Stetson University

Environmental Stewardship Plan

Developed: Fall 2011

Reviewed & Revised September 2013

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Table of Contents:

I: Executive Summary

Stetson University became a signatory and Charter Member of the American College and University Presidents Climate Commitment on June 15, 2007.As a result Stetson University made a highly visible statement and commitment to operate in a sustainable manner and address climate change by reducing campus greenhouse gas emissions. Environmental responsibility is a core value of the Stetson University Campus Community. The Campus Community has demonstrated its commitment to operating in an environmentally responsible fashion through;

- Becoming a charter member of the American College and University Presidents Climate Commitment
- Being leaders in design of our built environment with having the first LEED Certified building in the State of Florida, The Lynn Business Center
- The adoption of a Native Tree and Plant Policy by our Board of Trustees
- Earning the recognition as a "Tree Campus USA" in 2013
- Reducing our consumption of water from the Florida Aquifer by 1,704,000 gallons from fiscal year 2010/2011 through 2014/2015
- Using reclaimed water to irrigate 90% of the campus landscape
- Earning national recognition of the University's Recycling Program
- Imbedding environmental learning in our curriculum

At Stetson University our long standing commitment to values based on ethics compels us to act responsibly in all aspects of our institutions operations. Our growing concern for the environment is reflected in the scientific consensus on global warming. We are convinced that global warming is happening and there is a significant human element driving global warming. Stetson University is committed to reducing the greenhouse gas emissions resulting from our ongoing operations.

Through awareness, changes in our personal expectations and behaviors, imbedding teaching about global warming in our academic core requirements, conservation efforts, investment in "green technologies", development of efficient and environmentally responsible facilities, understanding of public policy that will lead to "carbon neutrality "and our active support of these policies, Stetson University can achieve the goal of being carbon neutral by 2050.

Our commitments to achieving this goal are as follows;

Audit Years	Metric Tons of CO2 Emissions per FTE/Student	%
2007	7.25	N/A
2009	6.82	6%
2011	6.10	16%
2013	5.79	20%
2017	5.50	24%
2021	5.23	28%

The measurement tool will continue to be the Carbon Audit conducted by our students using the Clean Air Cool Planet Carbon Calculator.

II: Introduction

Greenhouse Gas Audits have been conducted in 2007, 2009, 2011 and 2013 by students enrolled in classes instructed by faculty member Dr. Tony Abbott. The students utilized the Campus Carbon Calculator developed by Clean Air – Cool Planet. This Campus Carbon Calculator was specifically developed for university settings and is the most widely used and accepted tool for the measurement of annual campus carbon emissions. Campus carbon emissions are categorized into one of three scopes are defined below.

A. Definition of Scopes:

Scope One: Are the emissions direct from sources owned or controlled by our campus. These include the combustion of fossil fuels used in our boilers for building heat and heating domestic hot water, our vehicles, refrigerants used in our cooling systems, etc. The campus has control over the volume of emissions and there are no other entities responsible for these emissions.

Scope Two: Are the emissions from sources that the campus does not own or operate but are directly linked to our energy consumption. These include electricity used to light, cool and heat our facilities and the business machines we use in our daily operations of the campus. While Stetson University did not directly burn the fossil fuels that produced the electric power our campus community did consume the power provided to conduct our daily operations.

Scope Three: Include emissions from sources that Stetson University does not own or operate such as commercial air travel, vehicles used faculty, staff and students to commute to campus.

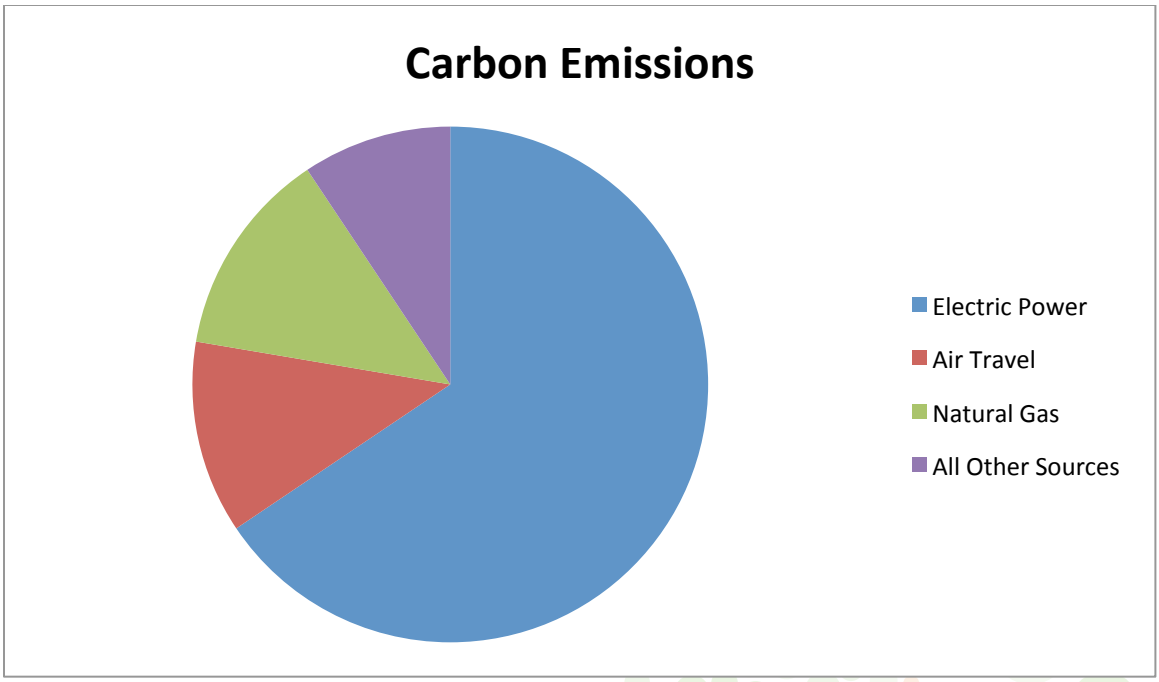
B. Results From the Carbon Audit for 2013

Scope One:	Metric Tons of CO2	% of Total
Stationary Combustion	1,758.6	13%
Mobile Combustion	73.7	.5%
Fugitive Emissions	322.3	2.4%
Subtotal	2154.6	15.98%
Scope Two:		
Purchased Electricity	8849.0	65.64%
Scope Three:		
Commuting	3.8	.03%
Other Directly Financed Travel	499.9	3.7%
Air Travel	1,638.4	12.1%
Solid Waste	206.3	1.5%
Waste Water	18.1	.013%
Office Paper	110.2	.08%
Subtotal	2,476.7	
Total	13,480.3	

C. Ranked Order of Emissions

Electric Power	65.64%
Natural Gas for Heating	13.0%
Air Travel	12.1%
	90.74%

Note: Our efforts in reducing the use of electric power and natural gas will have the greatest return in reducing the campus communities' carbon footprint.



D. Base Line Year 2007

Metric Tons of CO2 Emitted	16,995.60
Undergraduate Enrollment	2,345.00
Mt eCO2/FTE	7.25

E.

Results of Carbon Audits	2007	2009	2011	2013
Metric Tons Emitted	16,995.6	15,961.4	13,192	13,480
Undergraduate Enrollment	2,345	2340	2,163	2,706
Mt eCO2/FTE	7.25	6.82	6.10	4.98

III. Comprehensive Plan for Achieving Carbon Neutrality in 2050

Our Goals:

A. Interim Goals: Reduction From Base Line Year 2007

2009	6%
2011	16%
2013	20% Actual 31.3%
2017	24%
2021	28%

B. Ultimate Goal: Carbon Neutrality 2050

The technologies currently available for heating, cooling, and lighting our campus facilities and the internal combustion engines that propel the automobiles and equipment used for transportation and maintenance of the campus are not capable of achieving our ultimate goal of carbon neutrality. As the year 2050 arrives we are confident that the technology will have advanced to the point where the emissions from our operations are carbon neutral, provided the policy decisions made by our elected representatives support carbon neutral technologies used in operating our facilities and in the vehicles we drive.

In the meantime our campus community will not be passive. We will take actions intended to reduce our carbon footprint by the amounts outlined above. We will evaluate actions available to us today and we will continue to search for new technologies and solutions.

C. Action Steps

1. Further develop awareness on part of the campus community

In January 2015 the University enlisted the Support of Genergistics to reduce or consumption of electricity, natural gas and water from the Florida Aquifer through developing awareness on the part of the campus community why we need to reduce consumption and how we can reduce consumption of electricity, natural gas and water from the Florida aquifer.

2. Change our expectations and behaviors

With the support of Cenergistics we are confident that increased awareness on the part of the campus community will result in changed behaviors and expectations. We will build the case why we should change our behaviors and how we can all be involved in conservation.

This conservation initiative includes the development of University wide Energy Consumption and Conservation Policy that was distributed to all members of the campus community. This unitive includes all four University locations; DeLand, Celebration, the Tampa Law Center and the College of Law in Gulfport

3. Integrate courses regarding the environmental challenges in our core curriculum

4. Measure our carbon footprint and communicate results

This is the fourth carbon audit complete by our under graduate students using the Clean Air Cool Planet Calculator.

5. Continue conservation initiatives

We continue to invest in efficient air conditioning systems, lighting technology, kitchen equipment, efficient hot water heating technology, controls and water efficient plumbing fixtures as we renovate residence hall and replace inefficient plumbing fixtures in academic building. Our Carlton Union Building will be completely renovated and will have efficient cooling, heating, LED lighting and kitchen equipment.

6. Invest in clean technologies that will reduce consumption and greenhouse gas emissions

Exterior solar lighting has been installed at the new south parking area at the College of Law and at the new visitor parking area constructed for the Welcome Center in 2015.

LED lighting was installed at The Student Success Center, Gordis Hall and the Administrative Services Building in 2015. LED lighting will be used in all new construction and renovations.

7. Develop Facilities to Leadership in Energy and Environmental Design (LEED) standards

8. Develop knowledge regarding public policy that affects power supply and efficiency of automobiles and other vehicles

9. Apply leverage available to support the enactment of public policy that supports the development and widespread use of technologies that will result in carbon neutrality

D. Implementation: Roles and Responsibilities

1. Develop Organizational Structure: Establish a committee to focus on Steps 1 through 4 above. This committee is to be chaired by a Cabinet Level Position. The members would include representatives from: University Marketing and Communications, Finance, Facilities Management, Faculty, Student Affairs, the Student Government Association and the Chair of the Facilities Committee of the Board of Trustees

Step 1. Develop Awareness of the challenge presented by global warming, the commitment made by Stetson University to address the challenge, the University's plans to address the challenge, the status of interim goal achievement, and ultimate goal of carbon neutrality.

Step. 2. Change expectations and behaviors on the part of the campus community as they relate to temperature settings, parking spaces, lighting, etc. This will involve managing plug loads, turning off lights, reducing thermostats at the end of the day, walking more, driving less, riding bicycles more and, purchasing efficient automobiles. Many in our campus community heat their homes to a lower temperature and cool them to a higher temperature than they expect to experience while on campus. A primary factor causing this is their awareness of the cost of the different settings when they pay their own utility bills. Awareness is the key to changing expectations and behaviors.

Step 3. Imbed the learning about climate change, environmental challenges and actions to avoid climate change in the curriculum and provide a core requirement for graduation in each of the University's three undergraduate schools.

Step 4. Measure and communicate the extent of our carbon footprint as well as the progress we are making toward our interim goals. In addition communicate initiatives in process and under consideration to develop awareness, maintain interest and serve as learning tools that others can emulate at home and employ when they leave campus upon graduation.

2. Provide Senior Level Support: The Vice President of Business and Chief Financial Officer with the support of the President, Facilities and Finance Committees of the Board of Trustees and the balance of the Cabinet should guide and support Steps 5, 6 and 7.

The initiative with Cenergistics is fully supported by the President and Cabinet

Step 5: Continue to fund initiatives that have an attractive return on investment, reduce our annual operating budget, reduce our consumption of fossil fuels and reduce our carbon footprint.

Step 6: Invest in Green Technologies that will reduce our consumption of fossil fuels, reduce our emissions and support the businesses and entrepreneurs who have invested their time, talent and treasure in developing product and technologies that will lead to a carbon neutral world. These investments may have a long financial payback. The social return on investment should be considered along with the investment's economic return to appreciate its absolute return.

Step 7: Commit to developing the built environment to LEED Standards.

3. Public Policy Awareness and Advocacy: The President, Cabinet and Board of Trustees will remain aware of pending policy decisions and support pending policy decisions that lead to carbon neutrality through supporting Step 8.

Step 8. To understand and influence policy debates Stetson University will work with the private institutions in Florida through ICUF, with all higher education institutions in Florida and higher education institutions through NACUBO and other national organizations to shape the debate and public policy. We are confident that a carbon neutral future can be a reality provided the public policy supports the technological capabilities. Policy can lead technology to a sustainable future.

V: Water Conservation:

The ability to meet demands for clean water from the Florida Aquifer and the health of our lakes, river and springs are concerns shared by Stetson University. As a result of conservation efforts the campus community has reduced our consumption of clean water from the Florida Aquifer by 1,707,000 gallons annually when the consumption from the 2010/ 2011 academic year is compared to the 2014/2015 academic year. This is particularly significant as the student enrollment has increased 32% during that period. During this period our consumption per full time equivalent student has decreased from 17,145 gallons per student FTE to 12,396 per student FTE.

Process Used to Reduce Consumption of Clean Water from the Florida Aquifer:

1. Measure consumption by building
2. Determine which building and facility consume the greatest volume of clean water
3. Develop plans and cost to retro fit existing plumbing fixtures and technology that will have the greatest impact and social return on investment.

4. Schedule the project and required investment in the capital funding plans.
5. Complete the project.
6. Communicate with the campus community steps they can take to reduce consumption.
7. The projects that have been completed and are scheduled that have and will have the greatest effect include; renovating the plumbing fixtures in our residence hall and academic buildings constructed before 1970, the renovation of the Carlton Union Building where dining services is located and the conversion of the central cooling towers from using clean water to reclaimed water.
8. We expect to reduce our clean water consumption from the Florida Aquifer by another 5,000,000 gallons annual by the academic year 2016/2017.

The University has also taken initiatives to reduce the volume of storm water that flows into the storm water drains and eventually into the local lakes and St. Johns River by constructing retention ponds and storm water chambers that allow time for the storm water to remain on campus until it has time to percolate into the Florida Aquifer.

V: Initiatives under Consideration:

Scope One Emissions: Emissions Primarily From Natural Gas

Project	CO2 Emissions Reduced	Percent of 2007 Emissions	Status
1. Heat Domestic Hot Water with Solar Thermal Panels Installed on Roofs of Eight Residence Halls and the CUB	99 tons Annually	.5%	Solar Panels were Installed on Smith Hall 2012. The central domestic hot water system that serves Gordis, Smith and Nemec Resident Halls will have solar panels installed in 2016.
2. Increase Awareness of Students and Campus Community			Contract will Cenergistic included the placement of door hangers on every residence hall bedroom at opening of school August 2015. In excess

			of 1,000 members signed a commitment to reduce consumption of energy and water in October 2015. Presentations were made to all student leadership at the opening of school in 2015 asking for their support.
3. Seal Buildings to reduce heat and cooling loss	339.9	2%	Facilities Management Will Replace Windows as Funding Permits
4. Reduce Average Time Resident Students Take in Showers to 10 Minutes from National Average of 20 Minutes			Included in Awareness Campaign
5. Increase Awareness by Issuing Tips for Students How They Can Reduce Our Carbon Footprint By Changing Behaviors			Included in Awareness Campaign. Included in Green web site.
6. Reduce Building Heat During Breaks	169.95	1%	Initiated 2010/2011, Ongoing
7. Reduce Building Heating Temperature Set Points From 72 Degrees to 70 Degrees	28.3 Tons	.1%	Initiated 2012 Ongoing
8. Utilize Organic Fertilizers	17 Tons	.1%	Ongoing

Scope Two Emissions: Emissions from Electricity

Project	Tons of CO2 Emissions Reduced	Percent	Status
1. Install Efficient Lighting, and Ballast	1,100	6.5%	Complete 2010
2. Install Film on Windows to Reduce Heat Load	540	3.18%	Complete 2010
3. Develop Awareness	1,000	5.89%	Fall 2015
4. Install Occupancy sensors	1,000	5.89%	Started Spring 2012, ongoing
5. Install Vending Misers	98	.5%	Started Spring 2012, on going
6. Replace central and north air handling units in Sage Hall	131	.7%	Complete
7. Replace HVAC System in Sororities	105	.6%	Complete 2013
8. Replace HVAC System in Flagler Hall	56	.3%	Complete 2012
9. Change Cooling Levels during Academic Year and During Summer Break Periods	313	1.8%	Commenced Spring 2011 Ongoing
10. Improve Building Insulation and Prevent Loss of Cooled or Heated Air	170	1%	Will Investigate
11. Use of Metal Roofs	170	1%	Metal roofs are campus standard. The following buildings have metal roofs, Lynn Business Center, Rinker Environmental Learning Center, Russian Studies, Elizabeth Hall, Allen Hall, Human Resources, Carlton Union Building, Griffith Hall, Hollis Center,

			Athletic training Center, Nemec Hall, Facilities Management, Gillespie Annex, Administrative Services, 208 Pennsylvania Ave. Conrad, Sampson and Flagler Halls and scheduled for 2016.
12. Use LED Lighting	170	1%	On going
13. Use Solar Powered Lighting for Exterior Campus Lighting and Blue Phones	100	.6%	The west Side Parking Welcome Center parking areas will be lighted with solar lights, scheduled for completion summer 2016
14. Use of Geo Thermal Technology for Building Heating and Cooling			Will Investigate
15. Reduce Energy Consumption by Changing Operating Systems in Dining Services	170	1%	2015 through 2017
16.Install solar systems on flats roofs	2550	15%	2018 s et trial
16. Replace HVAC system that serves Elizabeth Hall & the Lee Chapel			Complete 2015

Scope Three: Emissions Attributed to Business Travel, and Commuting by Faculty/Staff and Students:

Initiatives	Tons of CO2	Percent	Status
1. The Campus Community Replaces Current Personal Vehicles with Electric or Hybrid Vehicles That Average 50 MPG	1561	9%	Charging Stations Have Been Installed. First Electric Car Placed in Use in Public Safety in 2011
2. Reduce Driving on Campus			Complete 2011 With Changes to Resident Student Parking Policies
3. Increase Usage of Bicycles on Campus and For Commuting			Removal of Parking Lots. Installation of Wide Paths on Campus and Installation of 40% Additional Bike Racks Complete
4. Implement a Robust Car Pooling System			ZIP Cars introduced 2013
5. Reduce Business Travel Through Increased Use of Technology			Increased use of Skype has decrease between campus travel
6. Built Bio Fuel Plant			Will Investigate
7. Increase Purchasing of Recycled Paper			In process
8. Increase Use of On Line Text Books			On Going
9. Increase Percent of Solid Waste Recycled			On going
10. Purchase More Green Products			On going
11. Reduce amount of paper printed			On Going

Section VI: Appendix on web site

A. **“Our Approach to Sustainability” Consider the Whole Picture**
B. **Energy Conservation Policy**
C. **Water Conservation Policy**
D. **Tips How to Reduce Consumption of Energy and Water**