

**National Wildlife Federation's
Campus Ecology Program
Fall 2007-Spring 2008
Greener Campus Series**

**OCTOBER 11 CONFERENCE:
CAMPUS CLIMATE ACTION PLANS –
STEPS TOWARD A
CLIMATE FRIENDLY CAMPUS**



Speakers

- **Praween Dayananda** – Campus Field Coordinator, National Wildlife Federation, Austin, Texas Office
- **Jenn Andrews** – Campus Program Manager, Clean Air, Cool Planet
- **Jillian Buckholz** – Sustainability Coordinator, California State University, Chico
- **Billie Borden** - Student Intern at the Office of Sustainability Integration, Middlebury College



National Wildlife Federation Campus Ecology Program

Praween Dayananda
Campus Field Coordinator
Austin, Texas – Field office

Climate Action on Campus



NWF Campus Ecology Program

**Science of Climate
Change:**

**Need to Act Now to
Stabilize the Planet**



NWF Campus Ecology Program

Random Project Portfolios: The danger of being CAPless (CAP = Climate Action Plan)



- LEED silver student life center
- Planted 12 acres of trees
- High-efficiency boilers
- Buses run on biodiesel



NWF Campus Ecology Program

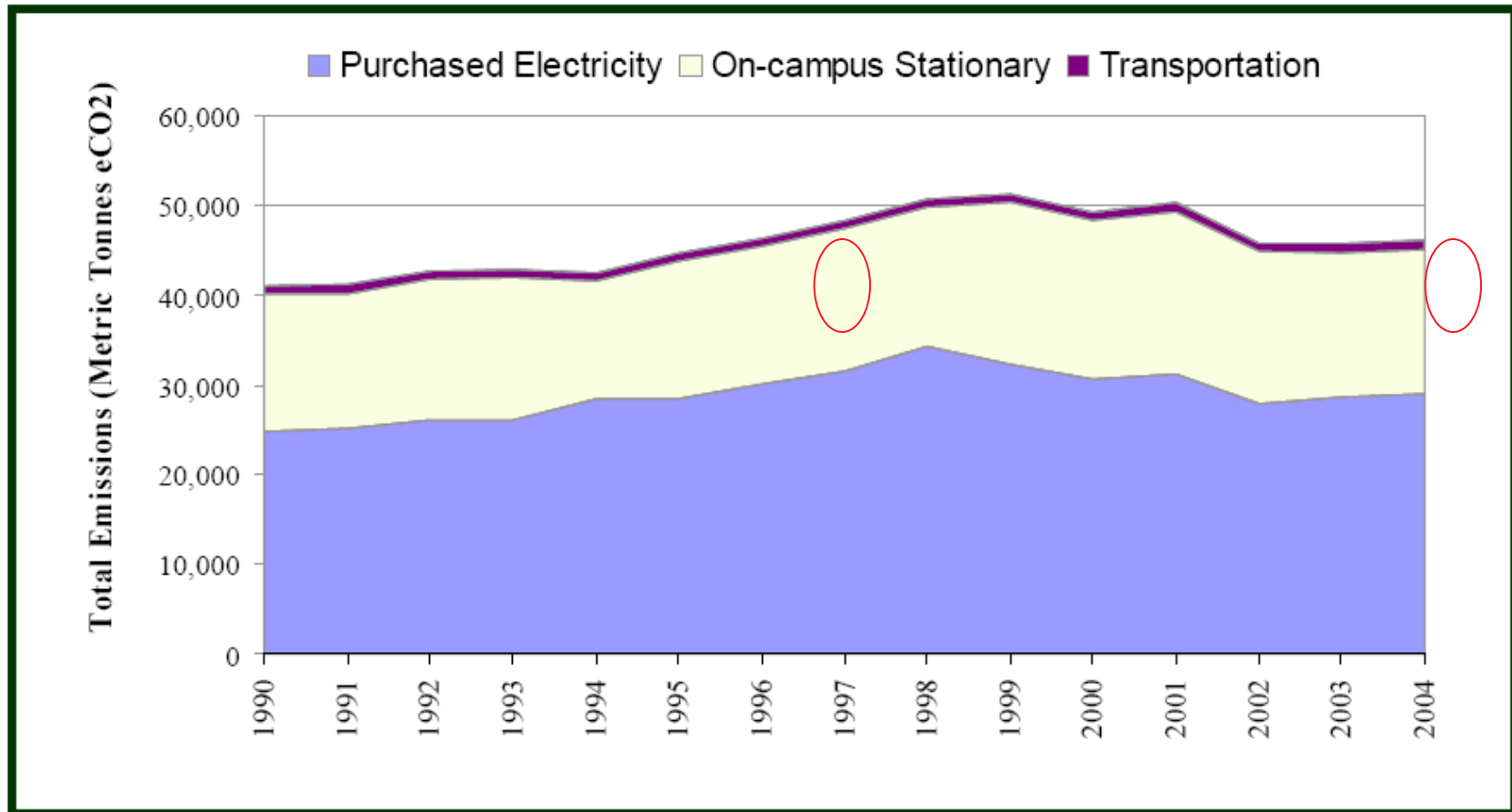
The UCSB Success?

- **Saved \$36.6 million in electrical costs since 1997**
- **A 35% return on investment**



NWF Campus Ecology Program

Figure 1: UCSB GHG Emissions by Source



The Real Emissions Story



NWF Campus Ecology Program

What is a Climate Action Plan?

A tool that allows you to:

1. Set a timeline for achieving goals
2. Identify projects
3. Analyze costs and benefits
4. Prioritize



NWF Campus Ecology Program

How would you develop a CAP?

- **Establish strategies with key stakeholders**
- **Identifying projects (as a working group)**
- **Set performance metrics for measuring progress**
- **Analyze data**
- **Implement projects**
- **Evaluate success**



NWF Campus Ecology Program

Sample CAP Timetable

Year 1	Year 2	Year 3	Year 4	Year 5
Therm - 1.4%	Misers - .04%	BioD = 1.0%	Low-flow = .8%	Local fd = 1.3%
Reforest - .7%	Solar = 3.26%		Roof ins. = 2.1%	Windows = .9%
Yr Total = 2.1%	Yr Total = 3.3%	Yr Total = 1.0%	Yr Total = 2.9%	Yr Total = 2.2%
Compnd = 2.1	Compnd = 5.6	Compnd = 6.6	Compnd = 9.5	Compnd = 11.7



Jenn Andrews
Campus Program Manager

CLEAN
AIR



COOL
PLANET

Finding and Promoting Solutions to Global Warming...



For Corporations



For Campuses



For communities

www.cleanair-coolplanet.org



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Campuses for Climate Action

- 1. Create a Team**
- 2. Develop GHG emissions inventory**
- 3. Use inventory to create plan**
- 4. Implement the plan**
- 5. Monitor, refine – and share the wealth**



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Campus Carbon Calculator: v5

Spreadsheet Map

CLEAN AIR COOL PLANET

Campus Carbon Calculator v5.0
BETA VERSION
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Greenhouse Gas Inventory Calculation, Summary, and Analysis Workbook
www.cleanair-coolplanet.org

University	
Contact Name	
Title	
Organization	
State	New Hampshire
Phone	
Fax	
E-Mail	

Update
Move data from
CACP Calculator
v3.0

Instructions

Welcome to Clean Air-Cool Planet's Campus Carbon Calculator. These spreadsheets will assist you in calculating the greenhouse gas emissions (CO₂, CH₄, N₂O, HFC and PFC, SF₆, and others) for your campus. The directions below are designed to supplement the User's Guide for the Campus Carbon Calculator, and while adequate to use the spreadsheets, it is important that you read the User's Guide to build an understanding of how they work.

Navigation

The spreadsheet was designed for ease of use and transparency of calculation. The worksheet titled **Spreadsheet Map** (linked to at the top of this page and in the tabs below) contains a diagram of all the sheets in the calculator. Clicking on a sheet there will link you directly to the worksheet. Likewise, each worksheet has a link to the **Spreadsheet Map** located in the upper left corner. Thus although there are many sheets in this toolkit, each can be reached with only two clicks (the first to the spreadsheet map and the second to the sheet of choice). You can also enable the "Web" toolbar in Excel (View -> Toolbars -> Web) and use the forward and back arrows. Alternately, you can use the worksheet tabs at the bottom of this page, which are color-coded in correspondence to the Spreadsheet Map.

Throughout the Calculator, there are small red triangles in certain cells containing notes that assist you in understanding the function of that particular cell or worksheet.

User's Agreement / Introduction / Spreadsheet Map / **Input** / Input_InfAdj / Custom Fuel Mix / Input_Commuter / S_eCO2_Sum / GraphControl / S_Annual / S



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Additional Resources

- **New planning tool in the works**
- **Online Campus Climate Action Toolkit**
- **“Consumers’ Guide to Retail Carbon Offset Providers”**
- **www.cleanair-coolplanet.org**
www.carboncoalition.org



California State University, Chico

Jillian Buckholz

Sustainability Coordinator

www.csuchico.edu/sustainablefuture/



At Chico State, we are dedicated to sustainable development as a means of balancing human social, cultural, and economic needs with the natural environment by respecting the finite natural resources of this planet and living in harmony with other humans and species now and into the future.



California State University, Chico

- **Green Grounds & Maintenance**
- **LEED Commitment**
- **Curriculum**
- **ACUPCC**
- **Chico State Greenhouse Gas Inventory**
- **Institute for Sustainable Development**
- **Student Action!**



California State University, Chico

What Can You Do?

- **Educate Yourself!**
- **Realize You Are the Campus Voice!**
- **Become Involved in Your Community!**
- **Take Public Transit or Bike!**
- **Be a Conservationist!**



CSU Chico

This Way To 
Sustainability III

Connecting to the North State

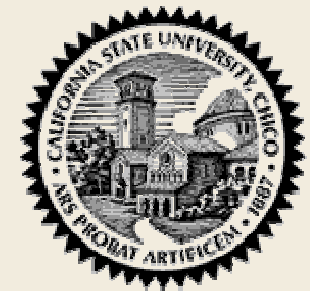
California State University, Chico
November 1-4, 2007

www.csuchico.edu/sustainablefuture/



February 29 – March 2, 2007

Film Showcase
Juried Films
Youth Program
Art



Middlebury College; Middlebury, Vermont

Billie Borden '09

**Student Intern at the
Office of Sustainability Integration**

Student Involvement in Campus Sustainability



Middlebury College



At Middlebury, we are building an academic plan that emphasizes excellence across the curriculum with special attention to the academic “peaks” that are the hallmarks of our identity. Environmental Studies and Awareness is one of these six peaks because of the College’s long tradition of being on the forefront of environmental education in both the classroom and on campus.

President John McCardell, Jr. ~ 1994

Campus Culture of Environmentalism

“...The College’s Vermont location offers an inspirational setting for learning and reflection, reinforcing our commitment to integrating environmental stewardship into both our curriculum and our practices on campus.”

- From Middlebury College Mission Statement, May, 2006

“...All individuals in this academic community have personal responsibility for the way their actions affect the local and global environment.”

- Adopted by Middlebury College Trustees, June 1995



Middlebury College

Student Activism

Engagement on local to national scales



Climate Summer 2007



Middlebury College
Sunday Night Group



Carbon Neutrality at Middlebury

A case study of student
involvement in campus
sustainability

Middlebury College

MIDD SHIFT

Shift gears. Cut carbon.

Middlebury College Carbon Neutrality by 2016

Summary and Recommendations to the Board of Trustees April, 2007

At the February, 2007 Board meeting, MIDDShift presented "A Proposal for Carbon Neutrality at Middlebury College" which outlined a plan to eliminate the College's net carbon emissions by 2016. MIDDShift noted that, "This goal fulfills the College's mission, secures its reputation and leadership among peer institutions, rises to the challenge of global climate change, and is financially feasible."

Since that meeting the administration has reviewed the proposal and has prepared this report. A Carbon Neutrality Initiative Task Force chaired by Bob Huth and comprised of seven students and eight administrative staff (see appendix A), analyzed the risks associated with undertaking a goal of carbon neutrality by 2016 and identified mitigants (Appendix B). Significant effort was devoted to reviewing measurement data for accuracy and verifying economic and accuracy of the various projects included in the original proposal. As a result, a quantifiable list of probable projects and a list of possible projects were analyzed (Appendix C). Several projects listed in the original proposal were not included due to the inability to quantify costs and results at this time.

As the result of the above review, the following became clear:

- The College's emissions of 30,000 MTCDE (metric tons of carbon dioxide equivalents) are reasonably stated. They can be defined and measured. The largest emission components are #6 fuel oil (28%), College travel (9%), #2 fuel oil (5%), and electricity (3%). These four components aggregate over or 95% of the College's carbon emissions.
- The Biomass Boiler should reduce those emissions by more than 40% (12,280 MTCDE) when it is on-line in late fall of 2008.
- If nothing other than Biomass were done, the remaining emissions could be resolved by high quality, verifiable offsets that currently would cost less than \$150,000 per year.
 - As identified in the CNP proposal, offsets should only be used after all economically feasible efforts have been exhausted.
 - Offset prices will most likely increase over time as the low-cost, high impact solutions will be undertaken first. Naivo Energy, one of three U.S. retail offset providers included in the world's top eight such providers by Climate Air - Cool Planet, estimates that offset prices could increase in cost five-fold within ten years.

September 2006 - the Sunday Night Group proposes to Trustees a goal of carbon neutrality by 2016. Trustees ask if and how such a goal could be met.

December 2006 - January 2007 - task group of students, faculty and staff writes a strategic proposal. J-Term internship prepares an initial draft and hold a regional conference for students on climate change and carbon neutrality strategies.

February 2007 - strategic proposal is presented to Trustees asking for carbon neutrality by 2016. Trustees ask VP/Treasurer to assemble a task group of students and staff to identify the risks and mitigants of this goal.

May 2007 - report back to Trustees and adoption of resolution.

October 2007 - Implementation Working Team including students appointed to carry out strategies for CN.

Middlebury College



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solve the global warming crisis?
From clean energy to habitat
restoration, describe your solutions
by submitting an essay or video by
November 30.**



Enter at www.campuschillout.org



Campus Ecology Program

Helping colleges and universities confront global warming through climate and wildlife-friendly practices that reduce their global footprint.



National Wildlife Federation

**Inspiring Americans to protect wildlife
for our children's future.**



Contact Us

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