

Climate Action Plan Wilson Community College

Introduction (Who We Are)

Wilson Community College is a public, two-year, post-secondary educational institution located in Wilson, North Carolina. The school was established in 1958 as the Wilson Industrial Education Center, became Wilson Technical Community College in 1989, and in 2007, was renamed Wilson Community College.

The College serves Wilson County, North Carolina, which covers 373 square miles with approximately 208 persons per square mile. 2008 population data provided by the U.S. Census Bureau estimates the county population as 77,527. The city of Wilson, the county seat, had an estimated 47,804 residents in 2007 and the six small, incorporated towns in the county had a combined population of 4,121.

The College provides a wide variety of degree and non-degree programs with 11,339 students served during the 2007-2008 academic year. 2,909 students enrolled in curriculum programs and 8,430 students enrolled in continuing education programs.

Wilson Community College's main campus has approximately thirty-one acres, and a satellite campus, the Coastal Plain Law Enforcement Training Center, consisting of approximately three acres. The main campus has 12 buildings with a total of 204,079 sq ft. of building space and the Coastal Plain Law Enforcement Training Center has two buildings with a total of 5240 sq ft of building space, for a combined 209,319 sq ft. It should be noted that the college has added an additional 28,065 sq ft since 2004 (9,860 SF of classroom space in building G, 1739 SF of classroom space in building X, and 16,466 SF of office and services space in building F).

The College purchases electricity, water, and gas, through Wilson Energy, the utility provider operated by the City of Wilson. Wilson Energy maintains the fourth-largest municipal distribution system in North Carolina, supplying electricity to some 33,000 households, businesses and industries.

Wilson Energy buys electricity from the North Carolina Eastern Municipal Power Agency (NCEMPA), a non-profit group made up of 32 North Carolina cities, including Wilson, Rocky Mount, Greenville and Clayton. NCEMPA gets its energy from several power generation plants in which it has partial ownership, including the Shearon Harris nuclear power plant near Raleigh, NC. Wilson Energy also buys supplemental energy from Progress Energy, an investor-owned utility with facilities in North Carolina and Florida.

Need for Action

Global warming and the reduction of greenhouse gas (GHG) emissions is our generation's greatest challenge. The scientific evidence that human activities are the principal cause of a warming planet is clear and growing and as a result, Wilson Community College is committed to being a catalyst for change in the wake of this challenge.

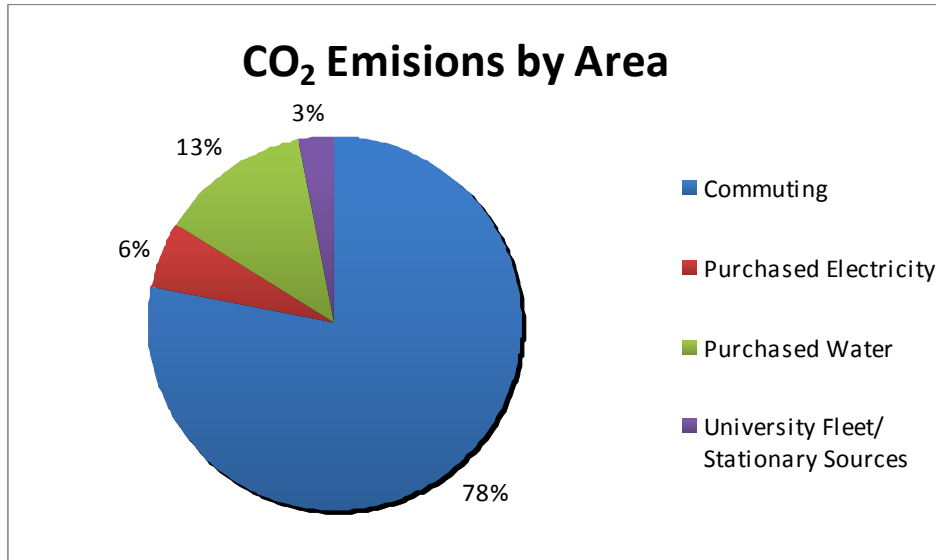
In 2004, the President of the College made sustainability, and a commitment to sustainability, a primary focus of the College. Since making this commitment, the College has formed a "Green Team" (2004), the Board of Trustees adopted a mission and vision statement that included sustainability (2006), an Institutional Sustainability Committee was established (2007), and the College signed the President's Climate Commitment (September 2007).

Wilson Community College has not set a specific target date to achieve climate neutrality but will make efforts to reduce its GHG emissions by 2% annually. To do this, the College will implement a variety of actions to achieve the goal of climate neutrality.

A subcommittee of the Colleges Sustainability Committee conducted a carbon emissions inventory for the campus to identify sources of GHG emissions and to assist in the development of a plan to reduce these emissions. The process involved identifying sources of energy for the campus, and the percentage of GHG emissions from these sources.

In 2007 the College conducted a GHG Inventory as part of its PCC commitment and found the following percentages of CO₂ from solid waste, commuting, university fleet vehicles, and purchased electricity. Chart 1 represents the percentage of CO₂ emissions for the college's sources of GHG.

Chart 1 (Sources of Emissions and the total % of CO₂ per source)



Since 2003, Wilson Community College has implemented a variety of actions to reduce its use of electricity and water. These actions have resulted in significant reductions in the use of electricity and water (see Table 1). Energy and water usage/savings since 2003 demonstrate that actions already taken by the College have resulted in significant reductions in our use of water and electricity and have reduced our carbon emissions.

Table 1 (Energy and Water Consumption)

	energy evaluation					water/sewer evaluation			
	energy \$/gsf	\$/mmbtu	\$/mmbtu %change	btu/sf	btu/sf %change	\$/mgal	\$/mgal %change	gal/sf	gal/sf %change
2002-2003	\$1.44	\$20.173		71,477		\$8.99		10.95	
2003-2004	\$1.46	\$21.505	7%	67,907	-5%	\$11.37	26%	12.06	10%
2004-2005	\$1.42	\$22.335	11%	63,588	-11%	\$11.85	32%	11.04	1%
2005-2006	\$1.56	\$28.102	39%	55,636	-22%	\$12.51	39%	11.05	1%
2006-2007	\$1.62	\$28.144	40%	57,641	-19%	\$13.90	55%	11.01	1%
2007-2008	\$1.58	\$27.500	36%	57,610	-19%	\$15.39	71%	9.28	-15%
2008-2009	\$1.57	\$33.321	55%	47,087	-34%	\$16.36	82%	7.32	-33%

In 2003, the College produced 19,354 Metric Tons of eCO₂ with an average Metric Ton of eCO₂ per person of 2.25. By 2007, the College produced around 18,000 Metric Tons of eCO₂ with an average per person eCO₂ of 2.20. The campus wide energy efficiency measures the College has implemented over the last 4 years have resulted in significant decreases in energy and water use and has decreased our GHG emissions.

Plan for Reducing Emissions

Wilson Community College has not set a specific target year for achieving climate neutrality. The College has identified several areas/measures that have been or can be implemented to reduce energy usage and GHG emissions. Specific strategies in the areas

of solid waste, commuting, university fleet vehicles, and purchased electricity are outlined below.

Solid Waste (Unknown % of emissions)

Solid waste disposal produces greenhouse gas emissions in a number of ways:

- The decomposition of waste in landfills produces methane (a greenhouse gas 21 times more potent than carbon dioxide)
- Incineration of waste produces carbon dioxide as a by-product
- Transportation of solid waste to landfills results in emissions from the fuel used in the equipment used to transport and work with the solid wastes.
- Disposed of items are replaced by new products (the production of these new products requires the use of fossil fuels to both obtain the raw materials and in the manufacture of the items)

Although emissions from solid waste are relatively small in comparison to those from transportation and energy use, the reduction of solid waste can reduce greenhouse gas emissions from the campus. Currently, the College has no means of determining the amount of GHG emissions from its solid waste. Waste Industries, the contractor who removes solid waste from the campus, does not report solid waste by weight to the College.

The College will explore and engage in a variety of waste prevention and recycling strategies to better manage the solid waste we generate. The following strategies have been implemented or will be considered to reduce and or eliminate solid waste on campus:

Completed

- Establish an environmentally preferable purchasing program for green products which can reduce the effects on human health and the environment (green cleaning products and maintenance supplies, soy ink printer cartridges).
- Establishment of a campus wide recycling program for aluminum cans, paper and plastic (Wilson Community College participates in RecycleMania).
- A vendor recycling program for waste oil, oily rags and oil filters.
- A vendor-recycling program for universal wastes such as batteries and light ballasts.
- Implement a construction waste recycling policy (campus construction & demolition materials such as lumber, wooden pallets, paper, cardboard, scrap metal, masonry, pipe, rocks, dirt, etc to be recycled).

Planned

- Discussions with Waste Industries to provide weight data for solid waste
- Campus computers to be donated to the local school system or are picked up by a local vendor that recycles computer parts.

- Development of outreach and educational activities and programs regarding waste reduction and recycling.

Commuting (78% of emissions)

Commuting is by far the largest source of GHG emissions at Wilson Community College. The College is a commuting school with students commuting from both within Wilson County and from surrounding counties. 63% of our students live within Wilson County and 27% commute to campus from outside of the county. How to reduce this source of emissions may be our greatest challenge.

The College will explore and engage in a variety of strategies to reduce GHG emissions resulting from commuting. The following strategies have been or will be considered:

Completed

- College operates on a 4 day work week schedule during the summer term.
- Carpooling resources and links from the main Wilson community College website (Share the Ride NC - a state wide ride sharing program to assist carpoolers in finding others interested in carpooling in their area).
- Provides free or subsidized public transportation passes for the city bus system.
- Encourages students to use city bussing as an alternative to daily private vehicle travel.
- Increased the offering of Distance Education classes and reduce the days of the week that classes are taught on campus year round.
- Reduced business travel by staff/admin/faculty.

Planned

- Students and faculty/staff will receive information regarding carpooling
- Incentives for carpoolers including reduced parking fees and designated parking spaces.
- Start initiatives to encourage biking on campus, including increased bike post for storage, bike lanes on campus, and a rent or share bike programs
- Adopt a Telecommuting policy for employees.
- Purchase carbon offsets through the use of parking/student fees.

Fleet Vehicles (3% of emissions)

Wilson Community College utilizes a variety of vehicles in its operations including gas powered Gators® used in maintenance, pickup trucks used in maintenance and instruction, vans used for transporting students and faculty/staff, HEO maintenance vehicles, and HEO machinery (i.e. backhoe, motor grater, etc.) used in the HEO diploma program.

The College will explore and engage in a variety of strategies to reduce GHG emissions resulting from the use of fleet vehicles. The following strategies will be considered to reduce and or eliminate emissions from these sources:

Completed

- 13,000 and 30,000 gallon diesel tanks were cleaned and retro-fitted to house bio-diesel.
- Heavy equipment fleet (30+ pieces of machinery) has been converted from regular diesel to B-20 Biodiesel.
- Electric powered vehicles are used in Security and Maintenance Departments

Planned

- Upgrade/replace college vehicles with alternative fuel/hybrid/electric vehicles
- Implement a zero “idle-time” policy on college vehicles when not in use.
- Use simulation training to reduce use of actual equipment and fuel.

Purchased Electricity/Water (19% of emissions)

Utilities, electricity, water, and gas for the College are provided through Wilson Energy, the utility provider operated by the City of Wilson. Wilson Energy buys its electricity from the North Carolina Eastern Municipal Power Agency (NCEMPA), a non-profit group made up of 32 NC cities. NCEMPA gets its energy from several power generation plants in which it has partial ownership, including the Shearon Harris nuclear power plant near Raleigh, NC. Wilson Energy also buys supplemental energy from Progress Energy, an investor-owned utility with facilities in North Carolina and Florida.

The College will explore and engage in a variety of strategies to reduce GHG emissions resulting from purchased electricity. The following strategies will be considered to reduce and or eliminate emissions from these sources:

Completed

- Installed faucet restrictors on all sinks across campus.
- Installed low flow toilets.
- Installed waterless urinals.
- College does not use municipal water for irrigation of grounds.
- Producing electricity through use of a 16 kWh Solar/pv system on new Student Services Building (Building F).
- Hot water provided through the use of a Geothermal Ground Source HVAC system in building F.
- Master plan includes policy that Renovation/Retrofitting projects include energy efficiency measures.
- Installation of low-e replacement windows.
- Adoption an energy efficient purchasing policy.

Planned

- Installation of solar/pv cells on existing buildings.
- Planned rain water harvesting systems for irrigation.
- Explore the use of space management software.
- Explore the use of building performance software.
- Greening of IT (servers, desktop pc's)

Educational, Research, and Community Outreach Efforts

The success of our climate reduction plan is dependent on including the goal of climate neutrality into all educational programs, conducting research where appropriate on the effectiveness and efficacy of our reduction strategies, and engaging in community outreach efforts to expand the awareness and understanding of our efforts and progress. Wilson Community College as part of its goal to reduce and eventually eliminate its GHG will integrate sustainability into its curriculum through its education, research, and community outreach efforts.

Education

Wilson Community College is committed to incorporating sustainability into all services and programs. Sustainability has such a broad meaning that it can be related to every course and curriculum. A sustainable education is one which exposes students to the concept of Triple-Bottom Line thinking and how being a sustainably literate citizen is one that has a basic understanding of the social, environmental, and economic aspects of sustainability.

A variety of departments and programs have begun incorporating sustainability into their curriculum and courses. The number of courses that include sustainability in their content continues to increase with a major accomplishment of including a module on sustainability in the College Student Success course, an orientation class required of all students. This module includes a carbon footprint calculator that shows students how their behaviors contribute to greenhouse gasses and how to change behaviors to reduce their contributions. In addition, the real world application of renewable energy technologies is being integrated into several of our trades programs.

Research

Wilson Community College is a teaching institution and as such does not conduct formal research. As part of this commitment and plan, the College will explore ways to engage in research on its sustainable endeavors and to provide faculty, staff, students and the community, opportunities to develop their knowledge of sustainability in hopes of stimulating their desire to research ways to incorporate sustainability into more of the College's services and programs.

Although not a research based institution, the College is finding itself needing to engage in research by looking at the use and effectiveness of various sustainable practices. Renewable energy systems, the use of alternative fuels, and sustainable products are being used and studied.

Community Outreach Efforts

The College makes its sustainable efforts and initiatives available to the community in a variety of ways. The College has an established Sustainability Committee that has a purpose of bringing about awareness of sustainable practices on the campus and in the larger community. The committee recommends sustainable initiatives, education, and outreach efforts and assists in the implementation of these efforts. During the past five years the College has developed a Growing Green website, hosted visits by other colleges and governmental leaders, and attended state and national conferences and/or workshops to present and learn about best practices and feasibility of sustainability.

Financing

Engaging in energy efficiency projects enables the College to meet both its goal of becoming climate neutral and assisting in funding additional mitigation strategies. Cost savings realized from energy efficiency strategies are and will be used to implement additional mitigation strategies identified in the plan. The College's facilities are funded through county budget funding and are used for operating expenses such as utilities and the maintenance of facilities. To date, the College has implemented a variety of energy efficiency initiatives through the use of these funds and will continue to request funding through the budget process for additional projects. In addition, we will seek alternative funding such as state and federal grants, and explore using student fees to fund energy efficiency projects and programs.

Tracking Progress

As required by the ACUPCC, the College will update its emissions inventory every other year and issue a report to the ACUPCC summarizing the emissions trends of the school. This report will contain emissions data on all GHG sources and comment on trends that are observed. Emissions data and progress towards achieving climate neutrality will be available on the Growing Green page of the Wilson Community College Web Site, www.wilsoncc.edu.

Wilson Community College currently uses a utilities reporting database to track energy use and emissions data. Utility statements for electricity, gas, and water will be reviewed monthly, quarterly and annually to determine if progress is being made towards meeting our planned GHG reductions.

Commuting emissions will be calculated by collecting enrollment data each year and determining commuting distances for students and staff using a GIS program. This information will be entered into the Clean Air Cool Planet carbon calculator to determine the composite emissions for each year and to track progress towards the reduction of our emissions from commuting.

To oversee and manage the Climate Plan, the College has formed a subcommittee, the President's Climate Committee (PCC), which is made up of members of the larger

institutional Sustainability Committee. The PCC will meet on an on-going basis to monitor utility reports and emissions data, and will be responsible for managing, reporting, and recommending additional energy efficiency and conservation strategies to further reduce campus emissions to the Sustainability Committee. The Sustainability Committee will utilize this information to educate the college community and initiate activities to facilitate further action towards achieving climate neutrality.