

# Dakota County Technical College Green Campus – Sustainability Initiative



Report on Progress  
June 4, 2008

## **BACKGROUND**

Dakota County Technical College (DCTC) President Ron Thomas signed the American College & University Presidents Climate Commitment in June 2007. Dr. Thomas joined together with more than 295 other college/university presidents throughout the United States to commit to sharply reducing and eventually eliminating college global warming emissions and to also accelerating research and educational efforts to equip society to restabilize the earth's climate.

President Thomas stated, "It is imperative that we address the issue of global warming and take action now. As a human race, we have been responsible for creating the problem, and now we need to work together to find a solution. DCTC is committed to taking action through this initiative."

The Presidents Climate Commitment is the first such effort by any major sector of society to set climate neutrality - not just a reduction - as its target. This undertaking by America's colleges and universities is inspired by efforts like the U.S. Mayors Climate Protection Agreement, the U.S. Climate Action Partnership, and other collective efforts by states and businesses.

"Colleges and universities must lead the effort to reverse global warming for the health and well-being of current and future generations," said Michael Crow, President of Arizona State University and a founding member of the ACUPCC Leadership Circle. "On behalf of all the signatories, I welcome Dr. Thomas to the commitment. We are honored and pleased to have him join us."

The American College & University Presidents Climate Commitment is a high-visibility effort to address global warming by garnering institutional commitments to neutralize greenhouse gas emissions, and to accelerate the research and educational efforts of higher education to equip society to re-stabilize the earth's climate.

Under the guidance and direction of the Leadership Circle of presidents, the American College & University Presidents Climate Commitment is being supported and implemented by the Association for the Advancement of Sustainability in Higher Education (AASHE), Second Nature, and ecoAmerica.

## **INTRODUCTION**

According to a report produced at Rutgers University (2007), sustainable development is generally defined as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs, “ (Brundtland Commission, United Nations General Assembly, December, 1987). This definition serves as a general guide for the beginning efforts at Dakota County Technical College to address sustainability through the design and implementation of a green campus action plan. This green campus action plan will be integrated into the overall institutional strategic plan and vision for the college in the future.

Dakota County Technical College has put in place an inclusive institutional structure to actively address sustainability issues. Several key questions will be answered through the activities, strategies and planning generated by this significant initiative. These questions include:

- What does sustainability mean for Dakota County Technical College?
- What is the long-range vision for sustainability, green campus actions at Dakota County Technical College?
- What are the indicators of success for this initiative?

This initial report sets the stage for the initiative. Some of the steps taken over the past year are highlighted. These includes short-term actions as well as long-range actions focused on the future of Dakota County Technical College and its surrounding communities.

Definitions for a set of commonly used terms are provided below. These terms are essential to understand as part of this green campus – sustainability initiative.

### **Climate Neutrality**

The ACUPCC defines climate neutrality as having no net GHG emissions. This is to be achieved by minimizing GHG emissions as much as possible and using carbon offsets or other measures to mitigate the remaining emissions. To achieve climate neutrality under the terms of the Commitment, all Scope 1 and Scope 2 emissions, as well as those Scope 3 emissions from commuting and from air travel paid by the college, must be neutralized.

### **Commuting**

For the purpose of this commitment, commuting is defined as travel to and from campus on a day-to-day basis by students, faculty, and staff. It does not include

student travel to and from campus at the beginning and end of term or during break periods.

**De Minimis Emissions**

GHG emissions from one or more sources, for one or more gases which, when summed, are materially insignificant. For the ACUPCC, the level is less than 5% of the institution's total emissions, as is the standard.

**Fugitive Emissions**

Emissions that are not physically controlled but result from the intentional or unintentional releases of GHGs. They commonly arise from the production, processing transmission, storage, and use of fuels and other chemicals, often through joints, seals, packing, gaskets, etc.

**GHG Emissions Inventory**

Baseline quantification of GHG emissions, from which emissions reductions can be measured and progress towards climate neutrality can be tracked.

**Greenhouse Gas (GHG)**

For the purposes of the ACUPCC, GHGs are the six gases covered under the Kyoto Protocol: Carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF<sub>6</sub>)

**LEED** - an acronym for Leadership in Energy and Environmental Design. This is voluntary, consensus-based national standard for developing high-performance, sustainable ("green") buildings. (Green Building Solutions.org)

## **TABLE OF CONTENTS**

<b>BACKGROUND.....</b>	<b>2</b>
<b>INTRODUCTION .....</b>	<b>3</b>
<b>INSTITUTIONAL STRUCTURE .....</b>	<b>6</b>
<b>FEATURED ACTIONS TO DATE.....</b>	<b>8</b>
<b>GOALS &amp; ACCOMPLISHMENTS</b> <b>.....</b>	<b>9</b>
<b>TIME LINE .....</b>	<b>13</b>
<b>NEXT STEPS.....</b>	<b>14</b>
<b>APPENDICES.....</b>	<b>15</b>

## **INSTITUTIONAL STRUCTURE**

For the purpose of the American College and University Presidents (ACUP) commitment (i.e., ACUPCC) the institutional structure for this green campus initiative is defined as the following:

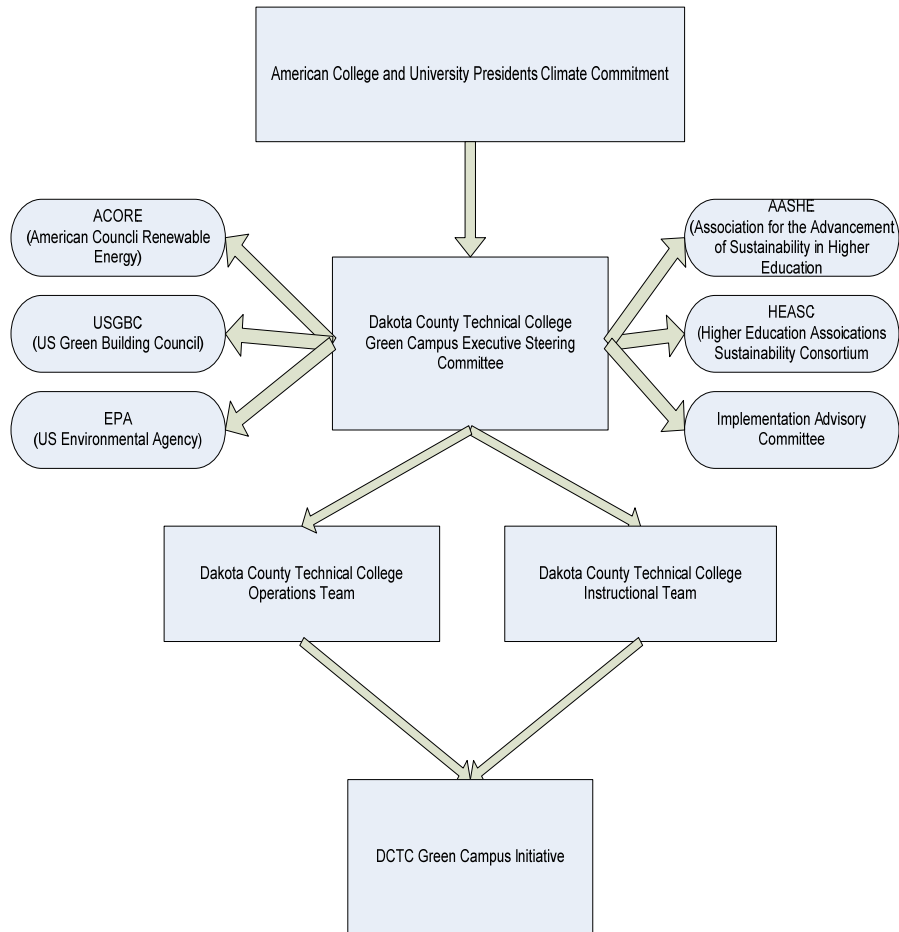
*“The party or parties responsible for carrying out the obligations of the ACUPCC on campus. This could be new or existing group (s) on campus and could be represented in the form of a committee (s), task force (s), working group (s), etc. The institutional structure will have a chairperson who is the liaison with supporting organizations and/or groups.*

Dakota County Technical College created a multidimensional institutional structure to ensure inclusivity of thought, planning and action. This includes a broad-range of campus community as well as representation from the broader communities served by the college.

Dr. Ron Thomas, President of DCTC, serves as the overall “chairperson” for oversight of the green plan development. Student involvement and input is an essential part of this structure.

Attached is a schematic outlining the institutional structure for this initiative.

Dakota County Technical College  
Green Campus – Sustainability Initiative



The specific “charge” for the Executive Team, Instructional Action Team and the Operations Action Team is included in the appendix of this report.

## **Featured Activities to Date**

The first year of the Green Initiative at Dakota County Technical College has been rewarding and exciting. Key themes from the year include:

- Campus process requires a cross-section of stakeholders representatives involved: business, community, legislative, faculty, staff, students, administrators
- This effort requires a cross-section of stakeholders all united around a common vision and focus. No one person, area can do this alone.
- Sustainability at DCTC should focus on economic, social, human & educational capital.
- Base-line information is necessary at several levels to address the issue. This includes:
  - Emissions (study completed)
  - Instruction—faculty survey: current level of focus, gaps, where we need to go in the future
  - Operations
- Awareness, changing mind-sets is important to address.
- Sustainability is about connectedness. It is about interrelationship of people to one another and the environment.
- Civic and social engagement is an important component of this initiative.

**The Executive Team**, comprised of campus, community, business leaders, held its “kick-off” meeting on November 14, 2007. Key activities during this meeting included:

- Team review of its purpose, discussion of existing initiatives both on campus as well as community and business initiatives
- Opening of the new campus Green House
- Featured remarks by Paul Douglas, Chief Meteorologist, WCCO-TV and Robert Eide, Ph.D, Dean of the College of Biological Sciences, University of Minnesota.

The **Operations Team**, comprised of facility representatives, faculty, business, students and staff, met during the academic year to put in place the necessary processes and procedures to ensure a future facility grounded in sustainability principles. This team has taken significant steps over the past few months. This includes establishing new campus policies focused on water and energy conservation, clean air emissions, recycling and waste management and clean campus practices. Team actions during the year are listed in the next section.

The **Instructional Team**, comprised of administrators, faculty, community and business representatives, met throughout the academic year. Actions to date are listed in the next section.

## **YEAR ONE GOALS AND ACCOMPLISHMENTS**

1. Establish a committee/task force to guide the process

- ***Result:***
  - ***Executive Team activated***
  - ***Instructional Team activated***
  - ***Operational Team activated***

2. Greenhouse gas emissions inventory completed within one year

- ***Result:*** ***Emissions Study Completed (TKDA Engineers): Executive Summary posted on web at [www.dctc.edu](http://www.dctc.edu)***

### **Study Highlights:**

- Emissions study completed by TKDA (Engineers, Architects & Planners) in November 2007
- 3 steps followed to complete this study:
  1. Historical review of existing available Energy Audit performed by TKDA in 1996 and in 2005 by Johnson Controls. Review of improvement-related projects undertaken within last five years
  2. Site review to confirm consistency with reports, visually observe actual energy usage, find discrepancies from the reports of potential opportunities.
  3. Determine carbon imprint of the fuel sources used by the campus and calculate the carbon footprint based on consumption.
- Emissions generated by vehicles greater than any other source generated by the building.
- Planning stages for potential new bus route (down Robert Street) that would connect downtown Saint Paul with DCTC

- This is a “living document” ; data will be updated annually
- Approximate carbon emissions from the following sources on following page.

<u>Source</u>	<u>lbs carbon dioxide equivalents</u>
▪ Mechanical	8,650,000
▪ Lighting	3,000,000
▪ Electrical Loads	750,000
▪ Transportation	6,385,000

3. Create and implement a climate neutral plan that includes a target date and interim milestones for achieving campus climate neutrality within two years.
  - **Result: Plan will be defined during 2008**
4. Initiate two of six immediate steps specified in the commitment to reduce greenhouse gas emissions while the more comprehensive plan is being developed.
  - **Result: The following two steps specified in the commitment were taken during year one:**
    - Emissions Study Completed (see above, item 2)
    - Recycling
      - Baseline of waste type and amount performed by college trash handler, Allied Waste
      - Amount of waste reduction due to implementation of recycling will be determined by end of Summer 2008
      - Students allocated resources to recycle efforts
      - Next step: tract compostable materials and college separately
5. Integrate sustainability into the curriculum and making it part of the educational experience.
  - **Result:**
    - **Faculty sustainability survey completed**
    - **Faculty pursuing integration of sustainability into curriculum:**
6. Develop the action plan, inventory, and periodic progress reports and make them available to the public.

- **Result: Report on Web for Year One:** [www.dctc.edu](http://www.dctc.edu)

7. Other Action: Year One

- **Executive Team**

- Executive Team met in November 2007; new DCTC greenhouse for Horticulture program is opened
- Presentations by University of Minnesota Dean and Twin Cities Television Meteorologist, Paul Douglass
- Team structure, purpose established
- Green Campus newsletter produced & distributed electronically from President's Office

- **Operations Team:**

- DCTC Director of Operations is preparing to take the LEED exam. When passed, this director will be the first building operations manager in the MNSCU system to be LEED AP (LEED Accredited Professional).
- Bioswale incorporating native vegetation planned as part of the redesign of front area of college.
- Renovation of DCTC Lobby and Student Services is a LEED registered project. Because no mechanical improvements are included, this project will not meet the prerequisites to be LEED certified. However, the elements are designed to comply with LEED criteria.
- DCTC and Johnson Controls in communication to pursue another opportunity to improve DCTC's energy performance. This is in response to the Clinton Climate Initiative's suggestions, but is being pursued separately due to previous work by Johnson Controls at the college.
- Smart Car & Prius purchased for campus

- **Instructional Team**

- College "Traveling Scholars" focused on best practice sites visits including:
  - Ohlone College in Newark, CA.
  - US Green Build conference in Chicago, IL.
  - Nobel Conference, St. Peter, Minnesota
- "Sustainable Building Advisor" customized training course developed; DCTC signed agreement with the National Sustainable Building Advisor Program (NaSBAP)
- Environmental Studies program with St. Cloud State University under development
- USGBC Mississippi Headwaters Chapter representative



**DRAFT TIME-LINE: 2008**

	June	July	August	Sept.	Oct.	Nov.	Dec.	Jan. 08	Feb. 08	Mar.8	Apr.8	My 08
President Signs Commitment	█											
Campus News Release	█											
Inst. Team Defined		█	█									
Oper. Team Defined		█	█									
Exec. Team Defined		█	█									
Inst. Structure Defined		█	█									
Website link				█	█	█	█					
Inst. Team Meets		█	█	█	█	█	█	█	█	█	█	█
Operations Team Meets		█	█	█	█	█	█	█	█	█	█	█
Ex. Team Kick-Off						█						
TKDA On Contract: Emissions Baseline Inv.		█	█									
Emissions Study Complete		█	█	█	█	█	█	█	█	█	█	█
2 out of ACUPCC actions adopted		█	█	█								
Quarterly report prepared and submitted					█	█						
Work groups underway								█	█	█	█	█
Campus awareness, communication started				█	█	█	█	█	█	█	█	█
Green Campus plan components defined						█	█	█				
Small project pilots selected						█	█	█				
Report to Ex. Team										█	█	
Green Campus “summit” held												█
Reports to AUCC						█				█		
Planning Session for ‘08										█	█	█

## **NEXT STEPS**

The purpose of this first report was to show where we have been and where we are going in the near future. Over the next year, the teams will put climate neutral action plans. These documents will include the necessary actions and strategies to create a long-term green campus plan. The intent is for this plan to be integrated into the overall institutional strategic plan. Specific next steps outlined include:

- Draft of climate neutral plan for campus completed 2008
- Transportation partnership with buses established in 2008
- LEED accreditation for administrators, faculty continues
- Executive Team identifies collaboration projects between college, business and community during 2008
- Environmental studies program partnership with St. Cloud explored
- Funding sources generated to build capacity on sustainability for college

## APPENDIX

# ACUPCC STATEMENT OF COMMITMENT

# APPENDIX

## TEAM “CHARGE” & FOCUS

## **EXECUTIVE STEERING TEAM**

### **Steering Team Mission**

Serve as advisors to the college president as well as liaisons to the community regarding the Presidents Climate Commitment to a Green Campus at Dakota County Technical College.

### **Charge:**

The Steering Team will meet two times per year to review and recommend strategies to create a comprehensive institutional action plan to move towards climate neutrality.

### **Responsibilities:**

Consistent with the vision, mission and philosophy of Dakota County Technical College, the Executive Steering Team will:

1. Create a set of sustainable community principles to guide overall efforts and initiatives
2. Create a bold vision for the college campus that infuses sustainability design across programs, services and departments
3. Promote sustainability through sponsorships of educational programs, environmentally sensitive campus operations, transportation and public awareness initiatives
4. Forge alliances to engage other public and private sector entities in fostering creative collaborations to ensure public benefits that are socially, economically and environmentally sustainable. This includes linkages with UMORE.
5. Provide information and support to instructional and operational working teams.
6. Lead the community in exploring strategic options and priorities regarding sustainability
7. Prioritize projects brought forward by the action and grant teams.
8. Review actions steps that will assist Dakota County Technical College leadership, its planners and developers to integrate sustainable community principles into the concept of master planning.
9. Prepare an integrated and transparent written report on the status of the initiative by end of December 2007.
10. Review and approve a Green Campus Master Plan for climate neutrality.

### **Immediate Actions:**

The Executive Steering Team will monitor progress toward completion of the following immediate actions:

- Reduction in emission in the boiler plant by 15%
- Reduction in diesel emission from mowers by converting landscaping to prairie grass
- Work with Student Senate to increase recycling efforts on campus

- Replacement of roofs on main campus to increase insulation value from R13 to R23, significantly reducing energy loss and costs

The Executive Steering Team will also monitor the following goals:

- College participation in energy retrofit to save energy on air handling equipment and lighting and the installation of a new chiller plant, which have reduced energy costs by \$60,000 a year
- College eligibility for Energy Star Certification for products such as transformers and load centers, resulting in an 11% reduction in energy use

**Executive Steering Team Members (on following page)**



## **INSTRUCTIONAL ACTION TEAM**

### **Team Purpose:**

Define and implement action focused establishment of a Green Campus Master Plan in areas of curriculum, pedagogy and student engagement

### **Responsibilities:**

Consistent with the vision, mission and philosophy of Dakota County Technical College, the Instructional Action Team is responsible for the following:

- Define action plan and time-line for environmental technology and LEED certification scope for curriculum and pedagogy at Dakota County Technical College
- Develop multidisciplinary course on sustainability
- Develop and recommend partnerships to share facilities with other educational partners and community agencies
- Define and integrate sustainability standards based on industry trends for students enrolled in programs offered at Dakota County Technical College
- Develop service learning opportunities for students that focus on Green Campus and Sustainability issues
- Fund short-term initiatives from the Green Campus Grant program that build student, faculty and staff capacity to advance and campus-community sustainability efforts.
- Appoint work groups to accomplish short-term and long-term actions and monitor and report on their progress.
- Select, monitor and report on progress of work groups
- Develop and implement an evaluation plan to determine impact of environmental programs and curriculum on student success.

### **Team Membership**

- Chair to be determined; members are being solicited.

## **OPERATIONS ACTION TEAM**

### **Team Purpose:**

Define and implement action focused establishment of a Green Campus Master Plan in areas of college facility operations, utilities, energy management, environmental health and safety, as well as parking and transportation to the campus and satellite locations.

### **Responsibilities:**

Consistent with the vision, mission and philosophy of Dakota County Technical College, the Operations Action Team is responsible for the following:

- Coordinate and implement a campus emissions audit
- Recommend short-and-long-range environmental/sustainability policies and standards for Dakota County Technical College. These policies will include (but not limited to):
  - Energy-efficient appliance purchasing policy requiring purchase of ENERGY STAR certified products in all areas for which such ratings exist.
  - Policy addressing offsetting all greenhouse gas emissions generated by air travel paid for by our institution.
  - Policy encouraging use of and access to public transportation for all faculty, staff, students and visitors at our institution.
  - Policy that by June 2008, 15% of institution's electricity consumption will come from renewable sources
  - Standard in place to participate in the Waste Minimization component of the national RecycleMania competition, and adopt 3 or more associated measures to reduce waste.
- Recommend to the Steering Committee strategies, action plans and time-lines for Dakota County Technical College to be a carbon and climate neutral campus (physical environment) within two years (2009)
- Prioritize action and strategies to result in environmentally and culturally responsible stewardship of the college's physical landscape, buildings, and human capital (physical and social environments)
- Develop actions and strategies to apply LEED Silver sustainability standards to all capital projects
- Prioritize action and strategies that result in Dakota County Technical College being a campus that promotes and engages the internal and external community in promoting sustainability, accessibility, human interaction, and efficient and coordinated use of space (social environment)
- Address the feasibility of non-automotive transportation systems to reduce negative environmental impact of current systems
- Pursue technologies and management methods that minimize use of energy and water resources.

- Select short-term action pilots from the Green Campus Grant initiative that will reduce emissions; track and monitor progress of these initiatives
- Recommend work groups to accomplish short-term and long-term actions
- Select, monitor and report on progress of work groups
- Address ACUPCC amendment for computer replacement