction when documents are removed and shredded.

### **REGULATED WASTE DISPOSAL**

Other items fall into regulated waste streams and have special handling requirements. Universal, hazardous, and biomedical waste are a few regulated waste categories generated at Spelman College.

- **Universal waste** include televisions, computers, printers, computer related electronic devices or cables and other electronic devices as well as batteries, fluorescent lamps, mercury thermostats, and other mercury containing equipment. **Universal waste may not be disposed of in the trash.** Upon determination that an item is no longer useful, users are instructed to contact the appropriate department for removal of universal waste. Facilities Management and Services manages the disposal of non-computer related items or Media and Information Technology manages the disposal of computer and computer accessories.
- **Hazardous waste** include chemicals, paints, dyes, oils and fixatives that if improperly managed or disposed of, may pose substantial hazards to human health and the environment. The Office of Environmental Health and Safety manages the disposal of hazardous waste generated on campus. **Bio-medical waste** consists of solids, liquids, sharps, and laboratory waste that are potentially infectious or dangerous and are considered **bio-waste**. The Office of Environmental Health and Safety manages the disposal of bio-medical waste.

### **RECYCLEMANIA**

Spelman College participated in Recyclemania in 2011 and 2012. In both years, Spelman College hosted a Recyclemania Kickoff event in collaboration with its neighboring AUC Institutions and the USEPA. In 2012, Spelman College recycled 11.56 lbs/per capita during Recyclemania.

### **CONSTRUCTION WASTE RECYCLING**

Spelman College also has a policy to encourage the recycling of construction waste. All carpet and ceiling tile that are removed from Spelman College buildings are recycled. 79% of the waste during the construction of The

Suites Residence Hall was recycled and 99.7% of the waste during the renovation of Laura Spelman Hall was diverted from the landfill.

### **SUMMARY**

The simple act of placing a piece of paper, can, or bottle in a recycling container is the first step in reducing demand on the Earth's limited resources. Success of this program depends on active participation by all of us. Employees are encouraged to make a commitment to recycle and be a part of this solution.

Whenever possible, employees of Spelman College are encouraged to purchase products for the workplace that contain recycled or easily recyclable materials. Buying recycled products supports recycling and increases the markets for recyclable materials.

By recycling, Spelman College is helping to solve trash disposal and control problems facing all of us today.

### **2.7.4 Commuting**

Spelman College partners with The Clean Air Campaign and its partners to provide commuters with alternatives to driving alone. This partnership actively educates employees about available commuting options and works to grow participation in commute options programs. By choosing commute alternatives for travel to and from work, employees can receive financial benefits through Commuter Rewards, a statewide program that rewards clean commuters with cash, gift cards and gas cards.

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### 3. FORECASTING BUSINESS-AS-USUAL EMISSIONS

An initial step in CAP development is to forecast the “business-as-usual” trajectory for GHG emissions; that is, the forecasted emissions if no actions are taken to reduce GHG emissions. This business-as-usual trajectory allows Spelman College to account for organizational growth when considering its path to carbon neutrality. The forecast layers Spelman College’s long-term plans for campus expansion onto its baseline GHG emissions on an intensity basis (e.g., MTCO<sub>2</sub>e per GSF, or FTE students). Forecasted emissions will be considered in the goal setting steps (as discussed in Chapter 4) to identify the emissions reductions required in the future for Spelman College to become carbon neutral.

#### 3.1 AVAILABLE DATA SOURCES

In order to forecast the business-as-usual trajectory, the following data sources were considered:

- Spelman College’s (ACUPCC, 2009) baseline GHG inventory, covering FY 2009 and 2010 and 2011 inventory updates
- Planning documentation provided by the Spelman College Vice President for Finance and Corporate Treasurer and the Spelman College Director of Environmental Compliance and Sustainability.

#### 3.2 FORECASTING METHODOLOGY

GSF and FTE are the emission intensity metrics required in ACUPCC reporting. Emission intensities can change over time in either direction based on changes in campus activities. Often emission intensities from multiple years in the GHG inventory are used to find an average emission intensity that incorporates possible fluctuations. A confidence interval around the average is then calculated to estimate the accuracy of the intensity metrics. Therefore, for the purpose of business-as-usual forecasting, the average value for emission intensity per GSF or FTE for fiscal years 2009, 2010 and 2011 was used.

Scope 1-3 emission sources were placed into two categories based on which future changes would more likely impact the resulting emissions [building space (GSF) or population (FTE)].

- Sources dependent on GSF: stationary combustion, refrigerants and chemicals, purchased electricity, and transmission and distribution (T&D) losses; these comprise approximately 92% of total GHG emissions
- Sources dependent on FTE: mobile combustion, commuting, air travel, other financed travel, study abroad travel, landfilled solid waste, wastewater, and paper; these comprise approximately 7% of total GHG emissions
- Agriculture, which is not expected to be associated with changes in GSF or FTE; this comprises approximately less than 1% of total GHG emissions.

Based on the emission profile, it is expected that GSF will be the dominant metric for the forecasting of future emissions.

Table 3.1 provides the average emission intensity for each emissions source based on fiscal years 2009, 2010 and 2011.

**Table 3.1 - Average Gross Emissions Intensity by Emissions Source (FYs 2009, 2010, 2011 )**

Sources Dependent on GSK (MTCO <sub>2</sub> e per 1000 GSF)	Emission Intensity
<b>Stationary combustion</b>	4.34
<b>Refrigeration and chemicals</b>	0.16
<b>Purchased electricity</b>	12.0
<b>Transmission and distribution losses</b>	1.19
<b>Sources dependent on FTE (MTCO<sub>2</sub>e per FTE)</b>	
<b>Mobile combustion</b>	37.6
<b>Commuting</b>	625
<b>Air travel</b>	9.0



Sources Dependent on GSK (MTCO <sub>2</sub> e per 1000 GSF)	Emission Intensity
Other financed travel	15.3
Study abroad travel	320.9
Solid waste	37.5
Wastewater	5.0

After establishing baseline emissions intensity, the emissions intensity metrics can be forecast for the future based on master planning and professional judgment.

Spelman College has identified 58,000 square feet (ft<sup>2</sup>) of additional building space that will be added to the campus by FY 2018. This corresponds to an expansion of two specific facilities: Rockefeller Fine Arts Building (48,000 ft<sup>2</sup> addition) and Read Hall (10,000 ft<sup>2</sup> addition). No additional building space beyond FY 2018 is planned at this time.

FTE increased to a high of approximately 2,200 students, but is intended to be reduced and held to 2,000 by FY 2013. For the purpose of this CAP, the FTE student population is projected to plateau at 2,000 for FY 2015 through FY 2056. Table 3.2 provides projected GSF and FTE estimates based on these growth rates.

**Table 3.2 - Projections for Emissions Intensity Metrics**

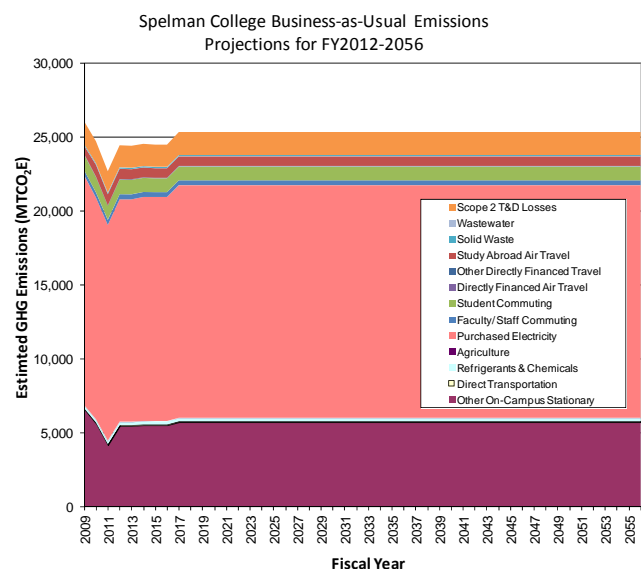
Fiscal Year (FY)	1000 GSF	FTE
2009	1,252	2,211
2010	1,252	2,175
2011	1,252	2,129
2015	1,263	2,000
2031	1,311	2,000
2040	1,311	2,000
2050	1,311	2,000
2056	1,311	2,000

By multiplying the emission intensity established for the Scope 1-3 emission sources by the projected future intensity metrics (GSF and FTE), future GHG emissions for the Scope 1-3 emission sources can be forecasted.

### 3.3 RESULTS

The forecasted business-as-usual emissions estimates developed are inclusive of the baseline year (FY 2009) and updates to this baseline emission inventory as completed by Spelman College for FY 2010 and 2011. As presented in the chart below, the estimated business as usual emissions for future years beyond 2011 increase from a low of 22,680 total MTCO<sub>2</sub>e emissions in FY 2011 to an estimated plateau of 25,475 MTCO<sub>2</sub>e in FY 2017. This represents a 12% increase in emissions from the low in 2011 to the plateau in 2017. Note that this remains below the FY 2009 baseline level.

In 2056, the forecasted relative contribution of each emission source to total GHG emissions is similar to that in the baseline year. This similarity exists because this is a business-as-usual forecast, in which the emission intensity present in the baseline inventory is assumed to remain constant into the future.



**Figure 3.1 – Forecasted “Business as Usual” GHG Emissions (by Source through 2056)**



In order for Spelman College to achieve its long term commitment to carbon neutrality, it will need to depart from this business-as-usual scenario and aggressively reduce emission intensity over time.

### **3.4 UNCERTAINTY**

The business-as-usual GHG emission forecast is based on the assumption that emission intensity remains constant. However, emission intensity is variable. While recognizing the positive trend in 2010 and 2011, it is unclear from the short duration whether these apparent reductions are sustainable. Therefore, to be conservative and the above forecasts are based on the average intensities for FY 2009 - 2011. As additional GHG inventories are compiled and as additional planning documents become available in future years, Spelman College will review and update its emissions forecast.

### **3.5 REFERENCES**

American College and University Presidents' Climate Commitment (ACUPCC). 2009, 2010, 2011 Greenhouse Gas Reports for Spelman College (available at <http://acupcc.aashe.org/ghg-report.php?id=663>).

## 4. INTERIM AND LONG-TERM EMISSIONS REDUCTION GOALS

### 4.1 BACKGROUND

The ACUPCC does not specify a timetable for when each signatory must achieve its long-term commitment to carbon neutrality. It is common practice for institutions involved in climate action to establish interim and long-term emissions reduction goals as a critical planning step in achieving ambitious climate neutrality goals.

Internationally, the IPCC (IPCC, 2007) recommends that CO<sub>2</sub> concentrations in the atmosphere should be stabilized at 450 parts per million (ppm) – approximately double pre-industrial levels – to avoid dangerous anthropogenic interference with the Earth’s climate system. To stabilize at 450 ppm, GHG emissions must reach at least 25% below 1990 levels by 2020, and 80% below 1990 levels by 2050.

Nationally, the American Clean Energy and Security Act of 2009 (ACESA) was a proposed bill that has passed the US House of Representatives before stalling in the US Senate. Although the proposed bill was not adopted, it did establish the concepts of a cap-and-trade system with mandatory targets of reducing GHG emissions relative to 2005 levels. The proposed reduction of 3% by 2012, 20% by 2020, 42% by 2030, and 83% by 2050 can provide a good point of reference in considering reduction goals.

Table 4.1 summarizes these various proposed goals for GHG emissions reductions:

**Table 4.1 - Interim and Long-term Climate Action Goals**

Scope	Organization	GHG Emission Reduction Goal
International	IPCC (2007) <sup>a</sup>	25% below 1990 levels by 2020
		80% below 1990 levels by 2050
National	ACESA (2009) <sup>b</sup>	3% below 2005 level in 2012
		20% below 2005 level in 2020
		42% below 2005 level in 2030
		83% below 2005 level in 2050
State	Governor’s Challenge (2008)	15% below 2007 energy consumption per SF by 2020

<sup>a</sup> – also recommended in the ACUPCC Implementation Guide

<sup>b</sup> – bill passed the US House of Representatives in 2009, but stalled in US Senate

While the absolute targeted emissions reductions appear daunting when viewed over decades, Table 4.2 shows that they appear more achievable when viewed on an annual basis.

**Table 4.2 - Annual Emissions Reduction Goals**

Organization	Targeted Emissions Reduction	Target Year	Commitment Period <sup>a</sup>	Corresponding Annual Emissions Reduction (% per year below baseline level)
IPCC	25%	2020	11	2.3%
	80%	2050	41	1.9%
ACESA	3%	2012	3	1.0%
	20%	2020	11	1.8%
	42%	2030	21	1.9%
	83%	2050	41	2.0%

<sup>a</sup> – Target Year minus Baseline Year (Spelman College’s baseline year is FY 2009)

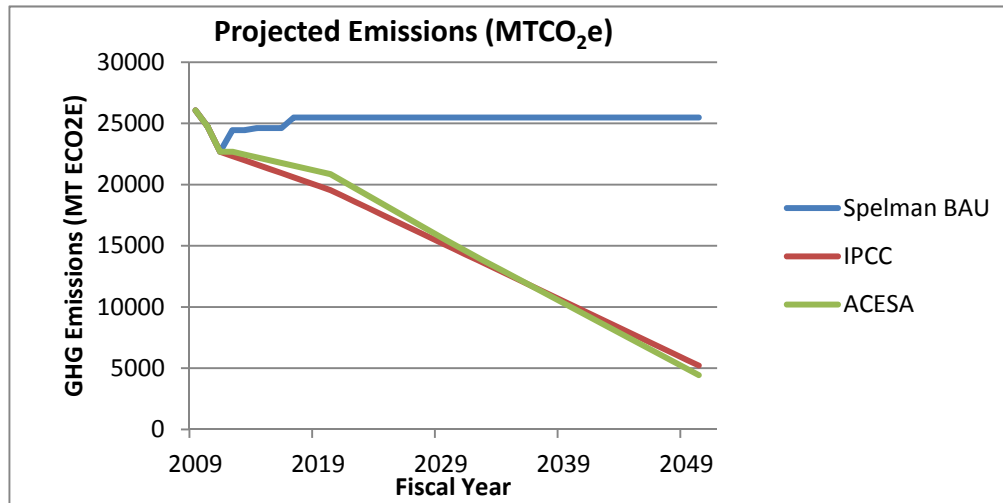
The various approaches to considering emission reduction goals above suggest that the range of “interim” goals (through and including 2020) require annual GHG emissions reductions of between 0.8 – 2.1%, and the range of “long-term” goals (beyond 2020 through 2050) require emissions reductions of between 1.8 – 2.0%.

## 4.2 METHODS

To determine potential future emissions reductions trajectories for the College, Spelman College applied the interim and long-term goals described above, substituting the baseline year of FY 2009 for goals that refer to 1990 as their baseline year. This provides a frame of reference for what could conceivably be the Spelman College’s GHG emissions reduction trajectory.

For reference, Figure 4.1 includes the business-as-usual emission forecast for Spelman College developed as discussed in the previous section of this CAP (blue line, trending along the upper portion of the graph).

**Figure 4.1 – Potential Spelman College GHG Emissions Reduction Trajectory**



Using these goals as a frame of reference and considering the College’s specific objectives, Spelman College has committed to decrease GHG emissions by approximately 66% to achieve an annual emission rate of 8,649 MTCO<sub>2</sub>e by 2031 (the 150th anniversary of Spelman College’s founding) and to reach neutrality by 2056 (the 175th anniversary of Spelman College’s founding), relative to the College’s business-as-usual trajectory. If Spelman College continues to build on the reductions that have taken place in FYs 2010 and 2011, this could result in reductions of 575 to 600 MTCO<sub>2</sub>e annually to meet the total reduction goals for FY 2056.

## 4.3 RESULTS

Table 4.3 shows how an annual GHG emissions reduction of 600 MTCO<sub>2</sub>e would equate to actual energy and resource usage reductions for various emission sources, based on FY 2009 emissions projections.

**Table 4.3 - Annual GHG emissions and resource reductions**

Scope	Source <sup>a</sup>	Annual GHG Emissions Reduction (MTCO <sub>2</sub> e) <sup>b</sup>	Corresponding Annual Usage Reduction	Usage Units (substance used)
1	Stationary sources	151	2,864	MMBTU (natural gas)
	Mobile sources	1.47	169	Gallons (gasoline)
2	Purchased electricity	358	526,794	kWh
3	Commuting	32	79,126	vehicle miles
	Air Travel	14	17,826	passenger-miles
	Solid Waste	2	1.9	US tons
<b>1-3</b>	<b>Total<sup>c</sup></b>	<b>600</b>		

<sup>a</sup> – T&D losses, while listed as a contributor to the GHG inventory, are excluded from this table because the end-user does not have direct control over reducing these emissions, except through reduction in Scope 2 usage (which is already accounted for in this table). Process and fugitive emissions are also excluded from this table due to their small (< 3%) contribution to total emissions.

- <sup>b</sup> - The target overall reduction of 600 MTCO<sub>2</sub>e is distributed among sources according to the percentage contribution of each source.
- <sup>c</sup> - Relatively small reductions in emissions from other emissions sources are not shown in the table, but contribute to the 600 MTCO<sub>2</sub>e total shown for Scopes 1-3.

#### 4.3.1 Economic Feasibility

In setting interim and long-term goals, it is necessary to consider the economic feasibility of achieving these goals.

From a macroeconomic view, a study of the economics of climate change and climate action (Stern, 2006) concluded that the cost of climate action by mid-century could represent as much as 5% of world gross domestic product (GDP) per year, with a best estimate of 1% of GDP per year. This cost assumes that climate action would begin immediately; if delayed, the costs would rise significantly. Roughly applied to Spelman College, which has an annual operating budget on the order of \$86 million, adjusted for an assumed 2.5% rate of inflation, this analysis implies that the cost of climate action for Spelman College could be nearly \$2.25 million per year by mid-century.

With regard to estimating the costs of climate action, one of the key uncertainties is the future availability and cost of renewable energy, given the important role that renewable energy will likely play in achieving large-scale GHG emissions reductions. Currently, the cost of renewable power exceeds that of fossil fuel-based power. However, if future costs of renewable power reach a break-even point or fall below that of fossil fuel-based power, then energy switching and large-scale GHG emissions reduction projects will become more economical.

The Energy Information Administration (EIA, 2008) of the US Department of Energy uses the National Energy Modeling System to project the production and cost of various energy sources through 2030. The EIA projects a 32% increase by 2030 in the renewable electricity generation capacity in the US. The EIA also projects significant reductions in the capital costs of important renewable energy technologies.

**Table 4.4 - Projected Reduction in Capital Costs (2006\$/kW) from 2010 to 2030 (%)**

Biomass	Hydro	Landfill Gas	Offshore Wind	Solar PV	Solar Thermal
(19%)	(11%)	(6%)	(12%)	(25%)	(28%)

The EIA projects that capital costs of biomass and solar technologies – which may be particularly suitable for higher educational institutions – will decline by approximately 20 to 30% by 2030, increasing the likelihood that Spelman College will be able to utilize significant increments of renewable energy to help meet our emissions reduction goals.

The EIA also provides projections of unit costs of fossil fuel energy through 2030 (EIA, 2008). For petroleum, EIA projects increases of up to 50% in crude oil prices (in 2006\$/barrel) from 2010 to 2030. For natural gas, EIA projects increases of up to 16% in prices (in 2006\$/million BTU) from 2010 to 2030. While these are high-range price projections, even under medium range projections from the EIA, crude oil and natural gas prices remain essentially constant from 2010 to 2030 (in 2006\$).

As renewable energy costs decline and fossil fuel energy costs potentially increase through 2030, switching from fossil fuel to renewable energy will become more cost-effective, and can be an important emission reduction strategy. In the meantime, Spelman College can also achieve significant GHG emission reductions through demand-side management, which involves reducing the consumption of energy through energy-efficient technologies and conservation-minded behavioral changes.

#### 4.3.2 Regulatory Framework

Regulatory developments associated with climate change policy in the US may also impact interim and long-term emission reduction goals.

In 2007, the Supreme Court ruled that the USEPA has the authority to regulate GHGs under the Clean Air Act. The USEPA has responded with an advance notice of proposed rulemaking (USEPA, 2008). This has been followed by a series of key regulatory developments under the Obama administration:

- April 17, 2009 - USEPA proposes finding that GHGs endanger human health and welfare, officially recognizing them as pollutants
- June 26, 2009 - ACESA of 2009, which establishes an economy-wide GHG cap and trade program, passes the U.S. House of Representatives.
- September 22, 2009 – USEPA issues final Mandatory GHG Reporting rule (40 CFR Part 98) for large U.S. emitters (e.g., facilities with annual direct emissions (Scope 1) greater than 25,000 MTCO<sub>2</sub>e or facilities that meet criteria for identified source categories.)
- December 7, 2009 – USEPA issues final endangerment finding that GHGs endanger human health and welfare and finds that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution which threatens public health and welfare.
- June 13, 2010 – USEPA finalizes the Prevention of Significant Deterioration (PSD) and Title V GHG Tailoring Rule. The Title V permitting requirements in this rule apply to facilities that have the potential to emit GHGs in excess of the following major source thresholds: 100 tons per year (tpy) for the sum of well-mixed GHGs (i.e., the sum of carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride); and 100,000 tpy for CO<sub>2</sub>e.
- September 15, 2011 – USEPA and the Department of Transportation’s National Highway Traffic Safety Administration (NHTSA) finalize the GHG Emissions Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles.

In summary, whether through the USEPA or the US Congress, comprehensive US Federal regulation of GHG is forthcoming.

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## 5. IDENTIFICATION AND PRIORITIZATION OF GHG EMISSION REDUCTION PROJECTS

### 5.1 EMISSION REDUCTION STRATEGIES

In order to identify potential emission reduction projects that could help realize the annual targets discussed in the previous section, the following strategies were considered:

#### ***Demand Side Reduction Strategies***

Per the breakdown presented in Section 4, GHG emissions at Spelman College are primarily largely associated with the consumption of fuels to heat, cool, or power Spelman College facilities and/or facility related operations. Therefore, consideration was given to potential strategies to reduce the demand for fuel consumption and thereby reduce the resulting generating emissions. This included evaluation of changes in:

- ***Technologies***: Evaluation of existing facilities and operations for the identification of either changes to existing technologies or application of alternate technologies that could result in the reduction of fuel consumption demand and emissions.
- ***Behavior/Policy***: Evaluation of the current stated or unstated behaviors and/or policies that could be changed to reduce fuel consumption demand and emissions

Given Spelman College's use of purchased electricity as the primary means to heat, cool, light or power its facilities and/or facility-related operations, strategies to reduce the demand for electricity consumption through technology and behavior/policy were also considered as part of this CAP.

#### ***Supply Side Reduction Strategies***

The ACUPCC recognizes emissions associated with emissions generated by others to supply the needs of Spelman College facilities and operations. Therefore, in addition to addressing the campus demand side of emission generation, consideration was also given strategies that could alter how the demands are supplied and their associated emissions. Primarily, this strategy focused on examining opportunities to change the way utilities are supplied through the use of alternate fuels and/or technologies.

#### ***Offset Strategies***

In addition demand and supply side reduction strategies, the opportunity also exists to purchase renewable energy certificates (RECs) for *green* power or carbon credits for external GHG emissions reduction projects. Spelman College's near term strategy (through 2031) doesn't include the purchase of RECs in significant quantities. However, adjustments in this strategy may be considered in the future. If RECs are considered, local or community offset projects will likely be favored because the benefits can be more tangible and immediate.

### 5.2 CAMPUS EVALUATIONS

Determining the best approach to applying these strategies to the Spelman Campus required further evaluation of the energy consumption on campus. In evaluating how to apply these strategies, a study of the top electricity-consuming facilities at Spelman College was carried out. The study was based on available utility data from July 2008 through June 2011 (inclusive). Examination of this dataset indicates that Spelman College had a total electrical energy consumption of approximately 21.4 million kWh in the latest fiscal year (FY 2011).

### 5.3 IDENTIFICATION OF POTENTIAL GHG EMISSION REDUCTION PROJECTS

Spelman College has identified behavior, policy and facility initiatives that will be further developed and implemented to drive reductions in GHG emissions and to migrate to carbon neutrality. Spelman College's near-term focus will be projects related to behavior change strategies that can be promoted as policies for, and be viewed as challenges to, faculty, staff and students. Examples of these strategies (in bold italics below), along with other potential projects, are provided below,

#### ***Behavior/Policy***

- Establish a Spelman College policy to maximize facility use and occupancy



- » Spelman College will evaluate a campus-wide space planning/use policy to share and consolidate facilities and maximize space utilization. An initial target of focus will initially be applied toward improving space utilization and building set point set back during the Summer session when occupancy and operations are severely reduced. As a longer term objective, Spelman College will consider space utilization throughout the remaining portions of the calendar year including a focus on evening and weekend classes to minimize the need to condition and light multiple facilities. Spelman College will consider fostering coordination across colleges and departments to maximize efficient space utilization.
- Implementation of a campus-wide temperature set point policy [68 – 72 degrees Fahrenheit (°F) in winter, 74 - 78 °F in summer]
  - » Spelman College will work with faculty and staff to define and implement a temperature set point policy and foster communication and awareness across campus so that behavior affects energy use in campus facilities. Implementing this policy may require changing building occupant expectations, but the potential for energy savings is substantial, and the cost would be minimal.
- Eliminate or provide low-wattage infrared space heaters, utilize computer peripheral switching, install vending machine occupancy sensors, and eliminate private office kitchenettes
  - » Spelman College will continue to strive to reduce and eliminate “incidental” plug loads that could be reduced or eliminated through behavioral changes or at minimal cost. These included space heaters, vending machines, computer peripherals, and private office kitchenettes.
- Utilize software that offers network level control over PC power management settings
  - » Spelman College will set computers, monitors, printers, copiers and other business equipment to energy-saving features and turn off at the end of the day or after extended periods of non-use.
- Adopt an energy-efficient appliance purchasing policy requiring purchase of ENERGY STAR certified products in all areas for which such ratings exist
  - » Spelman College will purchase ENERGY STAR equipment whenever practical. Individuals or college units making product purchases from categories where ENERGY STAR equipment is available will analyze the short and long-term costs and savings before the purchase is made. This policy was identified as a tangible action under the ACUPCC when Spelman College signed the commitment, and Spelman College intends to continue with this policy where practical.
- Replace older plumbing fixtures with water-saving lavatory faucets and toilet flush valves
  - » Spelman College will continue the existing program to replace fixtures and consider application of alternate water-savings fixtures. This will be done opportunistically in response to a maintenance service request or in conjunction with any general renovation that affects bathroom facilities at Spelman College.
- Water conservation strategies as part of outreach efforts to faculty, staff and students
  - » As a means to promote conservation efforts tied to this CAP and environmental stewardship as a whole, Spelman College will consider individual metering of buildings, where departments would be accountable to conservation standards. Also, incentive and reward programs would encourage water conservation toward achieving a target indoor per capita water use metric. Spelman College will consider conducting system-wide leak detection programs. Outdoor water usage strategies may include incorporating natural landscaping and permeable pavement, and minimizing the use of potable water and groundwater for outdoor watering purposes, cleaning and washing.
- Participate in the Waste Minimization component of the national Recyclemania competition, and adopt three or more associated measures to reduce waste
  - » Spelman College has participated in Recyclemania in 2011 and 2012. In both years Spelman College hosted a Recyclemania Kickoff event in collaboration with its neighboring AUC Institutions and the USEPA. In 2012, Spelman College recycled 11.56 lbs/per capita during Recyclemania. Spelman College undertakes additional waste minimization and recycle efforts as noted in Section 2.7.3 above.





- Reducing or altering commuter travel and business travel as a means to mitigate GHG emissions
  - » Spelman College will consider expanding its bicycle and car sharing programs as a means to reduce GHG emissions. The programs may include incentives such as reduced parking fees for commuters that use options other than single-occupant vehicle usage. For business travel, efforts to reduce GHG emissions may include:
    - › Improving the access and availability of video-conferencing capabilities
    - › Development of air travel policies and guidelines, including improvements to an accounting system to enable a more comprehensive estimate of GHG emission related to business travel
- Implement administrative and purchasing policies
  - » Spelman College will consider treating energy metrics and GHG emissions like dollars, and tracking them with similar diligence and transparency. Procurement directives could then be established in response to an evaluation of such data.

### **Facility Initiatives**

- Implement Energy and Atmosphere Considerations in New Building Design
  - » As previously noted, in 2010 Spelman College adopted a policy that all new buildings be designed to achieve a minimum of LEED Silver certification. Spelman College achieved LEED Gold certification for The Suites Residence Hall (the first constructed following adoption of this policy) and is in the review process of LEED certification for the recently renovated Laura Spelman Residence Hall. Spelman College is committed to the continued consideration of energy efficiency and reduction in atmospheric impacts through the construction of new facilities. Whether formally part of LEED or a similar program, Spelman College will institute a policy of requiring the consideration of energy and atmospheric issues during the design and construction of new facilities so as to reduce the per square foot impacts over time.
- Optimize lighting systems
  - » Spelman College has already updated lighting systems throughout campus by changing from T12 to T8 fixtures. Additional initiatives will be undertaken to further improve lighting efficiency including: the application of occupancy sensors and lighting controls to minimize lighting during unoccupied periods, maximization of daylighting levels and dimming/eliminating artificial lighting, the selective reduction of general area lighting and application of task lighting, and consideration of new lighting technologies including high efficiency compact lighting and LED.
- Application of Direct Digital Control (DDC) Building Automation Systems
  - » Spelman College has implemented DDC building automation systems on approximately 64% of the existing campus buildings. Spelman College continues to apply DDC systems to the remaining significant and appropriate buildings to provide a foundation from which to measure, monitor and control the operation of the building.
- Building Ventilation Control
  - » The proper ventilation of facilities is essential to maintaining a healthy environment for its occupants, but also requires a large application of energy. Utilizing building DDC systems, Spelman College will look to apply variable volume systems to reduce or eliminate the application of ventilation during low or unoccupied periods and will consider the application of CO<sub>2</sub> monitoring for spaces with widely varying occupancies to more accurately provide the proper ventilation to the space requirement.
- Energy Recovery Systems
  - » Energy is recoverable from systems requiring high ventilation and exhaust. Spelman College already applies energy recovery systems to recover available sensible and latent energy from exhaust streams of multiple applications on campus and will continue to apply energy recovery technologies to new buildings with similar operating requirements.

- Economizer Applications
  - » Energy can be reduced by applying economizer capabilities to eliminate the application of mechanical conditioning systems. Spelman College will select equipment and utilize DDC controls to apply air and water side economizer systems to reduce the required mechanical conditioning and save energy.
- Variable Capacity Heating and Cooling Systems
  - » Spelman College will apply variable speed drives and controls to allow the DDC system to modify the volume of air delivered to the space and quantity of heating hot water and chilled water required to be generated/circulated to condition the space to varying space loads.
- DDC Set Point Reset
  - » Spelman College will utilize DDC systems to reset the space comfort set points during unoccupied periods and to consider modifying the heating hot water and chilled water set points with changes in the outside air temperature to reduce the energy required to generate the water temperature without impacting the space humidity control or responsiveness to changes in space loads.

### ***Long Term Alternative Energy Initiatives***

Long-term GHG reduction plans take a visionary approach focused on applying alternative technologies and driving long-term results. Spelman College will continue to assess the application of alternative energy technologies on campus on either a demonstration basis that aligns with the curriculum and community objectives or as a broader use application to displace traditional energy consumption points. Among the current technologies that Spelman College will consider are:

- Photovoltaic/ Solar Water Heating
  - » Photovoltaic (PV) technology uses semiconductor materials such as silicon to convert sunlight directly into electricity. Solar cells are the basic building blocks of the complete system. Large parking areas, parking decks and building roofs could be considered viable locations for PV arrays. PV also is a summer peaking generation source, which could allow Spelman College to moderate a portion of its summer time peak demand. Reducing peak demand not only has beneficial cost implications, but helps to stabilize the local utility grid by reducing delivery stress on the system during the peak hours of electricity consumption. Solar thermal water heating systems can provide hot water for commercial use. The solar system pre-heats the water to the maximum hot water supply temperature. However the economics of PV/solar water heating systems as standalone programs do not typically support economic payback given the limited solar potential in the Atlanta, Georgia area and Spelman College's currently low utility costs. However, availability of alternate funding sources, changes in solar technologies and desire to implement on a demonstration basis will all be considered in the continued consideration of solar systems, particularly as part of a larger renovation or construction initiative. For strategic planning, a small PV demonstration project is under consideration for as part of the near term Performance Contracting program and a larger stand alone project is conceived to be undertaken as part of the long term reduction strategy. It is hoped that technology advances and installation costs will improve the economic viability of solar PV/solar water heating systems in the future.
- Geothermal (Ground Source) Heat Pumps
  - » Geothermal heat pump (GHP) technology uses the Earth's renewable energy, just below the surface, to heat or cool a building, and to help provide domestic hot water. The system uses conventional electricity driven heat pump unit to extract heat from, or reject heat to a common heat transfer loop buried in the ground (ground loop), on the source side of the heat pump. GHP systems require a sizeable open area at ground level to facilitate the construction of the ground loop. For the portions of the campus that have the free area required for the ground loop, GHP will be considered for Spelman College. The reliability and efficiency of these systems will continue to improve as the technology gains larger application. Spelman College will consider the applications of this technology where land availability and building load application warrant.

■ Biomass Fuels

- » Biomass fuel technologies are considered by operations that have the potential to utilize fuels generated directly or in combination with commercially available fuels as an alternative to traditional fossil fuels. Combustion facilities can burn biomass fuels derived from many types of sources including wood, agricultural residues, wood pulping liquor, municipal solid waste (MSW) and refuse-derived fuel. Spelman College’s central plant operations may have the potential to facilitate development of bio-fuels from wood and agricultural wastes. However, limited economic justification currently exists to justify the significant investment that would be required to convert the current operations from the current carbon-based fuels. However, consideration of this alternative fuel technology could be considered as part of the future “end-of-operating-life” replacement of the existing central plant equipment that is projected to occur in approximately 2030. As such, Spelman College will consider the opportunity to alter the central plant technologies as part of the negotiation of the next service contract also set to expire in 2030.

**5.4 PRIORITIZATION OF POTENTIAL GHG EMISSION REDUCTION PROJECTS**

A sequential process of engineering, cost-benefit, implementation, and funding analyses is planned to set targets and develop the strategies. Preliminary engineering analyses have been completed for some strategies and a possible set of GHG goals and near-term and long-term projects developed. These possible projects are summarized in Tables 5.1 and 5.2, respectively. Implementation of these projects will be governed by priorities established through future cost-benefit analysis and influenced by funding probabilities, including state and federal grant and loan opportunities.

Potential specific projects in these categories may be selected by Spelman College in the near- and long-term and will be prioritized using a cost-benefit index such as the following:

$$\frac{\text{Annual Energy Cost Savings}}{(\text{Project Cost} \div \text{Annual GHG Reduction})}$$

Traditionally, projects may have been ranked based only on financial metrics such as simple payback. However, the index used in this evaluation considers both financial and environmental benefits. A higher index indicates greater benefit for a given cost. At Spelman College, projects are typically executed on the scale of an entire building rather than a renovation or upgrade of a specific infrastructure system such as HVAC or lighting. As such, prioritization, funding, and implementation of individual projects that may reduce GHG emissions will be considered as part of larger projects. Examples of specific projects are provided below for the illustrative purposes of this CAP. The implementation of these and additional projects will be considered as technology improves and becomes more cost-effective, thereby providing a fiscally sound approach for Spelman College.

**Table 5.1 - Near Term (Initiated between 2013-2020) GHG Emission Reduction Projects**

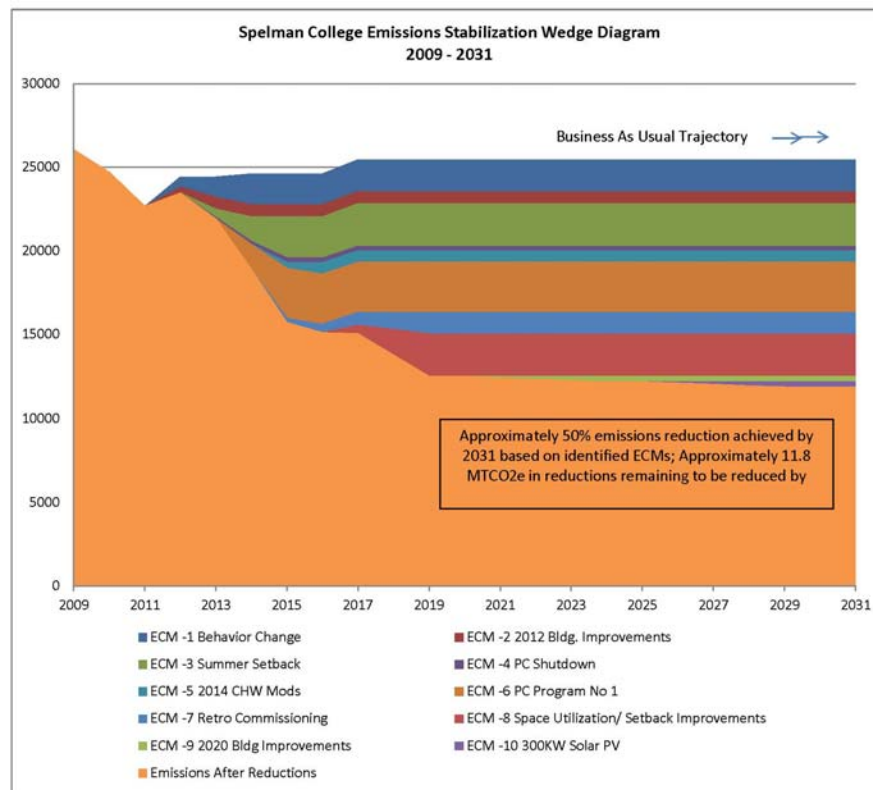
GHG Emissions Reduction Projects	Annual Electrical Savings (kWh) Average	Annual NG Savings (MMBTU) Average	GHG Reductions (MTCO <sub>2</sub> e) (Thru 2031)
<b>ECM -1: Behavior Change/Policy Improvements (campus wide)</b>	1,802,883	10,385	35,852
<b>ECM -2: 2012 Facility Improvements (Laura Spelman Hall, McAlpin Hall, Science Center)</b>	711,580	4,048	13,976
<b>ECM-3: Improve Space Setback Control during Summer Session</b>	2,404,607	13,681	44,867
<b>ECM-4: PC/Computer Auto-Shutdown</b>	384,194	0	4,975
<b>ECM-5: 2014 Chilled Water Loop Modifications (Manley College Center, Bookstore, Cosby Academic Center)</b>	982,297	0	11,381
<b>ECM-6: 2013 Performance Contracting Program</b>	2,970,007	16,897	52,500
<b>ECM-7: Implement Retro-Commissioning Program</b>	1,136,829	6,468	18,979
<b>ECM-8: Improved Space Utilization/Setback</b>	2,373,901	13,506	34,969
<b>Totals</b>	<b>12,766,298</b>	<b>64,985</b>	<b>217,498</b>

**Table 5.2 - Long-term (Initiated between 2021-2031) GHG emissions reduction projects**

Energy Efficiency Measure	Annual Electrical Savings (kWh) Average	Annual NG Savings (MMBTU) Average	GHG Reductions (MTCO <sub>2e</sub> ) (Thru 2031)
<b>ECM-9: 2020 Facility Improvement Program (Howard-Harrel Hall, Manley Hall, Morehouse-James Hall, Abby Rockefeller Hall)</b>	293,174	1,668	3,167
<b>ECM-10: Solar PV Initiative</b>	335,272	0	1,371
<b>Totals</b>	<b>628,446</b>	<b>1,668</b>	<b>4,538</b>

These projects are considered as potentially viable as of the date of this CAP due to factors such as, but not limited to, evolving federal and state GHG and climate related regulations, economic and technological influences, and Spelman College’s academic mission. Figure 5.1 represents the potential types of emissions reduction projects for consideration under the CAP and a nominal graphical representation of the contribution of each project toward reaching carbon neutrality. Spelman College will review the progress and continued viability of the projects on a periodic basis, and revise them, as necessary.

Other projects that demonstrate value as teaching tools or as high-visibility demonstration projects may also be considered for implementation. The CAP is a living document. As new emission reduction technologies develop and become viable, the CAP will be updated with a new prioritization of projects. It is expected that at a minimum, a progress report on the implementation of the CAP, including an updated schedule of proposed projects will be provided by January 2015, and every two years thereafter in accordance with ACUPCC guidance.



**Figure 5.1 – Spelman College Emissions Stabilization Wedge Diagram (2009-2031)**

#### 5.4 REFERENCES

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## 6. EDUCATION, RESEARCH, AND PUBLIC ENGAGEMENT

### 6.1 BACKGROUND

The ACUPCC asks signatories to commit to taking “actions to make climate neutrality and sustainability a part of the curriculum and other educational experience for all students.” ACUPCC guidance recognizes that each school will make its own determination of how to fulfill this part of the Commitment. Furthermore, participating institutions will (1) find their own creative and unique means of doing so; (2) develop a means of reviewing progress and expanding their reach over time; and (3) share their efforts with other signatories so that all of the institutions will be able to meet the ultimate goal to have graduates that can help all of society restore the earth’s climate to a safe level and achieve sustainability over several generations (ACUPCC, 2009).

Spelman College as an HBCU occupies a special niche in tying climate change to climate justice. Nobody, whether rich or poor, will be immune to the adverse impacts of climate change; however, risks associated with climate change are not uniform. Threats of climate change do not operate in silos independent of other vulnerability. The worst effects of climate change are likely to fall on the shoulder of those least responsible for causing it. According to the UN, those who are least responsible for contributing to climate change are very likely to be most vulnerable to its catastrophic impacts, and will moreover be even less positioned for mitigation and adaptation. Communities of color are disproportionately vulnerable to the adverse impacts of climate change. According to the UN, the disparity in the effects of climate shocks and vulnerability leads to the phenomenon of “adaptation apartheid” (UN Development Report 2007/8). Climate change is not gender neutral, as women constitute the disproportionate share of the world’s poor. Climate change thus threatens to exacerbate gender inequity. Epitomizing this, women of color and their communities globally are positioned to be among the most vulnerable to the anticipated increased burdens and insecurities in the emerging “climate gap.”

In order to address climate change and the special vulnerabilities of those most affected by it, great focus must be put on mitigation and adaptation. Spelman College commits to graduating students who are sustainability literate and who thus have insight into what needs to be done in terms of mitigation and adaptation. Spelman College strives to create leaders and change agents who will make sure that the concerns and voices of women of color are heard and incorporated into decision making and policies. Spelman College has been a harbinger of education for sustainability and has been at the forefront of educating women of African descent. Spelman College is proud of its outstanding achievement.

This section of the CAP describes Spelman College’s current educational offerings (curricular and co-curricular) related to climate change and sustainability. It also describes planned actions to make climate action and sustainability a part of the curriculum and other educational experiences for all students. Finally, this section explains how the implementation of the ACUPCC will be integrated into Spelman College’s educational efforts (e.g., having students or classes update the GHG inventory), as well as how the entire campus community, including alumnae, will be made aware of Spelman College’s participation in, and progress toward, implementing the ACUPCC.

As a signatory school, Spelman College has developed defining characteristics regarding the mission of the College. One of these includes a commitment to incorporate environmental sustainability within all activities of the College and especially Spelman College’s core activities of education, research, practical and meaningful work experience and community service. Our commitment to advancing sustainability as a leading liberal arts college, informed by the understanding that the next generation of leaders must be sustainability-literate, is demonstrated by:

- graduating global citizens who will be better stewards of the Earth both in their personal and professional lives, and
- expanding our curriculum to further integrate sustainability across courses and disciplines.

To address these elements, Spelman College worked with its faculty, staff, and students to identify how its sustainability curriculum can support the CAP effort. Specifically, Spelman College considered the following areas based on ACUPCC guidance:

- Education for Sustainability at Spelman College
  - » Curriculum
  - » Research
  - » Co-curricular activities and program
- Community outreach, engagement and service

Implementation of potential actions in each of these areas will be led by the Education and Research subcommittee within the SSC.

## 6.2 Education for Sustainability at Spelman College

Spelman College recognizes the most critical contribution of a higher education institution in addressing climate change and reducing global carbon emissions is producing graduates that possess eco-competency and are sustainability-literate. Graduates would be better stewards of the earth and have a competitive edge for an emerging global *green* market economy. Decisions of these future leaders will have far greater impact on the world than the mere reduction of the carbon emission of campus would ever have. Thus, Spelman College is committed to advancing education for sustainability through incorporating it across disciplines and courses. Currently, Spelman College offers an Environmental Sciences Major and Environmental Studies Minor that draws from both hard sciences and social sciences.

### 6.2.1 Curriculum

Our commitment to advancing sustainability as a leading liberal arts college, informed by the understanding that the next generation of leaders must be sustainability-literate, is demonstrated by:

- graduating global citizens who will be better stewards of the Earth both in their personal and professional lives, and
- expanding our curriculum to further integrate sustainability across courses and disciplines.

#### 6.2.1.1 Relevant Course Offerings

The Education and Research subcommittee of the SSC undertook a survey of existing courses using the following definitions of sustainability in the curriculum, adopted from STARS:

- ***Sustainability-focused courses*** which concentrate on the concept of sustainability, including its social, economic, aesthetic and environmental dimensions, or examine an issue or topic using sustainability as a lens.
- ***Sustainability-related courses*** which incorporate sustainability as a distinct course component or module, or concentrate on a single sustainability principle or issue.

Either as sustainability-focused courses or as sustainability-related courses, sustainability has become understandable, practical and relevant to students' lives. The basic principles of sustainability become a relevant integrating theme throughout the curriculum, connecting the environment with the economy, sciences, and humanities.

Table 6.1 shows results of a survey of courses at Spelman College that meet the above-defined criteria is a snapshot of where we are at currently, with 17 sustainability-focused courses and 18 sustainability-related courses, a fairly good number at present for a school so small. While not all of the following courses are permanent courses as yet, they are in process of review to be so, and they have either been taught or are slated.

**Table 6.1 – Results of Survey of Sustainability in the Curriculum**

Dept	Env Sci	Poli Sci	Anthro-pology	Art/ Drama	English	Psychology	Econ	Math	Bio	Chem	ADW*	Food Minor	TOTALS
Sustainability Focused	4	5	5	3									17
Sustainability Related	3		3		2	2	2	1	2	1	1	1	18
<b>Totals</b>	<b>7</b>	<b>5</b>	<b>8</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>35</b>

\*African Diaspora and the World

### 6.2.1.2 Curriculum Development Workshops

To integrate sustainability concepts into existing courses, the Teaching Research and Resource Center (TRRC) has offered many opportunities for the creation of modules that integrate sustainability concepts into existing and proposed courses. These include the following workshops:

- Food Literacy Seminar, July 29-31, 2009
- UNCF Food Literacy Symposium 2011, Across the Disciplines and Around the Table: Rethinking Interdisciplinary Research and Teaching using Food as a Model, June 28-29, 2011
- Food Studies Workshop, August 2012
- 2012 Health Disparities Collaborative: Millennial Scholars Creating Interdisciplinary Networks of Knowledge, June 25-26, 2012.

Spelman College will seek funding to conduct education for sustainability workshops to assist faculty to incorporate sustainability in teaching and research.

### 6.2.1.3 General Education

The goal is to incorporate sustainability in at least one and preferably two required general education courses and require students to take courses introducing sustainability concepts.

Since 2009, sustainability was infused in *African Diaspora and the World* (ADW). Future plans include expanding the sustainability content in the ADW 111 & 112 (8 credits). We received funding from the USEPA Region 4 to assist the incorporation of sustainability into First Year Experience course (FYE -1credit). These are required of all first-years. (ADW is also required of all incoming transfer students. Both courses are taken the full year.)

### 6.2.2 Research in Sustainability

#### 6.2.2.1 Research Day

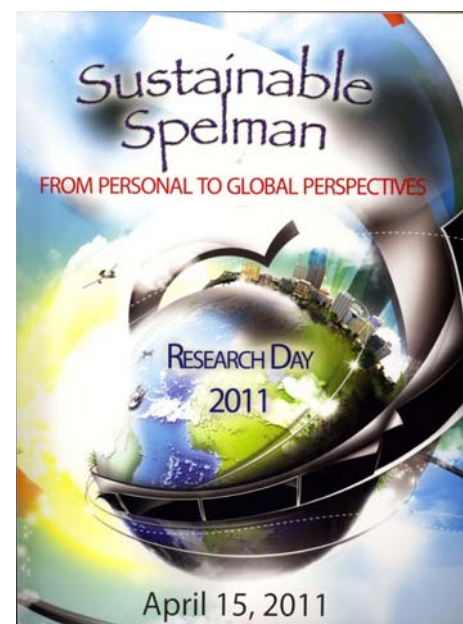
We use and will continue to use Research Day to foster campus research in sustainability. In 2011, the Research Day theme was Sustainable Spelman: From Personal to Global Perspectives. Research Day is our annual conference that is highly attended by the majority of the campus and has a high profile.

The event included special art installations that were the culmination of Art and Sustainability course.

#### 6.2.2.2 Outside Conferences (Regional, National and International)

Students participated, presented papers and posters, and served as panelists at regional, national and international conferences related to Sustainability. For example:

- Slow Food Terra Madre and Salone de Gusto Conference, 2012, October 23-29th





- 2012 “Enhancing diversity in climate change science and applications: from models to Adaptation” National Center for Atmospheric Research (NCAR), Boulder, Colorado
- USEPA’s 2012 Southeast Regional Environmental Justice Conference: Promoting Environmental Justice through Effective Education, Collaboration, and Mobilization, August 16-17, 2012, Atlanta, Georgia

We will continue to provide and expand these research and networking opportunities to our students in the future.

### 6.2.3 Co-Curricular Activities and Programs

Learning opportunities and educational experiences can happen not only through academic courses and program but through co-curricular learning opportunities experiences (e.g. campus as living laboratory, residential life program). Some examples are:

#### 6.2.3.1 New Student Orientation (NSO)

During NSO, speeches given by the President and the Provost have regularly included key aspects of sustainability and stewardship, from personal wellness to global citizenship. As a suggestion from one of the Sustainable Spelman Interns, sustainability was proposed to be incorporated as an explicit part of the sustainability program. As a result, for the past two years, Spelman College has had a presentation dedicated to sustainability during NSO. We will continue and expand incorporation of sustainability into NSO.

#### 6.2.3.2 Expanding Internship Opportunities in Sustainability

The SSC offers internships to a select group of students. Interns work with the committee to offer student perspectives on sustainability efforts on campus. The Sustainable Spelman Interns also work to develop initiatives and effective student outreach campaigns. Sustainability Interns meet weekly to discuss upcoming plans and assist committee members in any way possible. Thus far students have been successful in creating social media accounts for Sustainable Spelman through Twitter and Facebook. Students have also helped developed the “*Green* is the New Spelman Blue” campaign. Sustainability Spelman Interns meet weekly to discuss upcoming plans and assist committee members in any way possible. Spelman College also has a program of *Green* Ambassadors. Ambassadors work on environmental topics that include but are not limited to *green* technology, renewable energy, sustainability, recycling, water conservation and *green* jobs, and are linked to many outside sustainability organizations.

In keeping with new global experience initiative, Spelman College is rapidly expanding the offerings for global experiences for its students. Global internships and “Study Abroad” are the next frontier for opportunities for students to gain practical experience in sustainability issues facing people all around the world.

A recent example is a student internship with its underlying focus on food sustainability that has important local, regional and global dimensions. Spelman Sustainability Intern Frances Roberts Gregory interacted with legendary Sustainability activist, Vandana Shiva from India at a Tierra Madre conference in Italy in 2012.

Other student internship activities included:

- Students being employed to gather and analyze data on Spelman College’s carbon footprint, on the amount of waste generated, the material recycled on campus, the impact of study abroad travel and the commuting habits of staff, faculty and students.
- Designing posters on saving electricity, saving water
- Participation in the planning for publicity for Recyclemania.



Spelman Sustainability Intern Gregory (on right) with Vandana Shiva at the Tierra Madre conference in Italy in 2012.

### 6.2.3.3 Social Justice Fellows

Spelman College has a Social Justice Fellows Program which is housed in the recently renovated Laura Spelman Hall (designed to meet LEED-Gold standard) and includes residences for the fellows. There is a new plan being explored to have Social Justice Fellows articulate the social justice aspect of sustainability, not only in the dorm in which they live but in wider campus and community conversations.

### 6.2.3.4 Sustainability Pledge

The following Sustainability Pledge was developed by students of Spelman College:

#### ***SPELMAN'S SUSTAINABILITY PLEDGE***

- *I will set sleep mode/hibernate on my computer when I'm not using it*
- *I will turn off my computer if I plan to be away for more than 30 mins, especially when I go for lunch, class or meeting*
- *I will turn off the lights when I leave any room*
- *I will replace my bulbs with incandescent bulbs with compact fluorescent bulb when studying or working late, use light that illuminates works areas*
- *I will turn off the water when brushing my teeth, washing my hands, etc.*
- *I will unplug cell phone chargers and other electronics when not in use*
- *I will reduce my food waste in the dining hall and choose sustainably-produced food when shopping-Fair Trade, Organics, Food Alliance, etc.*
- *I will recycle all recyclable materials, especially white paper, post it notes*

### 6.2.3.5 Incorporating Sustainability in Other Educational experiences

Spelman College strives to incorporate sustainability in other educational experiences. For example, a *Green Conference* was held in connection with a women's college in Dubai. Spelman College has also sent students out to participate in external educational opportunities.

### 6.2.3.6 The Spelman College Victory Garden

The Spelman College Victory Garden presents students an opportunity for hands-on environmental education on a campus site. Students are able to see how familiar foods are grown in a local setting. This allows seasonal observations of environmental conditions while inviting inquiry and interactions across disciplines based on local and global food production. Located at a site that was once used as a 'Victory Garden' during World War II, the garden speaks to the historical and sustainable agricultural roots of the college at a time of limited resources. This history is not only addressed in its location but each crop has its own story to tell. The Victory Garden becomes a site to discuss the history of certain crops and traditions of people of who use them as it relates to the students own traditions. We will continue to use the garden as a laboratory to educate our students about issues of food sustainability.



**Students and children planting/  
harvesting at the Victory Garden.**



**"Green is the New Spelman Blue"**



**President planting the Sustainability  
Tree on Sustainability Day  
October 24, 2008**

### 6.2.3.7 Green Move Out

An incredible amount of waste is generated by the end of the school year student move out. We are creating the *Green Move Out*, which is an attempt to reduce waste during this time, and will include a recycling, and donations program. We want to use this moment as a teaching moment.

### 6.2.3.8 Recyclemania

At the heart of Spelman College's tagline, "A Choice to Change the World," is the understanding that making a positive social impact, means ensuring the health of the environment for future generations. Recyclemania is a friendly competition amongst national colleges and universities to promote recycling and the reduction of the waste on campus. Participating in the annual Recyclemania tournament, a friendly competition and benchmarking tool, provides Spelman College and other institutions an opportunity to build and expand waste reduction programs on their campuses.

Each participating institution strives to collect the most recyclable materials during a 10-week long competition. In the past two years, there have been Recyclemania kick-off events held in the spring on the campus of Spelman College. Each school in the AUC partnered with Spelman to host the event. Students were encouraged to come to the kick-off event and bring their recyclables. Large recycling receptacles were stationed throughout the event. The collected recyclables were weighed and distributed evenly amongst each AUC school. The students, faculty, and staff were able to bring their recyclables and even non-traditional on-campus recyclables like old printers and textbooks, and were able to learn more about the importance of recycling and engage with environmental vendors who set up stations at the events. Vendors included local organic grocers and the USEPA.

In 2011, 630 colleges and universities nationwide recovered 91 million pounds of organic and recyclable materials during Recyclemania. This prevented the release of nearly 127,553 metric tons of carbon dioxide. This reduction in greenhouse gases is equivalent to the annual emissions from more than 25,000 passenger cars. The USEPA Region 4 Regional Administrator, Gwendolyn Keyes Fleming gave a few remarks at the kick-off event.

On Saturday, February 4, 2012 Spelman College along with other Atlanta University Center Consortium institutions, kicked off the 2012 Recyclemania tournament. To jumpstart their participation in Recyclemania, which ran from Sunday, February 5 through Saturday, March 31, Spelman College partnered for Recyclemania Day to collect recyclable materials – paper, plastics, cans, cardboard, glass, cell phones and computer monitors.

We will continue to participate in Recyclemania in ways that engage more students and wider community.

### 6.2.3.9 Trayless Dining Hall and Green Café

Spelman College's trayless dining hall and *Green Café* represent valuable teaching moments. Students initiated our trayless dining hall. Aramark Dining Services has a local purchasing guideline, offers vegan options, and utilizes oil that is free of trans-fats.

To help increase sustainability awareness throughout the greater Spelman College community, Spelman Dining Services recently launched "*Green Café*," an initiative designed to showcase local food and build collaborative efforts with local farmers. Using herbs from gardens around campus and locally grown foods, members of the SSC and students leading campus sustainability efforts enjoyed dishes such as collard greens and oyster mushroom spring rolls with Thai basil dipping sauce, sweet potato and herb-stuffed chicken breast, rosemary-grilled zucchini and fresh pea and basil puree, and cantaloupe and tofu ambrosia with mint. Participants also gained information and insight on the importance of eating local food from Charles Henry, a local African-American farmer with the Coastal Georgia Small Farmers Co-op.

The first *Green Café* ended on the note of collaborative support for our campus-wide "Make a Difference Monday" Campaign, an initiative aimed at demonstrating how important sustainable food practices are to our personal, community and environmental sustainability. More *Green Café*'s and similar initiatives are being launched all throughout the campus. The campus wants to ensure that Spelman College students can not only get on board with the *green* movement, but continue to be at the forefront as leaders in a global community. Please check out [Healthymonday.org](http://Healthymonday.org) to learn of this global campaign that Spelman College has joined; it's

sweeping across campuses, school districts, restaurants and homes. Updates on the Healthy Monday campaign are on the Spelman Dining page on Facebook.

#### 6.2.3.10 Sustainability-Focused Student Organizations

Spelman College is working with students to expand the number of sustainability-focused student organizations. Students are interested in forming a “Slow Foods” campus chapter. One example is the Environmental Task Force (ETF).

The Spelman College ETF is a grassroots, student-led organization that was established to raise the awareness of the Spelman College community in terms of environmental issues, to provide a greater student voice in planning for conservation at the college, and to promote environmental education as a top priority. The mission of the ETF is to promote a greater sense of sustainability, environmental responsibility and consciousness on campus, in the AUC, and beyond. Environmental education is one of the pillars on which the ETF stands as it strives to educate the AUC and its constituents through various programs and events, including:



- An *Environmental Film Series* in which films with an environmental theme or context are shown on campus and discussions about the film’s theme are held at the end. One film is shown per month.
- The *Annual Homecoming Tailgate Clean-Up*. Every morning after tailgating during Homecoming Week, members of the ETF pick up recyclables that would have otherwise gone to a landfill.
- An *Annual Earth Week*, hosted by the ETF, is held during the week of Earth Day during which a different event is held each day of the Earth Week. Events include the following types of programs:
  - » *Green Jobs Forum* - explores careers in the emergent environmental sector
  - » *Cosmetics Forum* - shows the adverse impact of chemicals in everyday beauty and personal care products and teaches students about making their own natural alternatives
  - » *Community Service Projects* including planting trees with Trees Atlanta, changing out incandescent light bulbs for compact fluorescent light bulbs (CFLs) in local neighborhoods, and volunteering at an Atlanta middle school to teach young students about environmental topics.

#### 6.2.3.11 Earth Day Activities

Every student fulfills a community-service requirement beginning in her first year. Our 80 Bonner Scholars lead the way with at least 140 hours each semester and two summers of service-related internships. Earth Day was adopted by the Bonner Office as a day of community service. Students are heavily involved and use the day to educate the campus and community about sustainability issues.

#### 6.2.3.12 Student Green Fees

As of the 2012 Fall semester, Student *Green Fees* have been implemented by the institutions. Each student pays \$10 per semester, which is included in the amount it costs to attend Spelman College. The College uses the fees, which total \$40,000 a year, for a few purposes: to hire more student sustainability interns and to carry out sustainability projects on campus deemed fit by SSC and Facilities Management and Services.

#### 6.2.3.13 Spelman College Wellness Revolution

As a leading HBCU woman’s college, it is fitting that Spelman College take a leadership role in instituting personal sustainability and modeling it as a uniquely Spelman “Wellness Revolution.” Not only have communities of color been long overburdened by disproportionate exposure to pollution, in addition to historical overlapping simultaneous oppressions, but women of color have been further overburdened by their own shouldering of the many near impossible burdens of creating solutions to the most intractable social ills. As such, a special intentionality needs to be placed on wellness and conscious self-care, “Wellness Revolution”.

### 6.3 Community Outreach, Engagement and Service

Spelman College faculty, staff, and students continue to be leaders in promoting sustainability beyond the gates of campus through the commitment of their time and expertise to sponsoring community wide events. Spelman College is committed to advancing sustainability through partnership and collaboration with community organizations and federal agencies (Outreach through community service: developing sustainability initiatives with Community Partners; <http://www.spelman.edu/about-us/strategic-plan-goals>).

#### 6.3.1 Communications

##### 6.3.1.1 Website

Thus far students have been successful in creating social media accounts for Sustainable Spelman through Twitter and Facebook. Students have also helped developed the "Green is the New Spelman Blue" campaign.

- Twitter account. Follow @Sustain\_Spelman.
- Facebook page at <https://www.facebook.com/SustainableSpelman>
- Email correspondence system at [sustainablespelman@spelman.edu](mailto:sustainablespelman@spelman.edu)
- Student Sustainability Pledge: <http://www.spelman.edu/about-us/sustainable-spelman/sustainability-pledge>.

##### 6.3.1.2 Participation in Competitions

Spelman College was named a finalist in the Second Nature 2012 Climate Leadership Awards, a national competition among colleges and universities to earn the title of "Most Innovative Climate Leader." The video highlights the Sustainable Spelman initiative. Second Nature is an organization that publishes news, opinion, and insight about energy, climate, and sustainability. "Being selected a finalist for the 2012 Climate Leadership Awards underscores Spelman's dedication and leadership in making sustainability a way of life, not just on Spelman's campus, but across the world" Anthony Cortese, co-founder of Second Nature relates. "Because sustainability is a lifestyle that addresses today's economic crises, not a set of disparate technologies or principles, there is no better place to begin building a culture of sustainability than at America's colleges and universities." <http://www.spelman.edu/about-us/news-and-events/2012/04/25/spelman-finalist-in-competition-to-find-most-innovative-climate-leaders>

#### 6.3.2 Partnership and Collaboration with Other Institutions and Educators

Spelman Community Partners GOALS: Spelman College's historic 32-acre campus adjoins a vibrant scholarly community and neighborhoods that lacks the resources to live up to its innate potential. At Spelman College, we understand that the institution and community must grow together. The College is committing its considerable human and intellectual resources to the development of a "greener," more livable and secure environment.

Strategic partnerships will enable Spelman College to carry out its vision of a campus that fosters intellectual growth, leadership, service, and success. To generate environmental action with our neighbors, Spelman College will work with local businesses and organizations to make life here healthier and more sustainable. By partnering with land and economic developers, planners and environmentalists, we intend to strengthen the community core and revitalize our surrounding neighborhoods. To nurture the abilities of local residents, we plan to work with area businesses and organizations to create skill-building programs and developmental initiatives. With community leaders, we will provide leadership for implementing positive economic and social change. Most fundamentally, Spelman affirms its ongoing collaboration with the AUC Consortium, the Atlanta Police Department, and local residents to maintain a safe, secure environment.

##### 6.3.3.1 Spelman College / USEPA Collegiate Environmental Sustainability Initiative

In February 22, 2007, Spelman College entered into a Memorandum of Understanding (MOU) with the USEPA to develop a mutually-beneficial relationship designed to enhance the College's environmental policy and science curricula thereby facilitating the creation of a pool of diverse, qualified applicants for employment at USEPA; develop peer review, analytical and research relationships between Spelman College, as well as other Minority Serving Institutions (MSI) and USEPA; produce internships and employment opportunities for student

candidates at USEPA; and create sabbatical exchange opportunities for USEPA environmental experts and Spelman College faculty. USEPA has posted one of its senior managers via the Intergovernmental Personnel Act (IPA) to Spelman College for two years to teach and develop courses and seminars designed to expand the school's environmental offerings and to provide technical support to Spelman College's effort to become a flagship of environmental sustainability.

Spelman College continues to lead MSI in *Green Efforts*. Spelman College is leading the *green* campus movement among MSIs. Spelman College joins a growing number of institutions, such as Oberlin, Harvard and the University of Vermont, who recognize the importance of developing behaviors and inculcating practices that foster environmental protection, resource stewardship and energy conservation in our future leaders. New courses, conservation initiatives, capital projects are just the beginning of Spelman's cultural shift toward creating an environmentally sustainable college campus community. Spelman College faculty, staff, and students were heavily involved in planning, participation, and contribution of scholarship in the following conferences:

Spelman has hosted several USEPA conferences on campus:

- Symposium on Sustainable Environmental Practices at Colleges and Universities in the Southeast: Greening your Campus and Curriculum October 23-24, 2008, Atlanta, Georgia
- 2nd Symposium on Sustainable Environmental Practices at Colleges and Universities in the Southeast: Greening your Campus and Curriculum, June 6-7, 2011, Atlanta, Georgia

Spelman College co-hosted and participated in the planning of the following USEPA conference:

- 2012 Southeast Regional Environmental Justice Conference: Promoting Environmental Justice through Effective Education, Collaboration, and Mobilization, August 16-17, 2012, Atlanta, Georgia

Spelman College also participated in the planning of the following USEPA conference:

- Greening Your Campus and Curriculum: USEPA's 3<sup>rd</sup> Symposium on Sustainable Environmental Practices at Colleges and Universities in the Southeast, September 13, 2012, North Carolina A & T State University (NCAT), Greensboro, North Carolina

We will continue to expand our collaboration with USEPA, Region 4 and be a leader in *greening* efforts of MSI.

### 6.3.3.2 Partnership with UNCF

In 2009, the UNCF Institute for Capacity Building received a grant from the Kresge Foundation to develop a program to advance building *green* at MSIs. Spelman College Director of Facilities, Art Frazier, participated on the Program Design Committee for this initiative and is credited as a driving force behind the success of this program. The UNCF Building *Green* at MSIs Initiative was established to build knowledge and capacity, through a series of Building *Green* Learning Institutes, Technical Assistance Workshops and mini-grants, to help MSIs build *green* by incorporating principles of sustainable design and energy efficiency into building projects. The Building *Green* Initiative is guided by two overarching goals:

- 1) To increase the number of buildings and structures on MSI campuses that register for and achieve LEED certification
- 2) To increase the number of MSIs that are signatories of the ACUPCC.

Spelman College's President, faculty, staff, and students are heavily involved with the UNCF Building *Green* at MSI initiative. In addition to collaborating with UNCF on conference planning, Spelman College students, faculty and staff presented at the following conferences:

- UNCF-Institute for Capacity Building (ICB) Facilities and Infrastructure Enhancement Program (FIEP) Building *Green* Learning Institute on April 8-10, 2010 in Atlanta, GA.
  - » Pre-Conference Event; LEED Certification Ceremony and Tour of Spelman's LEED Silver Suites Residence Hall



- » “How Suite it is Presentation”, Art Frazier
- UNCF-ICB FIEP Building *Green* Learning Institute on June 10-12, 2010 in San Antonio, TX.
  - » Keynote Address by Dr. Beverly Daniel Tatum
  - » “How Suite it is” Presentation by Art Frazier
- AASHE Presentation on Building Green at MSIs, on October 10-13, 2010 in Denver, CO, Art Frazier, Spelman College, Felicia Davis, UNCF, Henry Lancaster, Lancaster Craig, Mark Orłowski. Sustainable Endowments Institute (SEI). “Sustainable Spelman: A Choice to Change the World” Presentation by Art Frazier
- UNCF- ICB FIEP Building *Green* Learning Institute on June 10-12, 2011 in Washington, DC.
  - » “Roadmap to a *Green* Campus” Presentation by Art Frazier with USGBC
  - » Composting Video by Spelman Students, April Evans & Kandyce Perry
- “Building *Green* Program: Education for Sustainability Curriculum for Minority Serving Institutions (MSIs),” UNCF Institute for Capacity Building Conference, November 9, 2011, Atlanta, Georgia
- UNCF Building *Green* Initiative - MSI Energy Collaborative Meeting, Washington, D.C. September 25 - 26, 2012, “Sustainable Spelman” Presentation by Art Frazier
- AASHE Minority Serving institutions Plenary Panel, on October 16, 2010 in Los Angeles, CA. “Sustainable Spelman” Presentation by Art Frazier

Art Frazier worked with UNCF to refine the SEI’s sustainability report card process to promote more accurate assessment of sustainability efforts underway at MSIs leading to a joint publication with SEI “MSI *Green* Report-2010 Campus Sustainability Survey”. Spelman was one of seven MSIs recognized as an “overall sustainability leader” based upon survey results.

Art Frazier also provided a framework for the 2012 UNCF “Sustainable Campuses: Building *Green* at Minority-Serving Institutions” publication that includes contributions from Dr. Tatum and Dr. Shafiei.

In Fall 2010, UNCF awarded Spelman College a \$20,000 planning grant that allowed the College to hire a consultant and several students to assist with the GHG inventory.

Representatives of the USGBC and Second Nature also served on the UNCF Building *Green* Program Design Committee. This facilitated expanding collaboration with these two organizations.

- USGBC – Center for Green Schools
  - » In April of 2006 Spelman College became the first HBCU to become a member of the USGBC. Art Frazier served on the *Green* Campus Working Group during the development of “Roadmap to a *Green* Campus”. The “Roadmap” includes a case study about Spelman College’s incorporation of sustainability into its strategic plan. Art has made presentation about the “Roadmap” at UNCF & AASHE along with Jaime Van Mourik, Director of Higher Education for the Center for *Green* Schools at the USGBC.
  - » In the Fall of 2012, Art Frazier was a candidate for the Educator Post on the USGBC Board of Directors. A link to his campaign video can be found at <http://www.youtube.com/watch?v=TMAv9g37Koo&feature=youtube>
- Second Nature
  - » Spelman College has been an avid supporter of Second Nature. Art Frazier has served on numerous Kresge Fellowship Selection Committees. A Case Study of Spelman’s Sustainability efforts was included in the launch of Second Nature’s Campus *Green* Builder website. Dr. Tatum served as Co-Chair of the ACUPCC Steering Committee and Art Frazier served on the ACUPCC Campus Liaison Support Committee. Both Dr. Tatum & Art Frazier are featured in Second Nature’s ACUPCC video series.

Additionally, while working with UNCF, Spelman College established a relationship with the Environmental Defense Fund, Climate Corps that led to a Climate Corps Facilities audit being conducted on all the AUC campuses. The audit of a number of Spelman College facilities identified a potential reduction of over 1.1 million kwh per year with under a 3-year payback.

### 6.3.3.3 Partnership Initiatives with Other Institutions

Spelman College is participating in partnership initiatives with various other institutions such as:

- Associated Colleges of the South (ACS)
- World Wildlife Fund
- Slow Food
- Atlanta Beltline Inc.
- FAMU
- Truly Living Well (Community Gardening)

### 6.4.1 Additional Proposed Actions

In addition to the above partnerships and collaborative efforts, Spelman College is also involved in developing sustainability-related yearly contests awards and recognition. Spelman College is also proposing:

- a Sustainability Film Festival for Fall of 2013,
- a Sustainability Fair as part of Earth Day activities,
- a Sustainability Lecture/Speakers Series which is intended to heighten sustainability awareness among faculty and students.

The activities are intended to promote and foster interdisciplinary sustainability collaboration across courses and disciplines through the college.

## 6.5 REFERENCES

American College and University Presidents' Climate Commitment (ACUPCC). 2009. Education for Climate Neutrality and Sustainability: Guidance for ACUPCC Institutions (Available at: <http://www.presidentsclimatecommitment.org/resources/guidance-documents/academic>)

AASHE CAP Wiki (Available at: <http://www.aashe.org/wiki/climate-planning-guide/education-research-and-public-engagement.php>).

ACUPCC Academic Guidance (Available at: [http://www.presidentsclimatecommitment.org/html/solutions\\_academics.php](http://www.presidentsclimatecommitment.org/html/solutions_academics.php)).

United Nations Human Development Programme (UNDP), Human Development Report 2007/2008, Fighting Climate Change: Human Solidarity in the a Divided World, New York, NY, UNDP, 2007, Available at: [http://hdr.undp.org/en/media/HDR\\_20072008\\_EN\\_Complete.pdf](http://hdr.undp.org/en/media/HDR_20072008_EN_Complete.pdf)) Accessed August 2, 2012



# *Spelman STARS™ Report*

Spelman College STARS Status Checklist



CATEGORY 1: EDUCATION & RESEARCH				
Co-Curricular Education				
Credit Number	Credit Title	Possible Points	Current	Proposed
ER Credit 1	Student Sustainability Educators Program	5	Yes	
ER Credit 2	Student Sustainability Outreach Campaign	5	Yes	
ER Credit 3	Sustainability in New Student Orientation*	2	President Tatum gives an important and overarching speech on sustainability complete with crucial Wellness Revolution info	This will expand to student led sustainability orientation program that goes beyond the lead certified dorms
ER Credit 4	Sustainability Materials and Publications	4		Under development
<b>Tier Two</b>	<b>Co-Curricular Education Tier Two Credits</b>		Intro to Biology fieldtrip (see b. directly above GIS mapping Bioremediation Interdisciplinary Atlanta Beltline seminar field trips <i>Quantitative reasoning: Students are exposed to complex problems, real data, to model solutions of real problems, using ArcGIS mapping tools. Introduction to Environmental Sciences, Introduction to Geosciences: Sustainability topics includes: Environmental Justice and Waste Management, Minority and flooding exposure, natural disasters (tornados, hurricanes) and minorities exposure, among others in a total of about 10 modules. Spelman archives Sustainability initiative where students from each graduating class deposit a box of memorabilia for future generations to have timecapsule information.</i>	
Credit 1	Student Group	0.25	The Spelman College Environmental Task Force (ETF) is a grassroots, student led organization that was founded in [insert year here]. The mission of the Task Force is to promote a greater sense of sustainability, environmental responsibility and consciousness on campus, in the AUC, and beyond. Environmental education is one of the pillars on which the task force stands, and the task force strives to educate the AUC and its constituents through various programs and events. For example, ETF has an environmental film series where films with an environmental theme or context were shown on campus and discussions about the film's theme are held at the end. One film is shown per month. Another highlight of the task force is its Annual Homecoming Tailgate Clean-Up. Every morning after Tailgate during Homecoming Week, members of the task force pick up recyclables that would have otherwise gone to a landfill. Lastly, ETF hosts an annual Earth Week held during the week of Earth Day where a different event is held each day of the Earth Week. Events include the following: film showing, Green Jobs Forum where careers in the emergent environmental sector are explored, Cosmetics Forum where the adverse chemicals in everyday beauty and personal care products are explored and students have the opportunity to learn about and make their own natural alternatives, and a community service project. ETF participates in several community service projects that include planting trees with Trees Atlanta, changing out incandescent light bulbs for compact fluorescent light bulbs (CFLs) in local neighborhoods, and volunteering at an Atlanta middle school to teach young students about environmental topics.	Events include the following: film showing, Green Jobs Forum where careers in the emergent environmental sector are explored, Cosmetics Forum where the adverse chemicals in everyday beauty and personal care products are explored and students have the opportunity to learn about and make their own natural alternatives, and a community service project. ETF participates in several community service projects that include planting trees with Trees Atlanta, changing out incandescent light bulbs for compact fluorescent light bulbs (CFLs) in local neighborhoods, and volunteering at an Atlanta middle school to teach young students about environmental topics.
Credit 2	Organic Garden*	0.25	While not currently fully organic, we intend to make it so	While not currently fully organic, we intend to make it so
Credit 3	Model Room in Residence Hall*	0.25	ART do you have info?	
Credit 4	Themed Housing*	0.25	theme housing including Honors, Social Justice, Bonner Program, Health Allies, WISDOM/ Religious Life	Student eco coop house (off campus)
Credit 5	Sustainable Enterprise	0.25	Green Café. A sustainability enterprenerial aspect has been proposed to be part of Market Fridays.	These will expand significantly. Energetic freshman have been recruited. There are collaborations with students at Morehouse.
Credit 6	Sustainability Events	0.25	Recyclemania is a friendly competition amongst national colleges and universities to promote recycling and the reduction of the waste on campus. Each participating institution strives to collect the most recyclable materials during a 10 week long competition. The past two years, there have been Recyclemania kick-off events held in the spring on the campus of Spelman College. Each school in the Atlanta University Center (AUC) partnered with Spelman to host the event. Students were encouraged to come to the kick-off event and bring their recyclables. Large recycling receptacles were stationed throughout the event. The collected recyclables were weighed and distributed evenly amongst each AUC school. In addition to the students, faculty, and staff being able to bring their recyclables and even non-traditional on campus recyclables like old printers and textbooks, students, faculty, and staff were able to learn more about the importance of recycling and engage with environmental vendors who set up stations at the events. Some of the vendors include local, organic grocers and the Environmental Protection Agency. Last year, EPA Region 4 Regional Administrator, Gwendolyn Keyes Fleming gave a few remarks at the kick-off event.	These will expand significantly. Energetic freshman have been recruited.
Credit 7	Outdoors Program	0.25	Yes, we have in Student Affairs and also informally with several groups filled with Spelman Alumna. WAWA, Green for all, REI. Outdoor Program throughPE	Significant expansion of this is planned, including outdoor cleanup hikes locally, trailtending and hikes in the N. Georgia Mtns and Smoky Mountains.
Credit 8	Themed Semester or Year*	0.25	Sustainability Spelman as theme of Research Day 2011 The international year of Water was highlighted in several green anthropology classes.	There are plans for these types of emphasis, but none fixed at moment.

# Spelman College STARS Status Checklist



CATEGORY 1: EDUCATION & RESEARCH				
Curriculum				
ER Credit 5	Sustainability Course Identification	3	Definition of Sustainability in the Curriculum Sustainability-focused courses concentrate on the concept of sustainability, including its social, economic, aesthetic and environmental dimensions, or examine an issue or topic using sustainability as a lens. Sustainability-related courses incorporate sustainability as a distinct course component or module, or concentrate on a single sustainability principle or issue. Either as sustainability focused courses or as sustainability related courses <i>sustainability</i> has become understandable, practical and relevant to students' lives. The basic principles of sustainability – reliance on solar energy, biodiversity, and chemical recycling become a relevant integrating theme throughout the curriculum, connecting the environment with the economy, sciences, and humanities. The following results of a survey of courses at Spelman that meet the above defined criteria is a snapshot of where we are at currently, with 17 sustainability focused courses and 18 sustainability related courses, a fairly good number at present for a school so small. While not all of the following courses are permanent courses as yet, they are in process of review to be so, and they have either been taught or are slated.	If we can get a grant to fund a workshop to provide this for college wide courses and modules, we should see a dramatic increase in campus wide attention to this. We applied to one source and didn't get it.
ER Credit 6	Sustainability-Focused Courses	10		If we can get a grant to fund a workshop to provide this for college wide courses modules, we should see a dramatic increase in an already impressive array of offerings for a school our size
ER Credit 7	Sustainability-Related Courses	10	18 sustainability related courses (see spreadsheet at bottom)	If we can get a grant to fund a workshop to provide this for college wide courses and modules, we should see a dramatic increase in an already impressive array of offerings for a school our size
ER Credit 8	Sustainability Courses by Department*	7	3 main depts lead at this moment, but there is a wide distribution (see spreadsheet at bottom)	If we can get a grant to fund a workshop to provide this for college wide courses and modules, we should see a dramatic increase in distribution wherein every dept. should have some contribution
ER Credit 9	Sustainability Learning Outcomes*	10	We have not yet mainstreamed these but will soon	We have not yet mainstreamed these but will soon
ER Credit 10	Undergraduate Program in Sustainability*	4	We have Env. Sci minor and proposed major	We are looking into a sustainability certificate
ER Credit 11	Graduate Program in Sustainability*	4	not relevant at a 4 year school	not relevant at a 4 year school
ER Credit 12	Sustainability Immersive Experience*	2	Frances Roberts Gregory's Fall 2012 Anthropology internship is a perfect model.	more of this example, with better funding schemes (being creatively sought)
ER Credit 13	Sustainability Literacy Assessment	2	A recent self-study in form of a Department of Sociology and Anthropology THESIS: The Green Balancing Act: Examining the link between Environmental Attitudes, Knowledge and Behaviors of Spelman Students Presenter/Author: Tiara Cunningham Advisor(s): Jerry Wever, Ph.D., In the last 16 years Spelman has made great strides in becoming more environmentally aware. Prior to 1995 Spelman College did not have a campus wide recycling program. Students have the choice to significantly impact the amount of electricity and water they consume as well as the amount of waste they produce. However, many individuals do not actively recycle or conserve the amount of energy they use because the impact is not instantly tangible.	The goals of this study include providing a deeper understanding of (1) Why students actively decide to recycle and why some students actively decide not to recycle despite their knowledge of the benefits of recycling (2) How the impact of setting influences environmental behaviors (3) How environmental attitudes influence behavior (4) What are the multiple definitions of what it means to be environmentally conscious and 'responsible' at Spelman College? The theory of planned behavior and social learning are guiding the current research. I am particularly interested in the environmental attitudes and behaviors of current Spelman students. This study examines the link between Spelman students' attitudes and knowledge about the physical environment and their behavior through a NEP scale survey distributed to Spelman students living in the Suites (an environmental sustainable dormitory) and regular no sustainable dormitories on campus. A content analysis will also be conducted. The content analysis will directly investigate the communication via pamphlets, website info and posters and get a central aspect of how recycling and being a sustainable campus is an aspect of social interaction at Spelman.
ER Credit 14	Incentives for Developing Sustainability Courses	3	We submitted a grant to fund a workshop to provide this for modules in FYE.	We need a grant to fund a workshop to provide this for college wide courses modules.
Research				
ER Credit 15	Sustainability Research Identification*	3	Sustainability Spelman as theme of Research Day 2011	
ER Credit 16	Faculty Engaged in Sustainability Research*	10	We have multiple people from many sides of campus, from art and anthropology, to economics and political sci, to env. Sci	It is likely this will increase with the workshops and the general campus climate of sustainability, but so far, no financial incentive for such research is in place
ER Credit 17	Departments Engaged in Sustainability Research*	6	3 main depts also lead research at this moment and parallel the curriculum spreadsheet, but there is a wide distribution (see spreadsheet at bottom)	If we can get a grant to fund a workshop to provide this for college wide courses modules, we should see a spread to other dept.
ER Credit 18	Sustainability Research Incentives*	6	so far, no financial incentive for such research is in place, and there are in fact disincentives	If we can get a grant to fund a workshop to provide this for college wide courses and modules, we should see a spread of research interest to other depts.
ER Credit 19	Interdisciplinary Research in Tenure and Promotion	2		
<b>Total</b>		<b>100</b>		

Spelman College STARS Status Checklist

**CATEGORY 2: OPERATIONS**

Buildings				
Credit Number	Credit Title	Possible Points	Current	Proposed
OP Credit 1	Building Operations and Maintenance	7	Spelman Facilities are operated and maintained in accordance with sustainable operations and maintenance guidelines and policies based on LEED-EBOM criteria.	
OP Credit 2	Building Design and Construction*	4	The Suites was certified LEED Silver in 2009, Laura Spelman is registered for certification and is expected to achieve LEED Gold	
OP Credit 3	Indoor Air Quality	2		The College is developing an indoor air quality management policy, plan, and/or practices that include regular auditing or monitoring and a mechanism for occupants to register complaints.
Climate		Building Rating Systems		
OP Credit 4	OP Credit 4 Greenhouse Gas Emissions Inventory 2	3	Spelman's GHG emissions inventory is publicly available through the American College & University Presidents' Climate Commitment Reporting System,	
OP Credit 5	OP Credit 5 Greenhouse Gas Emissions Reduction 14	10	Spelman reduced its net Scope 1 and Scope 2 GHG emissions compared to a 2008 baseline. 2005 Baseline is not available.	
<b>Tier Two</b>	<b>Climate Tier Two Credits</b>			
<i>Credit 1</i>	Air Travel Emissions	0.25		Spelman does not have policies and/or programs in place that explicitly seek a reduction in emissions from air travel.
<i>Credit 2</i>	Local Offsets Program	0.25		Spelman is considering developing local offsets program through which the institution offsets its greenhouse gas emissions by implementing projects that reduce GHG emissions in the local community.
Dining Services				
OP Credit 6	Food Purchasing*	6	Aramark has established a local purchasing guideline which is a geography-specific seasonal food database and has established a mandatory sustainable seafood purchasing program using only the Monterey Bay Aquarium Seafood Watch. 45% of food volume is purchased within 250 miles of the College. Local growers are used for many vegetable and produce items (Sysco and FreshPoint), local baked goods, campus grown offerings, when available. The use of refillable condiment containers is currently our practice, single serve dispensers for napkins and paper towels, bulk purchasing is used, Full dishwasher policy in place. Sustainable training employee on staff, participates in Special Sustainability Events including Earth Week. The sponsor of the Green Cafe series to introduce and support sustainability using local growers and vendors. The company has a total commitment to sustainability in all aspects of the business, including but not limited to catering functions.	Aramark is currently establishing an official Sustainable Purchasing Policy. Has Committed to increase local purchases and hiring by 5% each year, decrease purchase square miles to 150. This year Aramark is adding locally processed coffee from Café Campesino and they are actively researching options for humanely raised beef and pork. Additional discussion are being had to include PodPonics lettuce which is local and Truly Well Urban Farms which is also local in Georgia. There is also a proposal to introduce a Green Catering Program
<b>Tier Two</b>	<b>Dining Services Tier Two Credits</b>			
<i>Credit 3</i>	Trayless Dining	0.25	YES-1000 gal saved monthly	
<i>Credit 4</i>	Vegan Dining	0.25	Yes-served at all meals, vegan stir fry stations for lunch and dinner	Increasing soy milk dispensers, look to add vegan desserts
<i>Credit 5</i>	Trans-Fats	0.25	Yes-Use of soybean/non-hydrogenated canola oils-free of trans-fat. End of life cycle, converted to bio-diesel/We also partner with Waste Oil Corp. of Atlanta	Research additional conversions of use of oil
<i>Credit 6</i>	Guidelines for Franchisees	0.25	No Franchisees	With new renovation of snack space formal policy is being developed for Franchisees
<i>Credit 7</i>	Pre-Consumer Food Waste Composting	0.25	Yes -Coffee grinds are sent to local organic farm. Pre-consumer organic waste is being composted	Increasing identified items to local Farm (Truly Living Well Urban Farm) Bins have been purchased and employees training is beginning
<i>Credit 8</i>	Postconsumer Food Waste Composting	0.25	No	Currently exploring a Post Consumer Program
<i>Credit 9</i>	Food Donation	0.25	Currently in Pilot (PRIMA)	To work with the Atlanta Community Food Bank and its partners to help with this initiative.
<i>Credit 10</i>	Recycled Content Napkins	0.25	Yes-100% recycled content being used	
<i>Credit 11</i>	Reusable Container Discounts	0.25	No	
<i>Credit 12</i>	Reusable To-Go Containers	0.25	No	
Energy				
OP Credit 7	Building Energy Consumption	8		Spelman to collect data required to determine if it has reduced its total building energy consumption per gross square foot of building space compared to a 2005 baseline.
OP Credit 8	Renewable Energy	7	Spelman has purchased the environmental attributes of electricity in the form of Renewable Energy Certificates (RECs) for a portion of the Laura Spelman electricity use	Spelman is exploring options for generating electricity from clean and renewable energy sources on campus
<b>Tier Two</b>	<b>Energy Tier Two Credits</b>			
<i>Credit 13</i>	Timers for Temperature Control	0.25		
<i>Credit 14</i>	Lighting Sensors	0.25	Lighting fixtures and occupancy sensors are installed throughout campus. All new and retro buildings are installed with the most efficient energy saving devices	To continue to changes and replace old technology to new energy saving devices
<i>Credit 15</i>	LED Lighting	0.25		
<i>Credit 16</i>	Vending Machine Sensors	0.25	No	To get Snack machine sensors installed
<i>Credit 17</i>	Energy Management System	0.25	We have installed EMS devices on all Cokes machines on campus(qty=20)//Compressors shut down during non peak hours and come back up during peak hours	
<i>Credit 18</i>	Energy Metering	0.25		

Spelman College STARS Status Checklist

**CATEGORY 2: OPERATIONS**

Grounds				
OP Credit 9	Integrated Pest Management*	2	Spelman employs Integrated Pest Management (IPM) procedures that determine when to control pests and whether to use mechanical, physical, chemical, cultural, or biological means. IPM practitioners depend on current, comprehensive information on the pest and its environment and the best available pest control methods. Applying IPM principles prevent unacceptable levels of pest activity and damage by the most economical means and with the least possible hazard to people, property, and the environment.	
<b>Tier Two</b>				
<b>Grounds Tier Two Credits</b>				
Credit 19	Native Plants*	0.25	Spelman has a preference for the use of Native Plants	
Credit 20	Wildlife Habitat*	0.25		No programs are in place to protect and/or create wildlife habitat on institution owned land.
Credit 21	Tree Campus USA*	0.25		Spelman is working on recognition by the Arbor Day Foundation's Tree Campus USA program.
Credit 22	Snow and Ice Removal*	0.25		Spelman exploring the implementation of technologies or strategies to reduce the environmental impacts of snow and ice removal.
Credit 23	Compost*	0.25	Spelman composts or mulches waste from grounds keeping, including grass trimmings	
Purchasing				
OP Credit 10	Computer Purchasing	2	It is the guideline/preference of the College ( College Wide) to purchase energy star model of computers .	It department is currently investigating purchasing the EPEAT.
OP Credit 11	Cleaning Product Purchasing	2	Yes- currently buying Green Sealed or Green Certified products. Partnering with Aramark Cleaning -2011 begin cleaning floors and hard surfaces with Orbio Technology - the use of ionized water that has no chemicals. ALSO Purchase tools and equipment with energy star rating: Only procure MFD(multi-functional devices) that are energy star rated, Only purchase energy star appliances,	Increase use of Ionized water technology FOR CLEANING
OP Credit 12	Office Paper Purchasing	2	Yes- currently at 30%-Purchasing P&P suggest that it is the preference of the College to purchase recycle products when possible	To increase to 50% or more
OP Credit 13	Vendor Code of Conduct	1	YES- It can be found on the Administrative Services Web page (internet) and on the Sustainability Operations Document Library intranet	
<b>Tier Two</b>				
<b>Purchasing Tier Two Credits</b>				
Credit 24	Historically Underutilized Businesses	0.25	Yes- Local businesses minority own, women owned.. The procurement department although not mandated (because it is a private institution) has an internal goal to assure that business is conducted with this intinity. Currently there are 200 such business that are in the data base and 95% of them are local. College is a member of the Georgia Minority Supplier Development Council which assist with the partnering of such businesses.	To increase commodity lines
Credit 25	Local Businesses	0.25	A preferred vendor list that has been provided to the College which includes 90 % local businesses of which they can buy from.	Goal To increase to 98 %
Transportation				
OP Credit 14	Campus Fleet	2	The President's car is a Gasoline-electric hybrid and two gasoline facilities vehicles were replaced by electric carts	
OP Credit 15	Student Commute Modal Split*	4	Doubtfull that enough alternative means are used to score more than 1 point	
OP Credit 16	Employee Commute Modal Split	3	Doubtfull that enough alternative means are used to score more than 1 point	
<b>Tier Two</b>				
<b>Transportation Tier Two Credits</b>				
Credit 26	Bicycle Sharing	0.25	NO	
Credit 27	Facilities for Bicyclists	0.25	NO	
Credit 28	Bicycle Plan	0.25	NO	
Credit 29	Mass Transit	0.25	Yes	
Credit 30	Condensed Work Week	0.25	During Summer	
Credit 31	Telecommuting	0.25		NO
Credit 32	Carpool Matching	0.25	Available through Clean Air Atlanta	
Credit 33	Cash-out of Parking	0.25		NO
Credit 34	Carpool Discount	0.25		NO
Credit 35	Local Housing	0.25		A program is offered through UCDC but not significantly taken advantage of
Credit 36	Prohibiting Idling	0.25		To be implemented
Credit 37	Car Sharing	0.25		To be implemented
Waste				
OP Credit 17	Waste Reduction	5		
OP Credit 18	Waste Diversion	3	College utilizes Iron Mountain for secure document destruction. College has 13/65 gal containers, 5/ 95 gal containers and 13/Consoles. From Jan 2012-November 2012- The College has Saved and impacted the environment in the following ways: 340 trees, 139801 gallons of water saved,39943 recycled paper(office grade paper), 20 tons paper material weight,9187 gal oil saved, 81883 KW-hours electricity saved, 60 cubic yards landfill reduction,1198 pounds of air- air pollution prevented. Certificated of Destruction is received and filed. A Green Report is issued to validate savings	
OP Credit 19	Construction and Demolition Waste Diversion*	1	Yes	
OP Credit 20	Electronic Waste Recycling Program	1	Yes	
OP Credit 21	Hazardous Waste Management	1	Yes	
<b>Tier Two</b>				
<b>Waste Tier Two Credits</b>				
Credit 38	Materials Exchange	0.25	NO	
Credit 39	Limiting Printing	0.25	Minimal	
Credit 40	Materials Online	0.25	Minimal	
Credit 41	Chemical Reuse Inventory	0.25	YES	
Credit 42	Move-In Waste Reduction*	0.25	YES	
Credit 43	Move-Out Waste Reduction*	0.25	YES	

CATEGORY 2: OPERATIONS				
Water				
OP Credit 22	Water Consumption	7	The College has installed energy star machines in all Res. Halls( 43 washers/50dryers) in summer of 2008, to date the College has saved over one half million gallons of water (531731). The college has also adapted an internet data base system of reporting to alert students when cloths are finished washing or drying. With dryers, this may allow many to use existing heat and reduce drying times . It also provides usage data as to when machines are being used. This may reduce use in peak electrical capacity times.	
OP Credit 23	Stormwater Management	2	Yes, including cisterns for stormwater reuse	
<b>Tier Two</b>	<b>Water Tier Two Credits</b>			
Credit 44	Waterless Urinals	0.25	Waterless Urinals in The Suites	
Credit 45	Building Water Metering*	0.25	Yes for 3 buildings	
Credit 46	Non-Potable Water Usage	0.25	Yes	
Credit 47	Xeriscaping*	0.25		NO
Credit 48	Weather-Informed Irrigation*	0.25		NO
<b>Total</b>		<b>100</b>		

Spelman College STARS Status Checklist



Category 3: Planning, Admin. & Engagement (PAE)				
Credit Number	Credit Title	Possible Points	Current	Proposed
<b>Coordination and Planning</b>				
PAE Credit	Sustainability Coordination	3	Spelman has a sustainability committee that is tasked by the administration to advise on and implement policies and programs related to sustainability on campus. The Committee is composed of students, faculty & staff.	
PAE Credit	Strategic Plan*	6	The Strengthening the Core Strategic Plan for 2015 includes sustainability	
PAE Credit	Physical Campus Plan*	4	Spelman's current campus master plan does not include sustainability at a high level.	Spelman's plans to update the campus master plan to include sustainability at a high level.
PAE Credit	Sustainability Plan	3	Spelman's Strategic Plan and Climate Action Plan address this	
PAE Credit	Climate Action Plan	2	Spelman's Climate Action Plan will be submitted 1/15/2013	
<b>Diversity and Affordability</b>				
PAE Credit	Diversity and Equity Coordination	2		
PAE Credit	Measuring Campus Diversity Culture	2	Not aware of any program in place that addresses this criteria	
PAE Credit	Support Programs for Underrepresented Groups	2		
PAE Credit	Support Programs for Future Faculty	4		
PAE Credit	Affordability and Access Programs	3		
<b>Tier Two Diversity and Affordability</b>				
Credit 1	Gender Neutral Housing*	0.25	No	
Credit 2	Employee Training Opportunities	0.25	Yes	
Credit 3	Student Training Opportunities	0.25		
<b>Human Resources</b>				
PAE Credit 11	Sustainable Compensation	8	The College engages in formal salaries studies every 3-5 years to ensure staff salaries are competitive with the market.	
PAE Credit 12	Employee Satisfaction Evaluation	2	During the Fall of 2011 the Standards of Excellence Committee conducted a survey to assess the College's Standards of Excellence: <b>Civility</b> - interacting with integrity in a manner that is both respectful and courteous, <b>Commitment</b> - executing my responsibilities with unwavering dedication to excellence and sustainability, and <b>Consistency</b> - always delivering quality outcomes in a reliable, timely and positive manner. The results provided direction for areas of improvement. The following initiatives were implemented: Standards of Excellence Commitment Pledge Campaign; discussions at various division/department meetings/retreats around the 3Cs; campus forum to include campus leaders; merchandising for every office and individual workstations; and inclusion as part of new student and new employee orientation.	
PAE Credit 13	Staff Professional Development in Sustainability	2		Add two training classes per year on sustainability as part of the training and development program
PAE Credit 14	Sustainability in New Employee Orientation	2		Add a slide to the New Hire Orientation presentation and distribute printed material once available
PAE Credit 15	Employee Sustainability Educators Program	5		Develop a peer to peer outreach and educators program

Spelman College STARS Status Checklist



Category 3: Planning, Admin. & Engagement (PAE)				
<b>PAE Tier Two</b>				
<b>Human Resources Tier Two Credits</b>				
Credit 4	Childcare	0.25	No	None
Credit 5	Employee Wellness Program	0.25	The College currently offers an Employee Assistance Program to employees and their families to provide access to a wealth of practical and solution-focused resources to help employees improve their overall quality of life. Areas of assistance include: stress; family and relationships; grief and loss; work-life balance; depression and anxiety; health and wellness; and much more.	
Credit 6	Socially Responsible Retirement Plan	0.25	The College's Defined Contribution Plan and the Spelman College Tax Deferred Annuity Plan have investment choices with companies that are suitable from a financial perspective and whose activities are consistent with the account's social criteria. Using specific environmental, social and governance criteria, the evaluation process favors companies that are: strong stewards of the environment; committed to serving local communities where they operate and to human rights and philanthropy; devoted to higher labor standards; and those managed in an exemplary and ethical manner.	
<b>Investment</b>				
PAE Credit	Committee on Investor Responsibility*	2	No	No
PAE Credit	Shareholder Advocacy*	5	No	No
PAE Credit	Positive Sustainability Investments*	9	The College invests in: 1) Sustainable Industries such as renewable energy and sustainable forestry; 2) Sustainable Investment Funds such as a Renewable Energy Investment Fund	
<b>Tier Two</b>				
<b>Investment Tier Two Credits</b>				
Credit 7	Student-Managed Sustainable Investment Fund	0.25	No	No
Credit 8	Sustainable Investment Policy*	0.25	No	No
Credit 9	Investment Disclosure*	0.25	No	No
<b>Public Engagement</b>				
PAE Credit	PAE Credit 19 Community Sustainability Partnerships 2	2	We currently have community sustainable partnerships. One example would be the garden that we sponsor at New Horizons Senior Center. During Earth Week 2011, we held a panel that focused on Green Jobs.	
PAE Credit	PAE Credit 20 Inter-Campus Collaboration on Sustainability 2	2	We currently have a inter-campus collaboration with Recyclemania that we do with all of the institutions in the AUC.	
PAE Credit	PAE Credit 21 Sustainability in Continuing Education* 7	7		
PAE Credit	PAE Credit 22 Community Service Participation 6	6	All first and second year students are required to complete a certain number of community service hours each semester. Certain RSOs participate in community service projects throughout the year.	
PAE Credit	PAE Credit 23 Community Service Hours 6	6	Students are committed to service throughout the campus. However, the only guaranteed hours (and the only hours captured on a regular schedule) are those hours submitted by first and second year students.	We are working on methods to capture the service done by other students.



Spelman College STARS Status Checklist



Category 3: Planning, Admin. & Engagement (PAE)			
PAE Credit	PAE Credit 24 Sustainability Policy Advocacy 4	4	Spelman will advocate state & local public policies that support campus sustainability along with other Georgia ACUPCC signators
PAE Credit	PAE Credit 25 Trademark Licensing * 4	4	Consult with Administrative Support Services to determine if Spelman meets this criteria
<b>Tier Two</b>	<b>Tier Two Public Engagement Tier Two Credits 0.75</b>		
Credit 10	Graduation Pledge	0.25	Consult Dr. Tatum to determine if the College would administer a graduation pledge through which students pledge to consider social and environmental responsibility in future job and other decisions.
Credit 11	Community Service on Transcripts	0.25	Determine if community service achievements are on student transcripts .
Credit 12	Farmers' Markets	0.25	We are working on establishing a periodic on-campus Farmers Market
<b>Total</b>		<b>100</b>	

## *Sustainable Spelman Timeline*

## SUSTAINABLE SPELMAN TIMELINE

### 2005

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A dormant recycling program was re-established through a partnership between Facilities Management and Services and the student Environmental Task Force. The initial focus was residence halls with a later expansion to academic and administrative buildings.

### 2006

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**April** - Spelman College became the first Historically Black College & University to become a member of the United States *Green Building Council*.

**August** - Spelman College President Dr. Beverly Daniel Tatum opened the school year by delivering her "Great Expectations" Opening Convocation Speech.

*"I am delighted to tell you that construction will begin on our new residence hall in October – the first new construction of the 21st Century at Spelman – and that new residence hall will be what is known as a "green" building. Designed to minimize its environmental impact in terms of energy use, water runoff, and other environmental factors. Like Ms. Packard and Ms. Giles, we are building for the next 100 years, and we have to pay attention to our environmental impact and educate our community to pay attention."*

### 2007

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**August** - Spelman College President Dr. Beverly Daniel Tatum opened the school year by delivering her "Choice to Change the World" Opening Convocation Speech.

*"A choice to change the world also means taking responsibility for the ways each of us is always changing the world - and not always for the better - through our excessive consumption of the world's resources. Understanding our own environmental impact and seeking to reduce it is a choice that all of us can make every day."*

Following this speech sustainability became a focus area of the planning process as the College developed its Strategic Plan. Spelman College formed an initial sustainability focus group which eventually became the Sustainable Spelman Committee. This group worked to elevate the importance of environmental stewardship at Spelman College and began to define the sustainability initiatives for the College. In the Strengthening the Core Plan for 2000-2015, pedestrian access and *greening* The Suites Residence Halls, which Spelman College's President had identified as a priority, were highlighted. The Plan's priorities cover everything from incorporating sustainability into the curriculum to educating the Spelman community to be global citizens.

### 2008

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**August** - The LEED Silver certified Suites Residence Hall opened as the first LEED certified Residence Hall on the campus of a Historically Black College & University. The principles of LEED-EBOM are incorporated into facilities operations practices and procedures.

**October** – Spelman College hosted a USEPA Region 4 Sustainability Conference

## 2009

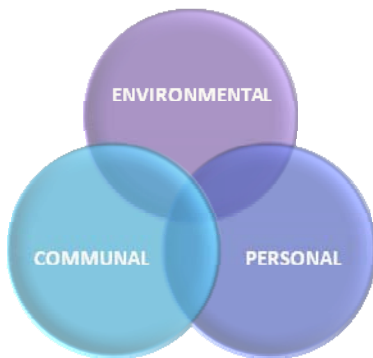
Spelman College is awarded a Grants to Green Assessment Grant for the Science Center. The assessment provided recommendations that would potentially result in annual savings of \$120,630 with a 1.3 year estimated payback. Subsequent grants from Home Depot and Grants to Green facilitated implementation of the recommendations.

## 2010

**April** – On Founders Day, Spelman College conducts a LEED Certification ceremony as a Pre-Conference Event for the initial UNCF Building *Green* Workshop

**June** – Spelman College hosts the 2nd USEPA Region 4 Sustainability Conference

**June** – Dr. Tatum provides the keynote address at the UNCF Building *Green* Workshop in San Antonio



**August** - President Beverly Daniel Tatum delivered her “Sustainable Spelman” Opening Convocation Speech. Dr. Tatum defined Sustainable Spelman as consisting of three kinds of sustainability – environmental, personal, and communal. In speaking about Environmental Sustainability she stated, “Because we can do more and must do more, I am pleased to announce that yesterday I signed the American College and University President’s Climate Commitment (ACUPCC), joining more than 670 other college and university presidents who have signed.”

Personal Sustainability calls for members of the Spelman Community to demonstrate self-care to ensure their good health, while Communal Sustainability calls for everyone to sustain the Spelman brand, our reputation for excellence.

**October** – USGBC’s Center for *Green* Schools releases its Roadmap to a *Green* Campus. A Case Study on Spelman College is included celebrating the incorporation of sustainability into its strategic plan.

**October** – The Spelman College Board of Trustees established a policy that all campus construction be completed consistent with LEED Silver Certification requirements.

**November** - The Sustainable Spelman Committee is re-established as the driving force behind Spelman’s Climate Action Plan (CAP), recycling promotion, and student involvement in sustainability. To effectively implement the mission of the Sustainability Committee, the committee includes subgroups in the following focus areas:

- Education & Research
- Operations
- Planning, Administration & Engagement

## 2011

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**February** – In collaboration with other AUC Colleges and the USEPA, Spelman College hosts the 1st Annual AUC Recyclemania Kickoff event. The 3rd Annual AUC Recyclemania Kickoff event is scheduled for February 9, 2013.

**March** – Dr. Tatum is elected a Co-Chair of the ACUPCC Steering Committee. Art Frazier is selected to serve on the ACUPCC Implementation Liaison Committee

**April** – The focus of Research Day at Spelman College is Sustainable Spelman

**December** – The Spelman Science Center is included in the Phase One of the Atlanta Better Buildings Challenge

## 2012

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**January** - Campus-wide GHG emissions inventory conducted by the College and submitted to the ACUPCC

**March** – Spelman College was named a finalist in the Second Nature 2012 Climate Leadership Awards, a national competition among colleges and universities to earn the title of “Most Innovative Climate Leader.” As a finalist, Spelman College created the following video <http://planetforward.org/idea/spelman-college-changing-the-world/>.

**August** – The renovation of Laura Spelman Hall is completed. Following the LEED design review phase, the project has 52 points and 23 points. The Construction Review phase resulted in the award of 70 points with 3 points pending. This positions us to achieve the 60 points required for LEED Gold certification.

**December** - Spelman College has developed its CAP as one means to balance the furthering its mission with the pillars of sustainability (society, economy, and environment). This CAP includes all facilities locations where the College has operational control and can enforce a change in policy. All references to ‘College buildings’ refer to those within the organizational boundary of the GHG emission inventory only (i.e., those buildings and operations which daily operations are within the direct control of Spelman College).

Spelman is acknowledged as a leader amongst HBCU’s in sustainability. In the past year we have made presentations on Sustainable Spelman at the following events:

- April** Southern Association of College and University Business Officers, Louisville, KY
- August** Southeast Regional Environmental Justice Conference, Atlanta, GA
- September** Collegiate Sustainability Conference in Greensboro, NC, NC A&T
- September** UNCF Building Green Initiative - MSI Energy Collaborative Meeting, Washington, DC
- October** TUFF Educational Facilities Best Practices Summit, GA Tech
- October** Association for the Advancement of Sustainability in Higher Education, Los Angeles, CA
- November** ACUPCC Regional Symposium, Decatur, GA