

MECKLENBURG
COUNTY

ENVIRONMENTAL
SUSTAINABILITY PLAN

Annual Report 2012 | Mecklenburg County, NC



The Mecklenburg County Sustainable Community strategic focus area includes a component for leadership in protecting our environment. The Mecklenburg County Environmental Leadership Team (ELT) is responsible for facilitating implementation of an Environmental Sustainability Plan (Plan) toward achieving the County goal of 85% of County operations to be conducted in an environmentally sensitive manner. The mission of the ELT is:

Mecklenburg County Government will operate in a manner that conserves and protects our air, water and land resources; become a model of environmental stewardship for local governments, businesses, and industry in our region, and; use and apply the County's existing and future resources wisely for the benefit of its citizens.

Adoption of a scorecard approach to measuring overall progress toward the County's Environmental Leadership Policy was piloted in 2008 and continues today. Annual performance goals become more and more stringent as we stretch to meet our 2020 long-term goals. The Environmental Leadership Index represented in the Mecklenburg County Strategic Report captures the information presented in this report. The Environmental Leadership Index emphasizes Emission Reduction and Resource Management as higher priorities over the Commitment and Stewardship Enhancement goals and therefore may vary slightly from the percent accomplishment described in this report. County departments have adopted action plans and as a result, the 2012 ELI indicates 79% of goals were met (Figure 1). The 2012 result is a marked increase from the 46% of goals met in 2010, and 65% of goals met in 2011, however, this 2012 result remains equivalent to a yellow light within the County's scorecard system.

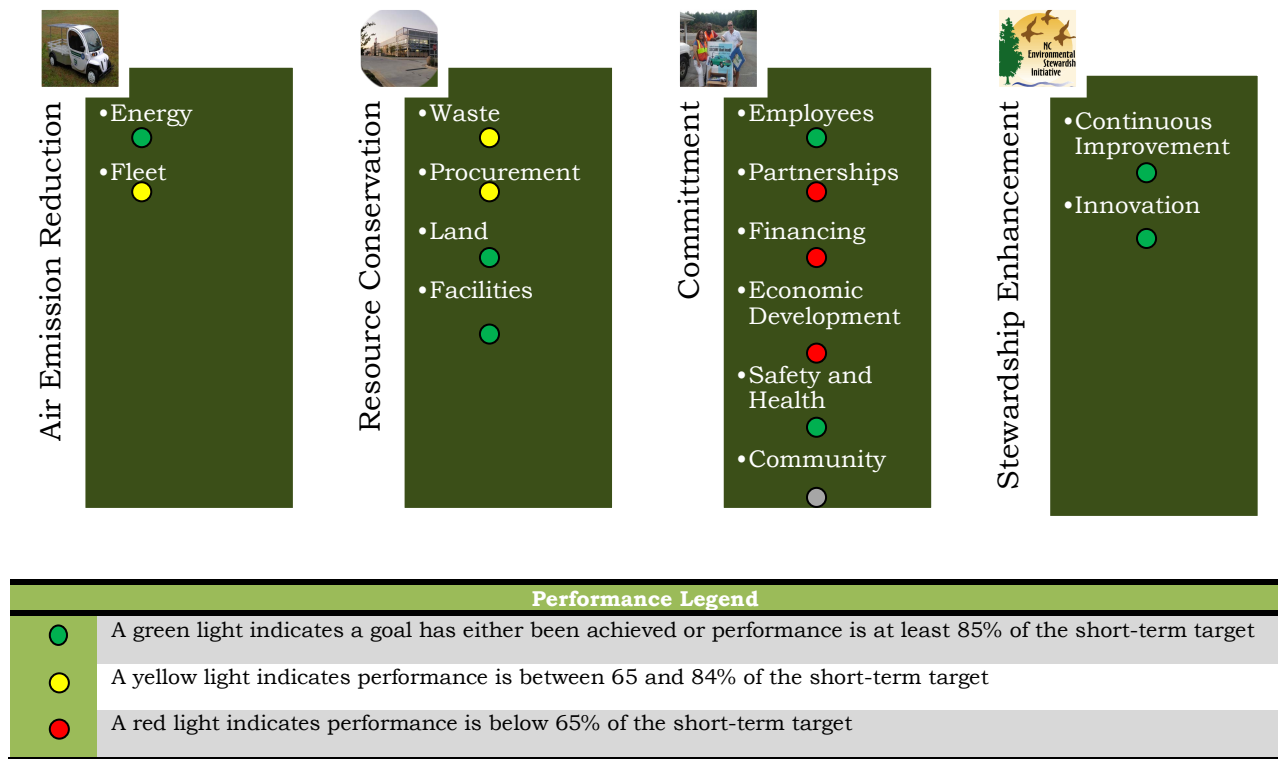


Figure 1. 2012 Environmental Sustainability Plan Progress Toward Goals

PLAN STRUCTURE

The Environmental Leadership Policy adopted by the Mecklenburg County Board of Commissioners has evolved since 2004 (Fig. 2).

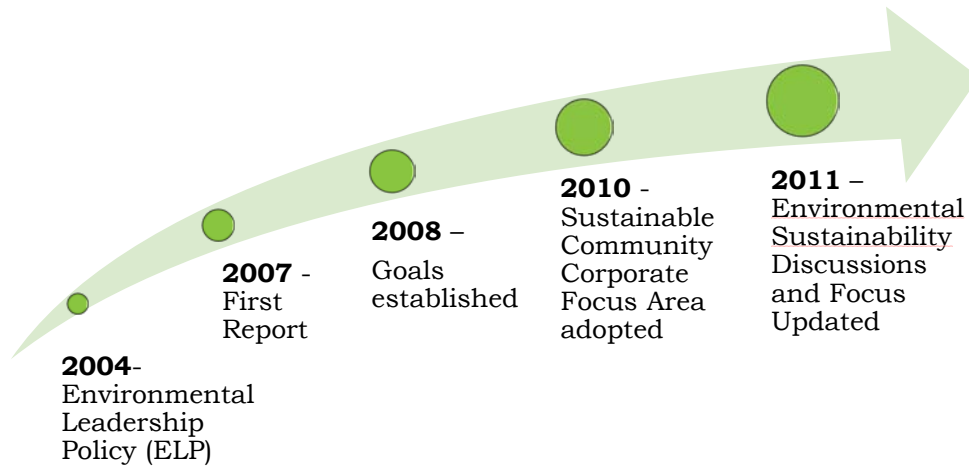


Figure 2. Timeline of Mecklenburg County's Environmental Sustainability Plan

The information presented in this report is a compilation of actions and dedication of the Environmental Leadership Team.

Environmental Leadership Team

The 2004 Policy instructed the County Manager to appoint an Environmental Leadership Team (ELT) to identify, evaluate, prioritize and act on environmental aspects of County operations that warrant examination, modification or corrective action.

The Environmental Leadership Team includes at least one member of each agency in the diagram on the right.



Figure 3. Mecklenburg County's Environmental Leadership Team members

FOCUS AREAS AND STRATEGIES

The Environmental Leadership Team established four focus areas for the Environmental Sustainability Plan that considered the Mecklenburg County biennial State of the Environment Report, County operational footprint, opportunities for improvement, and business case alignment with our Corporate Strategic Plan. The ELT conducted a SWAT analysis of sustainability areas and those with High Concern and High Influence comprise the four focus areas of this plan:



Figure 4. Mecklenburg County Environmental Plan Framework

- Air Emission Reduction
- Resource Conservation
- Commitment
- Stewardship Enhancement

Each focus area has a suite of strategies developed to meet annual short-term and long-term 2020 goals. Focus areas are consistent year over year while strategies are reviewed annually to assess continued appropriateness, progress, and/or challenges.

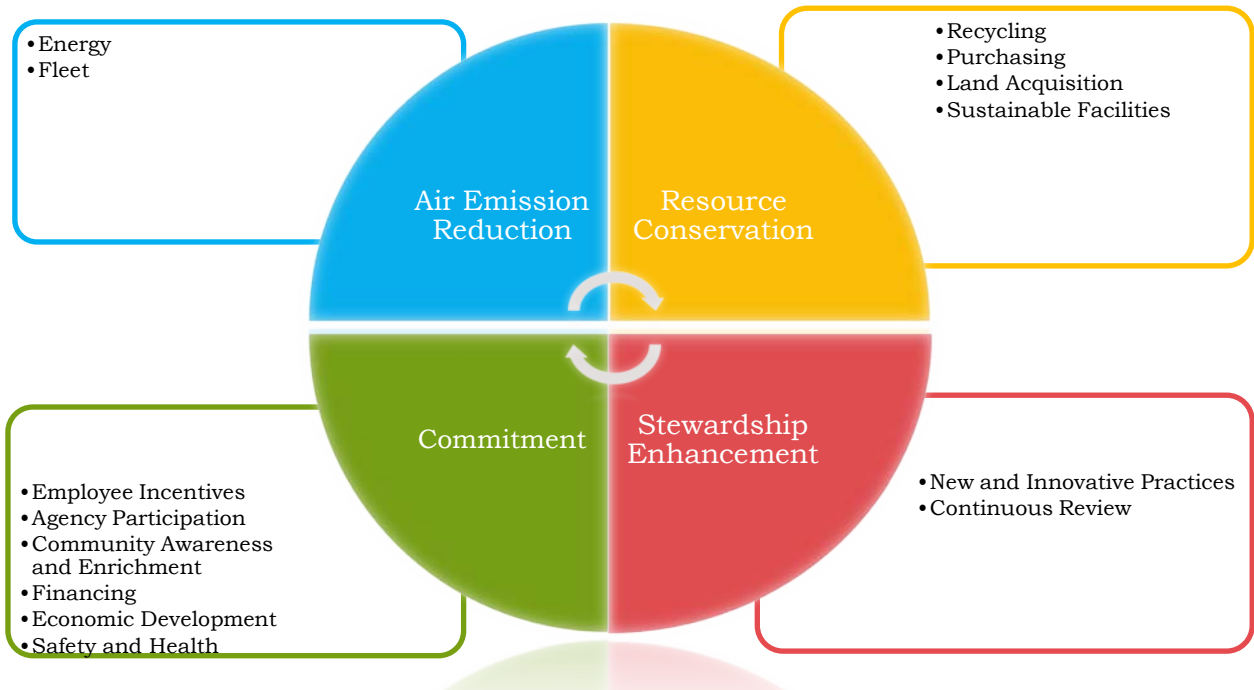


Figure 5. Environmental Sustainability Plan Focus Area and Strategies

PROGRESS TOWARD GOALS

Trends in Environmental Sustainability Plan progress toward annual goals are represented in the table below. Annual goals are adjusted by taking into account both previous accomplishments and the future long-term goals. Detailed description of each focus area, strategies, and accomplishments can be found in the Appendix of this report.

Strategies	2008 Goal Results	2009 Goal Results	2010 Goal Results	2011 Goal Results	2012 Goal Results
Air Emission Reduction					
Energy Use Reduction	●	●	●	●	●
Fleet Emission Reduction	●	●	●	●	●
Resource Conservation					
Waste Recycling and Minimization	●	●	●	●	●
Environmentally Preferable Purchasing	●	●	●	●	●
Land Acquisition and Preservation	●	●	●	●	●
Environmentally Sensitive Facilities	●	●	●	●	●
Commitment					
Employee Incentives	●	●	●	●	●
County Business Unit Environmental Integration	●	●	●	●	●
Stewardship Enhancement					
New and Innovative Practices	●	●	●	●	●
Continuous Review Programs	●	●	●	●	●

For more information, contact Mecklenburg County’s Environmental Policy Administrator, Heidi Pruess, CEP at heidi.pruess@mecklenburgcountync.gov .

APPENDIX

Air Emission Reduction

Clean healthy air is our most vital natural resource. Ozone and particle pollution, the two biggest air quality concerns in Mecklenburg County, originate from many of the same sources, primarily motor vehicles. Reducing energy consumption also helps reduce air pollution. The Air Emission Reduction focus area of Mecklenburg County’s Environmental Sustainability Plan addresses the County’s fleet and energy usage.

Strategies

- Air Pollution Reduction : Reducing emissions contributing to ozone creation and air quality issues through management of on road and off road fleet vehicles and other emission sources identified through regular emission inventories.
- Energy Management & Conservation : Initially concentrating on electrical energy use reduction, this strategy is aimed at reducing greenhouse gas emissions generated by the production of energy subsequently utilized in all County facilities.

Energy Conservation Accomplishments

- Clean Air Policy – 2001
- Climate Protection Resolution - 2005
- [Energy Use Plan](#) – 2007
- Green House Gas Inventory – 2008
- Energy Star Partner – 2008
- Facility Indoor Air Temperature Policy - 2009
- [Green House Gas Action Plan](#)– 2009

2012 Program Highlight

Mecklenburg County is a founding partner of Envision Charlotte and participates in the Smart Energy Now program.

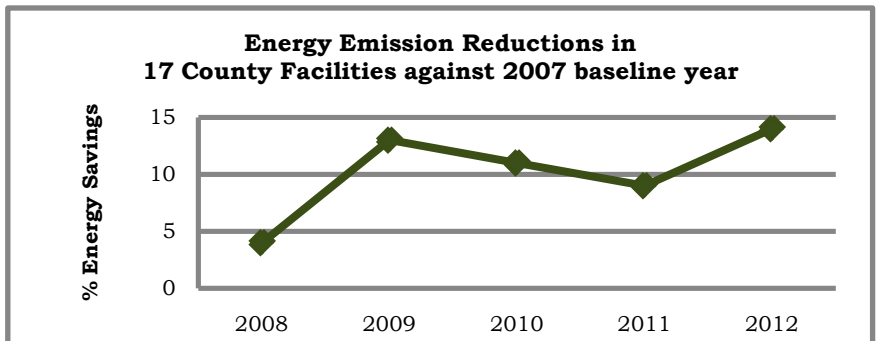


Strategic Utility Plan Framework – 2012

The Environmental Leadership Team recognized that the County’s Energy Use Reduction strategy had been established for all County facilities and was restricted to evaluation of electrical energy use. Development of a Strategic Utility Plan Framework, comprehensively addressing electric, natural gas, and water utilities in all County facilities, was finalized during 2012. This Framework sets the stage for reconsideration of the County’s long-term 2020 goals.

14% Energy Use Reduction – 2012

The County’s electrical use in 17 facilities tracked since 2007 has decreased by 14%. Numerous projects (highlighted in the Strategic Utility Plan) have contributed to energy use reduction to date, including the 2012 solar thermal installations on four facilities.



Air Pollution Reduction Accomplishments

Idle Reduction Policy – 2005
 Fleet Management Plan – 2007
 On-Road Low Emission Vehicle Policy – 2010

Emission Reduction – 2012

Mecklenburg County’s on road vehicle fleet went largely unchanged between 2010 and 2011, decreasing from 1049 to 1047 vehicles. Despite a 7.4% increase in miles traveled during this year the County was able to realize a 2.5% NOx emission reduction due to the utilization of the fleet.

On Road Vehicle Fleet LEV – 2012

Low Emission Vehicles (LEV) are identified by Mecklenburg County as meeting or exceeding the 2004 California standard of 0.3 g/mi for light duty gasoline (LDG) vehicles and the Federal 2004 standards of 2.73 g/mi for heavy duty diesel vehicles (HDD) and 2.63 g/mi for heavy duty gasoline vehicles (HDG).

Vehicle Class	% Compliant
Light Duty Gas Vehicles	81%
Heavy Duty Gas Vehicles	86%
Heavy Duty Diesel Vehicles	62%

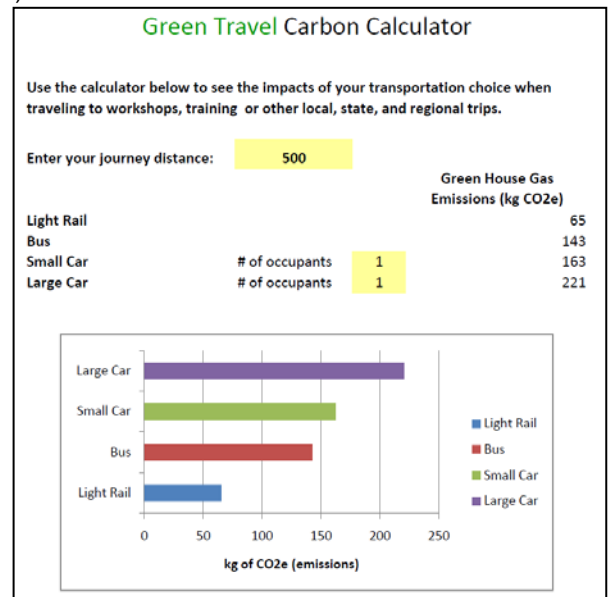
Non Road Vehicle Fleet LEV Policy – 2012

The County’s Non Road vehicle fleet LEV standard equal to the EPA’s Tier 2 criteria was adopted and the following baseline compliance was determined.

Non Road Diesel Class	%Compliant
75 ≤ hp < 100	37.5%
100 ≤ hp < 300	79.3%
hp ≥ 300	66.7%

Employee transportation alternatives – 2012

A Green Travel Carbon Calculator was developed to encourage employee participation in alternative transportation modes such as NC Share the Ride for carpooling.



Resource Conservation

Protecting the environment for the benefit of future generations is always in the public's interest. For that reason, Mecklenburg County officials have for many years tracked the state of the environment, acknowledged that intervention is necessary in the face of rapid growth, and taken actions to protect natural resources. Resource Conservation for Mecklenburg County operations includes waste management, procurement of goods and services, land preservation, and asset and facility management.

Strategies

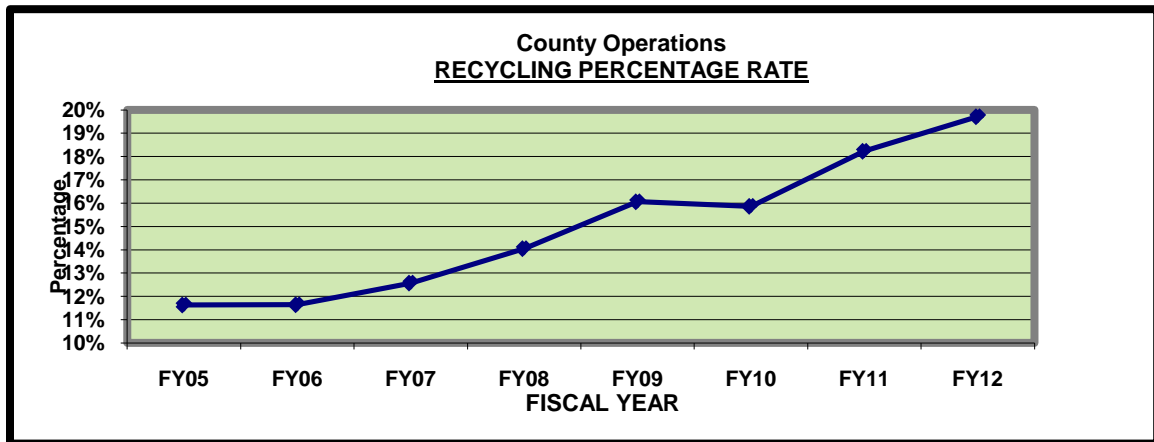
- Waste Minimization : providing environmentally sound and economical solid waste management and recycling solutions for waste materials.
- Environmentally Preferable Purchasing : inclusion of environmental considerations in purchasing decisions for goods and services.
- Land Preservation : acquisition, maintenance and preservation of land to protect the natural environment, ecosystems, and habitat.
- Facility Management : construction activities, land disturbing activities, facility development, operation, and renovation conducted in an environmentally sustainable fashion.

Waste Minimization Accomplishments

Recycled Product and Waste Reduction Policy –2001

Recycling– 2012

Mecklenburg County recycled 19.7% office waste produced in our daily operations. This rate of recycling approached our 2020 goal, calling for a 20% recycling rate, well ahead of schedule.



The County’s Surplus Property Re-Use program continued to be successful in FY12. This program diverts unwanted furniture and computer equipment from the landfill through reuse and recycling efforts. A large clean-out of non-reusable cubicle partitions occurred in 2012, in preparation for the DNC, boosting our historical furniture diversion needs. A sampling of the materials handled in 2012 included over 863 pieces of furniture, 1534 computers and servers, and 124 monitors with 500 pounds of lead resulting in 73 tons of material diverted from landfills.

Solid Waste Management Plan Completed - 2012

The North Carolina Solid Waste Management Act of 1996 (NCGS 130A-309.09A) requires that every three (3) years the County complete a [Solid Waste Management Plan](#). This plan establishes practices to ensure adequate systems and facilities for management of waste and recyclables. Mecklenburg County successfully completed this planning effort for our community in 2012. This plan will inform the effort during 2013 to establish a County operations waste reduction and recycling policy and plan to assure that our County government is leading by example toward achievement of our community Solid Waste Management Plan goals.

Environmentally Preferable Purchasing Accomplishments

- Paper Product and Cleaning Product Policy – 2005
- [Environmentally Preferable Purchasing Guide](#) – 2010 updated
- County Procurement Policy inclusion of EPPG – 2011

Environmentally Preferable Purchasing -2012

Procurement throughout the County increased in accordance with the Environmentally Preferable Purchasing Guide during 2012. Annual goals for supply items were exceeded with the exception of general office supplies, resulting in an overall 96% of goals met. In addition to the environmental benefit of procuring items like remanufactured ink and toner cartridges, the County supported the local business producing these materials.

Supply Item	% Compliant
Recycled Paper	94%
Office Supplies	26%
Remanufactured ink and toner	31%
Green Seal Cleaners	82%
Low VOC Paint	80%



**Remanufactured Ink and Toner Cartridge
2011-2012 Year End Environmental Impact Report**

Total Recycled Cartridges	4,469
Lbs. of Cardboard Recycled into post consumer products	3,352
Lbs. of Plastic kept out of the landfills	26,814
# Gas tanks you could fill with the fossil fuel savings!	141.9
Kw/h energy saved by Remanufacturing rather than making new ones	68,286
Tons of CO2 GHG Emissions reduced	10,725,600

Land Preservation Accomplishments

Creek Use Policy - 1996
Park and Recreation Master Plan – 2008

Impervious Area treated – 2012

Mecklenburg County’s Flood Mitigation Program provided for the acquisition and demolition of 19 buildings damaged in the 2011 flood. This program not only significantly eliminated future flood losses for the residents and apartment units in harm’s way, but these properties also now treat approximately 8.8 acres of runoff from publically owned land.



Land Acquisition– 2012

Lands for greenways, parks, nature preserves, and flood mitigation totaling 446.82 acres were acquired in 2012. These lands will contribute to the County’s more than 17,660 acres of land set aside for environmental stewardship. Protection of the natural environment entails restoration of County property as the funds and ability present themselves. The Water and Land Resources program has historically restored 50,000 linear feet of stream.

Land Acquisition - 2012	Acres
Greenway	31.22
Park	293.57
Nature Preserve	114.99
Flood Mitigation	7.04
Total	446.82

Facility Management Accomplishments

Leadership in Energy and Environmental Design (LEED) policy for new or renovated properties adopted - 2007

Sustainable Facilities and Development Policy– 2010

LEED Silver Designation – 2012

The Revolution Regional Sports and Learning Academy achieved the USGBC LEED Silver designation during 2012. This facility joins the growing list of sustainably designed facilities owned and operated by Mecklenburg County, now totaling 3 LEED Silver and 2 LEED Gold.

Commitment

Mecklenburg County’s interest in sustaining and enhancing the environment by protecting our natural resources requires an “all hands on deck” approach. County employees, government agency partners, residents, businesses, institutional entities and visitors should be engaged in environmental stewardship so that we can all enjoy the benefits. As a part of being the best

local government service provider, Mecklenburg County strives to show commitment to environmental sustainability via several strategies:

Strategies

- Employee Incentives : Employee participation in eligible WorkGreen activities (including the use of alternative transportation, participation in lunch-n-learns, volunteering at designated events, etc.) results in those employees receiving credit towards accrual of vacation paid time off.
- Partnerships : The County operates by virtue of multiple departments, each of which has been obligated by the County Manager to participate in the Environmental Sustainability Plan. Additionally, partnerships between County government and our County funded agencies: Charlotte Mecklenburg Schools, Central Piedmont Community College, and the Charlotte Public Library fosters sharing of best management practices to address and solve community problems.
- Community Awareness and Enrichment : increasing community awareness of environmental issues through partnerships, educational campaigns, and program advancement that enable community stakeholders to maximize resources for identifying and addressing environmental challenges

Exploratory Strategies

The Environmental Leadership Team completed a series of workshops in 2011 during which Environmental Sustainability Plan Strategies were ranked as:

- Priority 1 having both High Concern and High Potential Influence;
- Priority 2 having High Concern but Low Potential Influence;
- Priority 3 having Low Concern but High Potential Influence;
- Priority 4 having Low Concern and Low Potential Influence (Priority 4 strategies are not included in this plan)

The following strategies were identified as Priority level 2 or 3 during the Environmental Leadership Team's workshops in 2011. These strategies were under development and evaluation during 2012.

- Financing Environmental (non-regulatory) Programs : aimed at reducing the risk and cost of County operations due to environmental factors through a continuous funding strategy for environmental sustainability programs
- Sustainable Economic Development : promoting the development of a sustainable built environment; creating healthy, livable urban centers, promoting sustainable practices and improving environmental justice; enhance economic competitiveness by fostering community advancement toward implementation of sustainability practices by incorporation of environmental sustainability considerations into County financing tools; working to avoid the unintended consequences of regulation and provide a more informed basis for policymaking through a collaborative approach with businesses
- Workplace Safety and Health Support : improving the quality of life for employees through consideration of healthy food choices, promotion of walking and other outdoor activities, and the proper handling of wastes and chemicals ; such that

employees and customers are not vulnerable to environmental disturbance that may affect basic human wellbeing

Employee Incentive Accomplishments

Development of Green Guardian employee recognition program – 2007
Employee WorkGreen Program – 2009

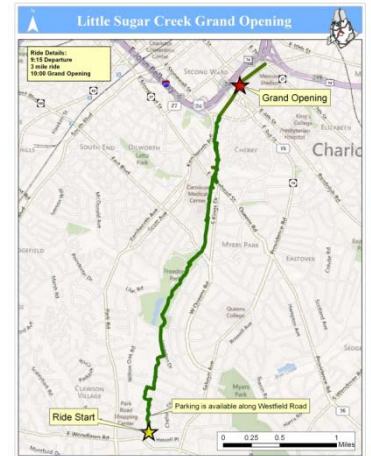
WorkGreen – 2012

Mecklenburg County's WorkGreen program provides tips for employees to incorporate in their daily activities, an incentive program that awards vacation credits for hours volunteered, and the Green Guardian recognition program whereby employees nominate their peers as environmental stewards. In this fourth year of the program, 2,867 hours of employee time were volunteered and two employee teams were recognized as Green Guardians. Volunteer activities included: planting trees along Little Sugar Creek, participating in Big Sweep to collect more than 8 tons of trash from lakes, rivers and streams throughout Mecklenburg County with other community volunteers, collection of roadside debris, and distributing tarps for trucks at recycling centers.



Enhanced Employee Communication – 2012

County priority champions (in the areas including: include: environmental stewardship, health and wellness, safety/security, diversity, ethics, and human resource policies) met on several occasions in 2012 to explore untraditional communication tools and techniques. This group of champions agreed on a team structure, scope of work and path forward to continue this discussion.



Little Sugar Creek Greenway Opening / Employee Bicycle Event – 2012

A three-mile bicycle ride was included as an activity available to employees during the 2012 grand opening of the Little Sugar Creek Greenway in uptown Charlotte.

Partnership Accomplishments

County corporate focus area "Sustainable Community" inclusive of Environmental Leadership Index– 2009

Charlotte Mecklenburg Schools (CMS) adopted an Environmental Stewardship Policy– 2009

Charlotte Mecklenburg Library adopted environmental action plan – 2009

County Department Environmental Action Plan Implementation Guide – 2010

County Departments – 2012

Mecklenburg County had 20 departments that developed specific actions their departments strove to achieve in 2012. In this second year, 40% of departments accomplished 85% or more of their goals and contributed to the overall success of the Environmental Leadership Policy. Several departments included innovative programs in their 2012 plans:

The "Crab-Your-It" Game was adopted by four County departments (Land Use and Environmental Services, Community Support Services, GIS, and Tax Collector) for their



energy conservation campaigns and the Finance Department created a Vampire Load program.

Team Volunteering efforts were initiated by several departments including: Auditor’s Office – Adopting a Stream; Medical Examiner’s Office – Adopting a Highway; and Social Services Department who developed an Earth Day Celebration.



Community Enhancement and Enrichment Accomplishments

Green Permit Rebate - 2009

Community Survey – 2012

The University of North Carolina Charlotte conducted a citizen survey seeking the level of awareness of environmental issues that may impact the quality of life in the community. The survey queried 400 citizens of whom 80% believed that the environment was very important for overall quality of life. However, the results shown in the table below indicate that Mecklenburg County can improve our education and awareness programs to include the linkages between environmental issues and their impact on quality of life.

UNCC 2012 Citizen Survey – Question 1

Please let me know if you are aware of the following quality of life issues facing Mecklenburg County?	% Yes
Air Pollution and air quality issues such as high ozone levels	69.6
Water Quality issues, including impacts of pollution in storm water runoff, stream or lake water quality, ground water contamination	58.8
Solid Waste issues such as recycling and composting	47.9
Loss of Open Space, tree canopy, natural area, and farmland	45.1

Stewardship Enhancement

One of the County's [Critical Success Factors](#) is Sustainability. Success will be defined as setting priorities and other decision making is inspired by values that sustain the community for future generations. As technology and community values can change rapidly it is necessary to frequently review and analyze our strategies and goals in a structured manner.

Strategies

- Continuous Improvement: Support a program of continuous review to ensure reduction of adverse environmental impacts of County operations and evaluation of new opportunities to achieve sound environmental practices.
- New and Innovative Products and Practices: Actively explore the feasibility of implementing new and innovative products and/or practices that provide environmental benefits, and inform elected officials of new opportunities.

Continuous Improvement Accomplishments

Foxhole Landfill achieved ISO 14001 certification – 2007
NC Environmental Stewardship Initiative Program member - 2010

Internal Environmental Assessment Program Pilot Study – 2012

The Environmental Leadership Team approved the initiation of an Internal Environmental Assessment Program in June 2011. An environmental compliance assessment checklist was created and a pilot assessment was conducted on two County facilities. The majority of items contained on the checklist were found to meet compliance by the Internal Environmental Assessment Team (IEAT) and additional information was requested for several checklist items from the County's facility manager. The IEAT provided notification of pending requirements, specified information requests, and detailed opportunities for improvement for the two facilities as well as the facility management and maintenance countywide. The IEAT will work with the appropriate County departments to gather additional information from staff and vendors / contractors. The pilot study was a success and the IEAT will continue to conduct facility audits (two facilities each quarter) on those facilities with unique operations.

ISO 14001 – 2012

Mecklenburg County's Solid Waste Department expanded from the Foxhole Landfill [ISO 14001](#) certification by achieving an additional certification for the North Mecklenburg and Hickory Grove Recycling Centers.

New and Innovative Products and Practices Accomplishments

Implemented County's First Performance Contract – 2010
Environmental Leadership Team subcommittees expanded to include Water Team - 2010

Established Master Naturalist certification program - 2012

Mecklenburg County Park and Recreation initiated the Central Carolina Master Naturalist program to develop a corps of well-trained volunteers providing education and service to benefit natural resources in their communities. Volunteers start the program by completing a 60+ hour basic training course. After receiving training, Master Naturalists may participate in many different types of volunteer activities. These might include assisting in a nature outreach program at a park, museum, nature center or school; assisting a scientist collecting bird census data; collecting data on water quality or many others.

Solar Thermal – 2012

Solar thermal installations were completed on 4 County facilities including : Wallace Kuralt Center, Medical Examiner, Jail North, and the Samuel Billings Center (as well as installations on two of our partner facilities, one each at Charlotte Mecklenburg Schools and Central Piedmont Community College respectively) with all installations achieving DOE approval. This project included development of a relationship with Piedmont Natural Gas through the successful pilot installations. The success of these installations will be evaluated in 2013.

Mecklenburg County Environmental Footprint

2011 Data*

- 112 buildings
- 3.5 million square feet of occupied space
- 2,838 utility accounts

- 99.7 million gallons of potable water used
- 1.4 million therms natural gas used
- 26.9 million kilowatt hours of electricity used

- 16,002 tons of waste generated
- 3,018 tons of waste recycled
- 64,430 reams office paper used

- 9.2 million miles traveled in County fleet
- 1047 fleet vehicles
- 626,146 gallons of fuel utilized by fleet vehicles

- 20 County Departments with action plans
- 3 County Partners with action plans (data not included above)



*Environmental Footprint Data is updated bi-annually.