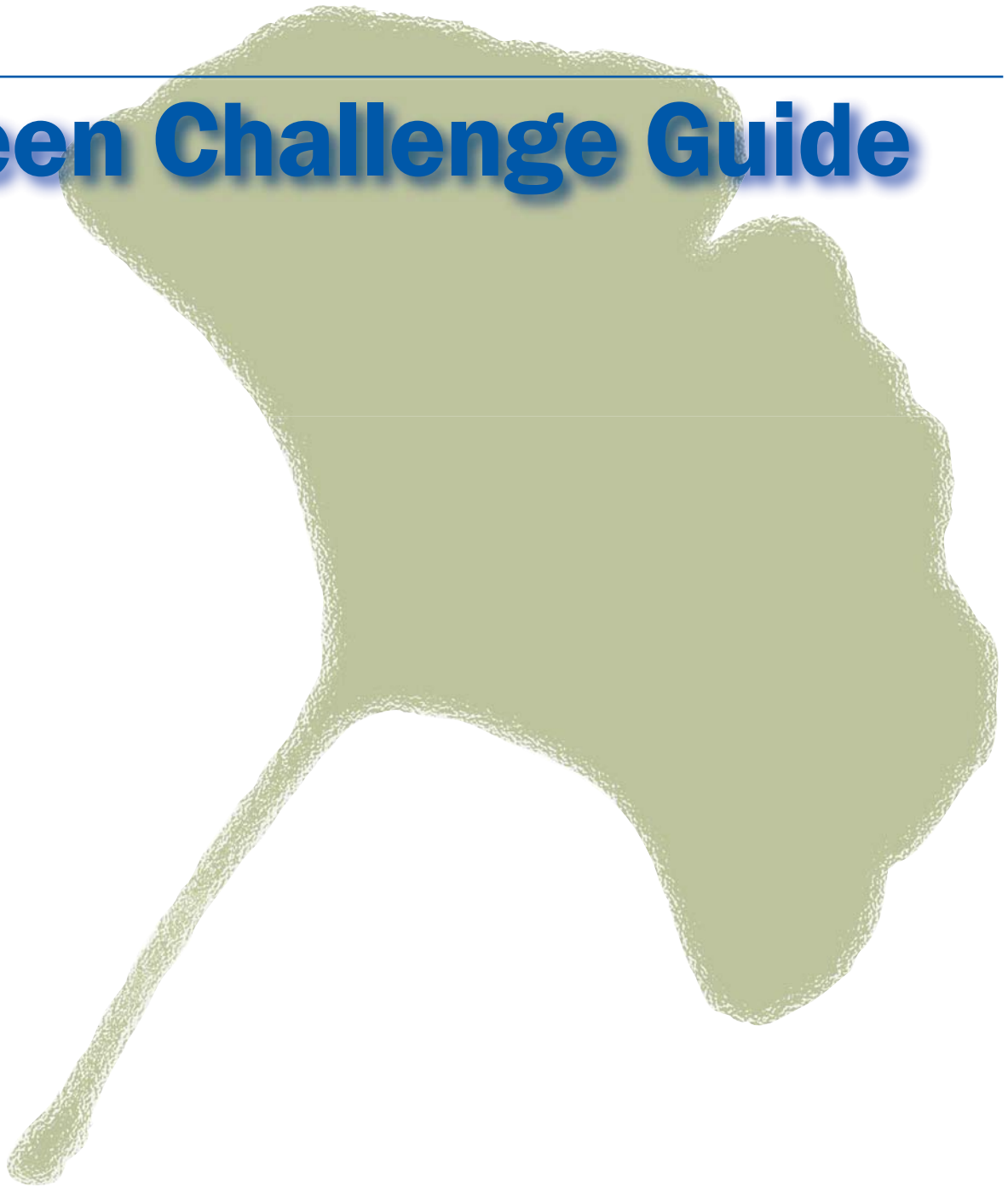

Green Challenge Guide



NCLM Green Challenge



Introduction

NORTH CAROLINA CITIES AND TOWNS ARE DOING EXCITING PROJECTS THESE DAYS TO SAVE ENERGY, natural resources and money. These are part of the strong commitment at the local level to preserve North Carolina's natural resources while making the best use of limited resources. The projects range from simple steps such as limiting vehicles from idling to broad sustainability plans. Small towns and large cities from all parts of the state are involved.

The League launched its Green Challenge to help cities and towns in these efforts. The Green Challenge recognizes cities and towns that have made significant achievements, is a means of gathering information on what activities municipalities have undertaken, and will provide a method of exchanging information and resources.

At the League's Annual Conference in Charlotte last October, we announced that nearly 80 cities and towns had achieved Level One of the Green Challenge. This level focuses on planning, policy adoption and energy efficiency. Now, we open Intermediate and Advanced levels of the Green Challenge and invite all cities and towns to join.

Those who have completed Level One are encouraged to use this Green Challenge Guide to access whether their town or city qualifies for the Intermediate or Advanced Level.

Those who are not participating in the Green Challenge are encouraged to begin this process. A town or city must complete the required number of activities in Level One before moving to a higher level. But a city or town may request to receive the Level One designation and a higher level designation at the same time. For example, a town may have completed the required activities at level one and, in addition, undertaken projects that will qualify it for the Intermediate or Advanced Level as well.

The League will recognize those cities and towns who achieve any of the three levels of the Green Challenge. The city or town will receive a plaque honoring their efforts, the NCLM Annual Conference program will include a list of Green Challenge cities and towns, the list will appear in Southern City, and there will be additional publicity.

The NCLM Green Challenge program was based extensively on the Go Green Virginia Program of the Virginia Municipal League. We appreciate very much VML's willingness to share their good idea and hard work with us in North Carolina.

The Green Challenge is intended to be a recognition program and a means to share information about what works and what resources are available. Where possible, we have offered information about available resources for particular energy-saving and sustainable efforts. This is a rapidly developing field with new resources and programs appearing frequently. Please let the League know of any programs or resources that would be useful to other cities and towns.

League staff members Margot Christensen and Matt Lail will be happy to discuss with you details of how to qualify for the various levels of the Green Challenge. Our staff, however, does not have the expertise to advise you on technical issues involved with energy and sustainability programs. They will try, if possible, to refer you to an appropriate public agency or private sector resource.

We also want to acknowledge the leadership of Charlotte Mayor Susan Burgess, 2007-2008 NCLM president, on this Green Challenge. Her idea and vision led to this program and she has a strong passion for environmental stewardship and fiscal responsibility that many other municipal officials share.

Please review this Green Challenge and the accompanying materials and consider participating. The Green Challenge is a way to recognize the efforts of cities and towns to operate in an environmentally sound manner and save money.

How to participate in the NCLM Green Challenge



- The guide that follows outlines Level One, Intermediate and Advanced Level Requirements.
- Read through the materials and then you can complete the Green Challenge Tally.
- The Green Challenge Tally will be sent to all cities and towns by a separate email and is an electronic form you can use to submit information on your “green” activities. It will add up the points for your activities and give you a preliminary score.
- If you are viewing/downloading this guide from the League’s website, www.nclm.org, you can obtain a copy of the Green Challenge Tally by contacting Margot Christensen at mchrste@nclm.org or Matt Lail at mlail@nclm.org.
- Once you submit the tally, we will evaluate any requests for points for innovations/special projects and notify you of your final score.
- Once your city or town has achieved Level One, Intermediate or Advanced Level in the Green Challenge, you will receive a plaque and other recognition.

NCLM Green Challenge

Level One Green Challenge Qualifications

Cities under 10,000 population

Governing board must adopt a resolution indicating that municipality intends to participate in the Green Challenge
Municipality must complete at least two of the five measures outlined under Level One

Cities with more than 10,000 population

Board must adopt a resolution indicating that municipality intends to participate in the Green Challenge
Municipality must complete at least three of the five measures outlined under Level One
The five measures below are Level One Green Challenge measures.

Government Policy Adoption

1. Adopt a sustainability plan, climate protection resolution or similar commitment by the governing body.

DESCRIPTION:

By adopting a sustainability plan, or a similar document to organize green initiatives, local governments can coordinate efforts that often cross departmental boundaries, gain input and buy-in from city staff and additional stakeholders, and track progress in order to ensure that goals are met. While each jurisdiction should create a plan that suits its particular situation, the development and adoption of the plan is an important exercise that can benefit municipalities of any size and lead to demonstrable results. Credit is also given for adoption of resolutions that are circulating nationally – or their equivalent – to promote responsible actions on climate protection through emissions reductions. While these resolutions are best coupled with plans for specific actions and policies, they represent a public commitment on behalf of the municipality and can be a positive first step.

RESOURCES:

- Cool Cities: www.coolcities.us/
- Sustainable Cities is a small catalytic organization that tackles the daunting challenges of urban sustainability: <http://sustainablecities.net/>
- Local Governments for Sustainability USA is a membership association of more than 500 local governments committed to climate protection and sustainability: www.iclei.usa.org/

EXAMPLES:

- City of Charlottesville, Va.: www.charlottesville.org
- Arlington County, Mass.: www.arlingtonma.gov/Public_Documents/ArlingtonMA_Energy
- Minneapolis, Minn.: www.ci.minneapolis.mn.us/sustainability/

EXAMPLES OF CLIMATE RESOLUTIONS:

- City of Charlotte, N.C., Climate Resolution Agreement: www.charmeck.nc.us/
- Chapel Hill, N.C., Carbon Reduction Pledge: www.townofchapelhill.org/

POTENTIAL FUTURE SUBMITTAL: Provide copy of resolution

2. Adopt an energy improvement plan (EIP).**DESCRIPTION:**

All local governments engage in planning – which can include land use, transportation, open/public spaces, historic preservation, etc. Increasingly, local governments are recognizing the value in developing plans regarding energy usage. An energy-efficient plan outlines the measures a jurisdiction has and will implement to become more energy efficient and reduce its energy consumption. To determine what types of energy-efficient measures will be implemented, the jurisdiction must first assess the current energy consumption of municipal-owned and leased facilities. It generally applies to retrofitting existing buildings and sets standards for new municipal facilities to incorporate energy-efficient and sustainable building techniques in their construction.

Implementing energy-efficient and conservation measures into daily operations are essential for reducing energy consumption. An energy improvement plan provides examples of energy-efficient measures that can be applied in areas such as lighting, temperature control, infrastructure, purchasing/procurement, renewable energy and alternative fuels. Employee awareness should be a fundamental part of the plan. By educating employees about the need for resource conservation and what they can do to make a difference, municipal facilities will become more energy efficient.

RESOURCES:

- www.energync.net
- Local Governments for Sustainability USA is a membership association of more than 500 local governments committed to climate protection and sustainability: www.icleiusa.org/

EXAMPLES:

- San Antonio, Texas, Energy Efficiency Plan
- Charlotte, N.C., Energy Improvement Plan

POTENTIAL FUTURE SUBMITTAL: Executive Summary and Table of Contents pages of EIP

3. Register with the EPA's Energy Star Challenge and use their tools, or an equivalent system, to conduct a baseline emissions inventory of your government facilities.**DESCRIPTION:**

Local government agencies spend more than \$10 billion a year on energy to provide public services and meet constituent needs – while grappling with tightening budgets. Yet nearly one-third of the energy used to run typical government buildings goes to waste. EPA provides local and state governments, as well as federal agencies, a proven energy management strategy and no-cost tools to save energy and money and demonstrate their environmental leadership. (From the Energy Star website below).

Resources Information on EPA's Energy Star Challenge: www.energystar.gov/

Track energy use and benchmark facilities using Portfolio Manager

International Council for Local Environmental Initiative: www.icleiusa.org/action-center/tools

EXAMPLES

- Arlington's commitment to the Energy Star Challenge:
www.arlingtonma.gov/Public_Documents/ArlingtonMA_Energy/index

POTENTIAL FUTURE SUBMITTAL: Copy of baseline emissions inventory findings

4. Conduct an energy audit of two or more of your government facilities and implement at least one recommendation.

DESCRIPTION:

An energy audit gives a snapshot look at government facility energy use trends, consumption and potential opportunities to help better manage facilities. Such an audit evaluates energy consumption practices and provides an analysis that can be the foundation for continued business planning, especially in identifying areas for energy and cost savings within existing facilities.

The use of energy-saving performance contracting is becoming increasingly attractive to local governments. This is when a government or organization contracts with a private firm to assess and correct energy deficiencies – often with little or no actual cost to the locality as the long-term energy savings offset the costs.

The State Energy Office is North Carolina's lead agency for energy programs and services and serves as the official source for energy information and assistance for consumers, businesses, government agencies, community colleges and schools and the residential, commercial and industrial sectors. This office has considerable information on performance contracting.

RESOURCES:

- N.C. State Energy Office: www.energync.net/
- U.S. Department of Energy: www.doe.gov/
- International Council for Local Environmental Initiative:
www.icleiusa.org/action-center/tools/municipal-clean-energy-toolkit/energy-efficiency/view?searchterm=
- Contact your energy providers for information and assistance.
 - Progress Energy: www.progress-energy.com/custservice/carbusiness/efficiency/programs/eebiz/index.asp
 - Duke Energy: www.duke-energy.com/north-carolina-business/energy-management/toolkit.asp
 - PSNC Energy: www.psnenergy.com/en/small-to-medium-business/energy-saving-tips/
 - Piedmont Natural Gas: www.piedmontng.com/industrial/solutionsSection/energyEfficientPractices
 - Dominion Power: www.dom.com/about/conservation/index.jsp

POTENTIAL FUTURE SUBMITTAL:

Provide percentage of buildings audited and a brief narrative of follow-up plans (1 paragraph)

5. Create a water conservation education program.

DESCRIPTION:

Water is essential for municipalities and cannot be taken for granted. Education establishes a foundation for working together to secure and protect this vital natural resource. Understanding water's flow through our daily lives informs the debate about the cost and value of public investments in municipal water supplies. Individuals learn ways to conserve. Communities cooperate given the knowledge of their interdependence.

RESOURCES:

- N.C. Governor's Water Conservation Resources: www.governor.state.nc.us/
- American Water Works Association: www.awwa.org/
- U.S. EPA Water Site: www.epa.gov/ow/
- www.icleiusa.org/action-center/tools/municipal-clean-energy-toolkit/energy-efficiency/#assessing-baseline-energy-use

POTENTIAL FUTURE SUBMITTAL: Provide copy of plan

Intermediate/Advanced Level Green Challenge Qualifications

Qualifications for Intermediate and Advanced Levels

- Municipality must first achieve Level One or complete requirements of Level One along with those of Intermediate or Advanced. In other words, a city or town cannot skip Level One activities.
 - Each of the activities below has been given a point value. Whether your city or town achieves the intermediate or advanced level depends on how many points you accumulate. Some measures are more difficult to accomplish, either because of cost or technical issues, and are assigned a higher point value.
 - Intermediate Level Designation Requirements

Cities/towns under 10,000 population	Level One plus 25 points*
Cities/towns 10,000 population and over	Level One plus 30 points*
 - Advanced Level Designation Requirements

Cities/towns under 10,000 population	Level One plus 50 points*
Cities/towns 10,000 population and over	Level One plus 60 points*
- *This total includes points required for Intermediate and Advanced Levels

Purchase electric power from renewable sources or install renewable energy technology (solar, wind or geothermal) for use in government facilities.

DESCRIPTION:

As large consumers of electricity, municipalities' choice of electricity sources can have a significant effect on the environment. Currently, our electricity from a mix of sources, including coal, nuclear, natural gas and a small amount of renewable energy. Some municipalities, however, have chosen to power a certain percentage of their government buildings with clean renewable sources like wind and solar.

In some cases, it's possible to actually generate clean energy on site by installing solar panels on the roof of a new or existing building. In other cases, municipalities have supported the construction of new clean energy facilities such as biomass (burning organic matter), small hydroelectric or geothermal power.

The most common approach to serving a government building with clean energy, however, is to buy existing available clean energy through your normal provider. Contact your local utility to find out if they offer a clean energy option. In some cases, municipalities may choose to sign long-term contracts with new facilities coming online, and their dedicated support can often provide much needed security for this growing industry. Regardless of whether clean energy is generated on site or purchased through the grid, every kilowatt-hour that comes from clean renewable sources decreases the carbon footprint of the city.

RESOURCES:

- Contact your energy providers for information and assistance.
 - Progress Energy: www.progress-energy.com/customerservice/carbusiness/efficiency/programs/eebiz/index.asp
 - Duke Energy: www.duke-energy.com/north-carolina-business/energy-management/toolkit.asp
 - PSNC Energy: www.psnenergy.com/en/small-to-medium-business/energy-saving-tips/
 - Piedmont Natural Gas: www.piedmontng.com/industrial/solutionsSection/energyEfficientPractices
 - Dominion Power: www.dom.com/about/conservation/index.jsp
- Renewable Energy Initiative – NC ElectriCities: www.electricities.com
- NC Green Power: www.ncgreenpower.org/about/
- N.C. Solar Center: www.ncsc.ncsu.edu/index.php
- www.smartpower.org
- N.C. Solar Distributed Generation Program:
www.duke-energy.com/nc-solar-panel/nc-solar-distributed-generation-program.asp

EXAMPLES:

- Durham – solar hot water in General Services Building
- Winston-Salem – Uses on-site methane gas recovery for fuel at wastewater treatment facility

POINTS AVAILABLE:

5 points for each 0.5 percent of percent of energy coming from renewable sources. (maximum of 20 points)

POTENTIAL FUTURE SUBMITTAL:

Proof of renewable energy certificate purchase or calculations of energy saved

Participate in DENR Environmental Stewardship Initiative.**DESCRIPTION:**

DENR's Environmental Stewardship Initiative (ESI) is designed to promote and encourage superior environmental performance by North Carolina's regulated community, including municipal wastewater treatment plants. This voluntary program provides benefits and technical assistance to stimulate the development and implementation of programs that use pollution prevention and innovative approaches to meet and go beyond regulatory requirements. This program seeks to reduce the impact on the environment beyond measures required by any permit or rule, producing a better environment, conserving natural resources and resulting in long-term economic benefits. DENR is about to expand the program to nonregulated facilities.

The ESI program has three levels of membership: Environmental Partner, Rising Environmental Steward and Environmental Steward. Membership applications for the program are accepted year round for Partners and from March 1 to April 30 for Rising Stewards and Stewards. Members are accepted into ESI for a five-year period at which time they reapply for membership. Once accepted into the program, Partners are reviewed annually and Rising Stewards and Stewards are reviewed after three years to assess if facilities continue to meet overall program goals.

All members are required to make a commitment to compliance; set environmental performance goals; develop, implement and maintain a certified ISO 14001 environmental management system based on ISO 14001 or an ESI Stewardship Plan; and report annually on progress toward the organization's environmental performance goals. If a member facility does not comply with program requirements, the ESI has a termination policy, revoking all benefits granted under the program.

RESOURCES:

- Information on criteria and benefits for each level of membership and additional information
www.p2pays.org/esi/esi_description.asp

EXAMPLES:

- City of Gastonia – several facilities are in Initiative

POINTS:

Five points for membership in the DENR Environmental Stewardship Initiative at the Environmental Partner level

Seven Points for membership in the DENR Environmental Stewardship Initiative at the Rising Environmental Steward level

Ten Points for membership in the DENR Environmental Stewardship Initiative at the Environmental Steward level

Develop a policy to use dark sky compliant outdoor light fixtures.**Install energy-efficient outdoor lighting****DESCRIPTION:**

Dark sky compliant outdoor light fixtures serve to preserve and protect the nighttime environment and our heritage of dark skies through quality outdoor lighting. They stop the adverse effects of light pollution, such as energy waste, and the air and water pollution caused by energy waste, harm to nocturnal wildlife and ecosystems, poor nighttime ambience, etc. Energy-efficient outdoor lighting saves money and natural resources.

RESOURCES:

- International Dark Sky Association: www.darksky.org/mc/page.do
- Examples of adopted ordinances: www.darksky.org/mc/page.do?sitePageId=58882

EXAMPLES/LINKS:

- Carrboro ordinance on excessive light illumination: www.townofcarrboro.org/PZI/PDFs/LUO/ART-XV.pdf
- Chapel Hill has an LED lighting project underway
- Conover: Requires full cutoff lights for new building/development
- Raleigh: Has installed LED fixtures in new parking deck and various other locations
- Wilkesboro: Requires full cutoff fixtures in parking areas of single/multi-tenant retail buildings greater than 30,000 square feet

POINTS AVAILABLE:

- Five points for adoption of policy on use of dark sky compliant outdoor lighting.
- Five points for installation of energy-efficient outdoor lighting.

POTENTIAL FUTURE SUBMITTAL: Copy of policy/description of project

Establish an energy manager position/responsibility or management team within the government.

DESCRIPTION:

An energy manager position/responsibility could be responsible for all or some of a wide range of energy management duties, such as: monitoring energy consumption in government facilities, tracking costs and trends; maintaining a computer-based energy reporting and tracking system; meeting with electric and gas utilities and evaluating utility rate schedules for current and future cost decisions; supporting development of the building automation/energy management systems in existing and future facilities; researching and performing life-cycle cost analysis for equipment used in local government buildings; collaborating on the development, implementation and monitoring of standards for construction, maintenance and operation of equipment in local government buildings; participating in policy group discussions and drafting policy statements and implementation documents, including an internal energy conservation program for employees; participating in the identification of new funding sources, such as grants, for energy programs, and preparing support justification for efficiency and conservation program funding; providing advice and training to technical staff on the maintenance and operation of energy-related systems; and preparing and submitting documentation relating to progress made in reducing government energy consumption, including reports on climate emissions, Energy Star program participation, EPA Green Power Partnership participation and related programs. The savings generated by the staff position often exceed the cost of the position.

RESOURCES:

- Helpful roadmap to energy management applicable to a business or local government
www.energystar.gov/index.cfm?c=guidelines.guidelines_index

EXAMPLES/LINKS:

- Raleigh: Energy Manager on staff
- Durham: Energy Manager on staff
- Wilmington: Has established energy team to evaluate energy conservation and efficiency measures
- Salisbury: Facility Manager received special training from N.C. Dept. of Energy and implementing energy reduction and efficiency programs
- Carolina Shores: Assistant Town Manager assigned responsibility for conservation efforts and practices

POINTS AVAILABLE: Five points

POTENTIAL FUTURE SUBMITTAL: Copy of position description

Establish a policy of LEED or comparable certification for all new government facilities.
DESCRIPTION:**Green Buildings**

Recent analyses indicate that buildings are responsible for 70 percent of our electricity use, 39 percent of primary energy use, 38 percent of our carbon dioxide emissions, 40 percent of raw materials extraction, 60 percent of non-industrial waste generation, and 12 percent of our potable water use. Buildings result in higher levels of stormwater runoff and reduce forest cover. Buildings are also where people spend a great deal of time either at work, at home, or attending events and thus have a huge effect on our quality of life. There are several well-known rating systems, LEED, Green Globes and The Natural Step, each briefly described below.

LEED

LEED, which stands for “Leadership in Energy and Environmental Design,” is a nationally-recognized rating system established by the U.S. Green Building Council (USGBC) for new and existing buildings. LEED promotes sustainable building practices through a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality. There is a graduated point system where buildings can be rated either LEED “certified,” “silver,” “gold,” or “platinum.” Buildings can receive LEED certification through a process managed by the USGBC. LEED certified buildings may have an initial cost-premium, which is generally offset through lower life-cycle operating savings. A recent study provided by the USGBC suggests that new buildings designed to meet LEED ratings at the outset result in no capital cost premium and significant operating cost savings. Energy operating savings of 15 percent or higher are commonplace, and reported payback periods for green building investments with capital cost premiums are 3 to 5 years. LEED certification may affect the initial cost of the building, but with proper analysis it may be possible to capture the cost saving over the lifetime of the building’s use, often within 5 years.

Green Globes

Green Globes® is a revolutionary green building guidance and assessment program that offers an effective, practical and affordable way to advance the overall environmental performance and sustainability of commercial buildings. Essential elements of the Green Globes system include:

- Comprehensive environmental assessment protocol
- Software tools that speed and simplify self-assessment
- Best practices guidance for green construction and operations
- Qualified assessors with green building expertise
- Rating/certification system

Environmental Assessment Areas

Based on its recognized and proven assessment protocol, using the Green Globes software tools and ratings/certification system ensures that environmental impacts are comprehensively assessed on a 1,000 point scale in multiple categories: energy; indoor environment; site; water; resources; emissions; and project/environmental management.

Building Certification

After achieving a threshold of at least 35 percent of the total number of 1,000 points, new and existing commercial buildings can be certified for their environmental achievements and sustainability by pursuing Green Globes certification that assigns a rating of one to four globes.

Highly qualified third-party assessors (with expertise in green building design, engineering, construction and facility operations) conveniently interface with project teams and building owners during the third-party assessment process by reviewing building documentation and conducting on-site walk throughs. Green Globes rating/certification is suitable and practically attainable for a wide range of commercial buildings and enables building owners to credibly market their environmental responsibility to shareholders, tenants and the broader community.

The Natural Step

The Natural Step is an international not-for-profit organization dedicated to education, advisory work and research in sustainable development. Since 1989, they have worked with thousands of corporations, municipalities, academic institutions and not-for-profit organizations that have proven that moving strategically toward sustainability leads to new opportunities, reduced costs, and dramatically reduced ecological and social impacts.

The Natural Step approach is collectively called “The Natural Step Framework” – it is a comprehensive model for planning in complex systems. It is openly published and free for all to use. This framework has helped hundreds of different organizations around the world integrate sustainable development into their strategic planning and create long lasting transformative change. It is constantly being used, tested, refined and developed.

EXAMPLES/LINKS:

- Additional information regarding LEED can be found at www.usgbc.org/DisplayPage.aspx?CMSPageID=222
- A detailed document for the LEED rating system may be found at www.usgbc.org/ShowFile.aspx?DocumentID=1095
- Cost Analyses of LEED Buildings on USGBC website (scroll down to “Economic Analyses”)
www.usgbc.org/DisplayPage.aspx?CMSPageID=77
- More information on the cost of LEED-certified buildings:
www.davislangdon.com/upload/images/publications/USA/The%20Cost%20of%20Green%20Revisited.pdf
- More information on Green Globes: www.greenglobes.com
- More information on the Natural Step: www.naturalstep.org

EXAMPLES

- Chapel Hill, N.C., LEED-based Energy Ordinance
- Asheville resolution that all new municipal buildings greater than 5,000 square feet will be LEED Gold certified; under 5,000, LEED Silver certified. All buildings over 10,000 sq. ft. will be LEED Silver and all renovations over 10,000 sq ft will be LEED certified.
- High Point preparing policy to construct all new buildings to LEED standards

POINTS AVAILABLE: Five points

POTENTIAL FUTURE SUBMITTAL: Copy of policy

Build or renovate a building to LEED or comparable standard.**DESCRIPTION:**

Construction or major renovation of buildings that meet at least the U.S. Green Building Council “LEED certified” level have been carried out in many localities throughout the United States by government, school systems and the private sector. The LEED rating system is flexible and can be applied to a wide range of buildings traditionally constructed by local government, including government centers, recreation and parks buildings, and other facilities. Incorporation of green building elements, beginning with the initial phase of design, can reduce or eliminate cost-premiums and result in lower operating costs as well as a healthy workplace or public space.

Other comparable rating systems or sustainability development systems include Green Globes and The Natural Step

EXAMPLES/LINKS TO RESOURCES:

- The U.S. Green Building Council maintains a regularly updated list of buildings, both public and private, that have received LEED certified or higher ratings.
- Certified project list: www.usgbc.org/LEED/Project/CertifiedProjectList.aspx (then enter the appropriate search criteria.)
- Cost Analyses of LEED Buildings on USGBC Web site: www.usgbc.org/DisplayPage.aspx?CMSPageID=77 (scroll down to “Economic Analyses”)
- More information on Green Globes: www.greenglobes.com
- More information on the Natural Step: www.naturalstep.org

EXAMPLES

- Wake Forest Town Hall: LEED certified, Silver level at minimum
- Raleigh: New convention center and WWTP Training Center are LEED certified.
- Fayetteville: New Customer Care Building will be LEED certified

POINTS AVAILABLE: Ten points for first building; five points for each additional building (up to 20 points)

POTENTIAL FUTURE SUBMITTAL: Copy of LEED Scorecard

Implement an internal government program that reduces, reuses and recycles paper, plastic and other materials.

DESCRIPTION:

Local governments operate numerous facilities and buildings that generate considerable quantities of solid waste and recyclable commodities. Formal programs that are designed to set an example for the community and may include guidelines and implementation actions to reduce waste generation and either reuse or recycle commodities such as paper, plastic and other materials.

RESOURCES:

- N.C. Department of Environment and Natural Resources, Division of Pollution Prevention and Environmental Assistance. Includes recycling markets directory, information on best management practices, solid waste and recycling fees, fact sheets and more at www.p2pays.org/localgov
- The U.S. General Services Administration (GSA) operates recycling programs in more than 1,100 government-owned or leased buildings. More information on GSA waste reduction and recycling at www.gsa.gov/Portal/gsa/ep/contentView.do?contentType=GSA_BASIC&contentId=24938&noc=T

EXAMPLES:

- Marion: All city departments and buildings recycle all items that city collects, including paper, cardboard, plastic, aluminum cans, newspaper, steel cans.
- Durham: Has internal recycling program
- Fayetteville: Paper recycling for all city offices
- Asheville: Internal recycling for more than 10 years.

POINTS AVAILABLE: Five points for implementation of internal recycling program

POTENTIAL FUTURE SUBMITTAL: Copy of policy or program memo

Implement a procurement policy of a minimum of 30 percent post-consumer recycled content for everyday office paper use (consistent with the current federal government policy).

DESCRIPTION:

Post-consumer recycled content paper means paper made with a material or finished product that has served its intended use and has been discarded for disposal or recovery, having completed its life as a consumer item. Procurement policies that require 30 percent or higher post-consumer recycled content help create demand for post-consumer waste paper, thereby helping support markets for recyclables.

RESOURCES:

- Guide to buying recycled products: www.p2pays.org/ref/02/01987.pdf
- Local government purchasing information: www.p2pays.org/epp/localgov.asp

EXAMPLES

- Conover: Moving from use of 10 percent post-consumer recycled content to more use of 30 percent post-consumer recycled content paper products
- Southern Shores' sustainability policy calls for purchase of printer/copier paper products with minimum of 30 percent post-consumer content.

POINTS AVAILABLE: Five points

POTENTIAL FUTURE SUBMITTAL: Copy of policy

Implement an environmentally preferable procurement program.**DESCRIPTION:**

Environmentally preferable procurement (EPP) involves purchasing products or services that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose.

Attributes can include a long list of factors that evaluate the purchaser's need, the cost and functionality of the product, and its environmental effect. Attributes to consider are:

Recycled content	Durability	Maintenance
Recyclability	Disposal	Energy efficiency
Water efficiency	Raw materials acquisition	Production
Manufacturing	Packaging	Distribution and transportation methods
Operation		

EPP is often used to refer to a variety of sustainability issues, including environmentally preferable procurement, purchasing, products, practices and programs. It can also be referred to as green purchasing, which the federal government defines as the acquisition of recycled content products, environmentally preferable products and services, bio-based products, energy and water efficient products, alternate fuel vehicles, and products using renewable energy. Much of this terminology is interchangeable, but the intent remains unchanged. EPP, or green purchasing, is an effort to be more environmentally sustainable, to improve the health of people and the environment by being more conscious of purchasing decisions and business practices.

– description from the N.C. Division of Pollution Prevention and Environmental Assistance

RESOURCES:

- Environmentally Preferable Procurement information on the N.C. Division of Pollution Prevention and Environmental Assistance website includes links to N.C. resources, federal government links, a vendor library, other states' programs, nonprofit organizations and product-specific information at www.p2pays.org/epp/links.asp

POINTS AVAILABLE: Five points

POTENTIAL FUTURE SUBMITTAL: Copy of EPP policy

Establish a community-wide recycling collection program**DESCRIPTION:**

Community-wide recycling collection programs are designed to collect and reuse recyclable commodities such as paper, bottles, cans, plastics, aluminum, cardboard, and other items, thereby reducing the overall quantities of solid waste disposal. This reduces the demand on waste disposal facilities such as landfills or incinerators and promotes environmental stewardship. A community-wide recycling program can consist of a curbside recycling service where citizens and businesses place their recyclables at the curbside or the businesses' solid waste collection point in separate container(s) from trash containers for pickup by public or private haulers. Alternatively, a system of one or more drop-off recycling centers can be utilized where citizens and businesses bring their recyclables to the center. In some communities both curbside collection and drop-off centers are provided.

RESOURCES:

- Reduce/Reuse/Recycle – resources to help in recycling programs, especially marketing, guides to working with private sector, materials, posters and promotional materials free for use: www.re3.org/
- Fact sheets on local recycling issues: www.p2pays.org/localgov/FactSheets.asp
- Pollution Prevention Waste Assessments. The DPPEA Local Government Team assists by forming a partnership with the local government. DPPEA assistance is provided at no cost and will likely identify ways for a local government to lower costs associated with waste management.
- General information about recycling: www.p2pays.org/localgov
- For western N.C., Waste Reduction Partners at Land of Sky Council of Governments: www.landofsky.org/wrp/

EXAMPLES

- Examples of Curbside Recycling: Fayetteville; Wake Forest; Statesville; Hickory; Marion; Hendersonville; River Bend, Kill Devil Hills; Salisbury; Lewisville; Snow Hill; Wilmington; Davidson; Emerald Isle; Durham
- Examples of Drop-off Programs: Southern Pines; Carolina Shores

POINTS AVAILABLE: Five points for a drop-off program or ten points for a curbside program

POTENTIAL FUTURE SUBMITTAL: Brief narrative describing program (1 paragraph)

Implement a “Green Fleet” policy that incorporates the purchase of low emitting fuel-efficient vehicles for vehicle fleet replacement, the use of alternative fuels (biodiesel, natural gas, ethanol) in fleet operations and the rightsizing of vehicles.

DESCRIPTION:

A Low Emitting and Fuel Efficient Vehicle is any vehicle that has been classified as either a Zero Emission Vehicle by the California Air Resources Board or has achieved a minimum green score of 40 on the American Council for an Energy Efficient Economy (ACEEE) annual vehicle rating guide.

Alternative vehicle fuels can improve our air quality, decrease dependence on foreign oil and promote economic opportunity across the state. Before embarking on an alternative fuel program, issues such as operator/mechanic education, storage/dispensing, fuel procurement and distribution should be addressed. To find out more about alternative fuels contact the U.S. Department of Energy alternative fuels or the National Biodiesel Board.

RESOURCES:

- N.C. Department of Environment and Natural Resources: www.ncair.org/motor
- U. S. Department of Energy alternative fuels: www.eere.energy.gov/afdc
- National Biodiesel Board: www.biodiesel.org
- EPA Local Government Clean Vehicles link: www.epa.gov/otaq/stateresources/rellinks/cleanfleets.htm
- www.seattle.gov/environment/Documents/ClnGrnFltPlan_Sea_07Update.pdf
- California Air Resources Board clean vehicle search page
- Explanation of acronyms on California Air Resources Board clean vehicle search page
- American Council for an Energy Efficient Economy vehicle ratings

EXAMPLES:

- Chapel Hill uses alternative fuels and hybrid vehicles extensively in its fleet
- Chapel Hill Green Fleets Policy
- Raleigh has a downtown transit route served by new diesel hybrid-electric buses

POINTS AVAILABLE:

Five points for implementing a policy that includes the purchase of low emitting fuel efficient vehicles, the use of alternative fuels and rightsizing of vehicles.

POTENTIAL FUTURE SUBMITTAL:

Copy of policy; information on implementation

Adopt an anti-idling policy for government fleet vehicles.**DESCRIPTION:**

Implementing a vehicle anti-idling policy can reduce air and noise pollution and act as public education to how idling wastes fuel, damages engines and results in excess greenhouse gas and criteria air pollutant emissions. Because idling cannot always be avoided, many policies have exemptions, such as in the case of emergency vehicles, traffic conditions, vehicles being repaired or serviced, or in extreme winter cold or summer heat.

RESOURCES:

- N.C. Department of Environment and Natural Resources: www.ncair.org/motor/idle
- Anti-idling fact sheet: www.cleanair.org/Transportation/idling/anti_idling%20factsheet.pdf
- Examples of public education on idling: www.arb.ca.gov/cap/pamphlets/limitsondieselfueledidling.pdf
- EPA - Drive Wise: www.epa.gov/air/actions/drive_wise.html
- Air Watch – Anti idle fact sheet: www.airwatchnorthwest.org/wa/NO_IDLE/Anti_Idle_FactSheet_long.html

EXAMPLES:

- Some of municipalities with anti-idling policies: Marion, Hendersonville, Erwin, Conover, Hickory, Kill Devil Hills, Newton

POINTS AVAILABLE: Five points

POTENTIAL FUTURE SUBMITTAL: Copy of policy

Land Use/Transportation**Adopt land-use plans that allow higher-density development either near public transit nodes or in areas with existing infrastructure AND encourage mixed-use communities.****DESCRIPTION:**

How a locality guides its growth will greatly influence the long-term sustainability and energy consumption of the community. Adoption and revision of our land use plans is a fundamental local government responsibility. Directing development to areas with existing infrastructure saves money and often reduces the need for longer commutes.

A primary consequence of auto-dependent, sprawling developments is the increasing amount of energy required to support the transportation demands. Conversely, a transit-oriented development (TOD) mixes uses (residential, commercial and retail), is more compactly sited near available transportation and tends to be more compact than spread out. This, in turn, reduces the need for driving and energy, and creates a more pedestrian friendly neighborhood.

TODs generally are located within a radius of one-quarter to one-half mile from a transit stop, which is considered to a scale that promotes walking. Whether small towns or larger cities, these principles apply.

RESOURCES:

- LGEAN: www.lgean.org/p2/smartgrowth.htm
- EPA Smart Growth Site: www.epa.gov/dced/sg_network.htm
- Coalition for Smarter Growth: www.smartergrowth.net

EXAMPLES:

- Hendersonville uses urban village zoning classification, encouraging mixed use for smaller planned developments, allowing for higher density development in central urban area.
- Durham's Unified Development Ordinance includes zoning to encourage transit-oriented development and mixed-use communities.
- Salisbury's Land Development Ordinance promotes compact development, open space preservation, infill development and community walkability.
- Carrboro's land use ordinance encourages high-density, transit-oriented and mixed use development See www.townofcarrboro.org/pzi/luo.htm

- Wilmington's Future Land Use plan has strategies to increase use of alternative transportation modes, such as transit, walking, bicycling and trains. It encourages development nodes planned with public transit. Has several mixed use zoning classifications that have alternative transportation planning requirements and density bonuses for provision of transit and for transportation enhancements including park and ride facilities, bus stops and shelters, or financial support of regional transit service.

POINTS AVAILABLE: Five points

POTENTIAL FUTURE SUBMITTAL: Copy of code reference

Promote the use of permanent conservation easements on private property within your community and/or implement a permanent conservation easement on public land. [Or set aside open space or green space through other conservation mechanisms.]

DESCRIPTION:

Conservation easements are recorded perpetual restrictions over the use of land donated to a qualified organization (such as a nonprofit land trust) exclusively for four purposes: natural, historic, recreational or open space. Landowners who voluntarily restrict the development potential of their land are eligible for certain federal and state income tax benefits provided that the conservation easement protects the conservation values of the property as described above and reduces the value of the land as shown by a qualified appraisal. Local governments can encourage landowners to participate in this program by supporting the efforts of the local land trust in their area (such as through a Memorandum of Understanding) and by officially designating classes of land with specific identified conservation values defined by use, location and attributes.

EXAMPLES/LINKS:

- www.ctnc.org/site/PageServer
- Marion is working with local nonprofit to acquire recreational/trail properties that will carry use restrictions through deed restrictions or conservation easements.
- Southern Pines has large number of conservation easements and has written letters of support for local trust to support grant applications for purchase of easements.
- Wilmington has collaborated with soil and water conservation district to secure conservation easements on private property in targeted watersheds for water quality and habitat preservation purposes. Working with county on watershed plan that will include easement targets.
- Wake Forest has purchased land along its major creeks and is implementing conservation easements on the purchased properties.
- Salisbury's land development ordinance requires open space preservation for residential developments of 12 or more units. Options to meet this requirement include permanent conservation easements, fee in lieu for park land acquisition or dedicated access to existing or planning greenway system.
- Carrboro has worked with private landowners for many years on dedication of land for conservation and open space. Town purchased large tract near downtown and placed in permanent conservation use. Has requirement in land use ordinance for 40 percent open space.

POINTS AVAILABLE:

Five points for either promoting the use of permanent conservation easements on private property or for implementing a permanent conservation easement on public land or alternate method of open space/green space preservation

POTENTIAL FUTURE SUBMITTAL:

Brief narrative describing promotion efforts (such as wording in Comprehensive Plan or Memorandum of Understanding with land trust) or evidence of easement on public land; brief description of methods used to preserve open space.

Develop and implement a plan for tree preservation & planting.**DESCRIPTION:**

Trees have a great deal of financial value, from increased property values to various environmental benefits. Trees stabilize the soil and control water pollution, yield advantageous localized effects that conserve energy, preserve and foster air quality and reduce greenhouse gases by removing carbon dioxide (CO₂) and airborne pollutants, abate visual and noise pollution, and provide a natural habitat for wildlife. Trees also provide welcome shade to people and add color and interest to the urban landscape. Trees provide a psychological boost to urbanites. People are generally more satisfied with their neighborhoods if there are trees. Workers are more productive and hospital patients recover faster if they can see trees outside their windows. Many communities have implemented a range of policies, plans and ordinances intended to preserve trees and reforest areas where trees have been lost due to disease, weather, and development.

RESOURCES:

- Chapel Hill tree preservation ordinance (Chapter 11 of Chapel Hill Development Ordinance www.townofchapelhill.org/Modules/ShowDocument.aspx?documentid=998)
- Tree City USA.® The Tree City USA® program, sponsored by The Arbor Day Foundation in cooperation with the USDA Forest Service and the National Association of State Foresters, provides direction, technical assistance, public attention and national recognition for urban and community forestry programs in thousands of towns and cities. www.arborday.org/programs/treeCityUSA/benefits.cfm
- Minnesota Shade Tree Advisory Committee “Guide to Developing a Community Tree Preservation Ordinance”: www.mnstac.org/RFC/preservationordguide.htm

EXAMPLES:

- Marion, a Tree City USA for 19 years, is conducting a tree inventory and developing a tree preservation ordinance.
- Hendersonville has a Tree Board that encourages saving large trees in new developments, encourages tree planting and has purchased and planted trees.
- Wilkesboro adopted tree ordinance in 2007 and formed Tree Council.
- Wilmington recently strengthened tree preservation measures in its land development code. Has full-time urban forester position and Tree Commission.
- Pinehurst has tree preservation ordinance and reviews for compliance during development process.

POINTS AVAILABLE: Five points

POTENTIAL FUTURE SUBMITTAL: Copy of executive summary of plan

Provide employee benefits for ride sharing, walking, biking, or taking transit to work.**DESCRIPTION:**

Sharing your ride to work – in a carpool, vanpool, bus, train, shuttles or a combination of these – is called ridesharing. Sharing the ride with just one other person can cut commuting costs in half. Walking is good for the environment, and good for fitness, too. Transit includes buses, trolleys or rail transportation. Local governments can offer employee benefits or incentives to people who ride share, bike, walk or take transit to work. Popular incentives include reserved or free parking for carpools, cash back incentives for employees not taking up parking spaces, reimbursement for bus or rail tickets, gift certificates, drawings and contests, and comp time.

EXAMPLES:

- Southern Shores: Encourages carpooling and group travel to official functions
- Durham: Free bus passes to DATA buses, participates in the SmartCommute Challenge, has on-site showers for bicyclists in many facilities, have a transportation coordinator
- Asheville: Free bus passes for all employees, free taxi services up to five times a year as emergency ride home for alternative transportation commuters, lockers for bike commuters and upfront parking for carpoolers.
- Salisbury Transit provides free bus fare to all city employees with presentation of employee ID badge.
- Wilmington offers free parking for carpools and carpools are entitled to free 30-day bus passes. City sponsors community-wide carpool match and annual commuter challenge to promote alternate modes of commuting.

POINTS AVAILABLE:

Five points for providing any benefit or incentive for ride sharing, walking, biking or taking transit to work

POTENTIAL FUTURE SUBMITTAL: Copy of program overview

Adopt a policy that a minimum of 20 percent of the eligible workforce should participate in alternative work schedules or telework by 2012.

DESCRIPTION:

A locality may implement for its employees an alternative work schedule (AWS) instead of traditional fixed work schedules (e.g., 8 hours per day, 40 hours per week). Within rules established by the local government, AWS can enable employees to have work schedules that help the employee balance work and family or personal responsibilities, and reduce individual car commutes. Such alternative or flexible work schedules consist of workdays with (1) core hours and (2) flexible hours. Core hours are the designated period of the day when all employees must be at work. Flexible hours are the part of the workday when employees may (within limits, or “bands”) choose their time of arrival and departure. AWS programs also serve as useful recruitment and retention tools.

Telework (also called telecommuting) is the ability to do your work at a location other than your “official duty station.” With portable computers, high-speed telecommunications links and ever-present pocket communications devices, many employees today can work almost anywhere at least some of the time. Some of the advantages to employers are:

- Improves the quality of work and increases productivity. Employees concentrate on the “project” itself with less distraction from the office environment;
- Improves morale and reduces stress by giving employees more options to balance work and family demands;
- Saving hours of commuting time allows the employee to spend more time on projects, completing them with a higher quality of work in a timelier manner.

RESOURCES:

- NC DENR Division of Air Quality: www.daq.state.nc.us/airaware/commute/triangle/tele.shtml

EXAMPLES/LINKS:

- Southern Shores: Through sustainability plan, volunteer flexible work schedule used by more than half of town employees.
- Asheville: Currently, 13 percent of city staff work on the four-day/10-hour schedule. Has formal telework policy and informal flexible scheduling policy.
- Cornelius: Considering a four-day work week and/or flex scheduling.
- Morrisville: Some flexibility on work hours, depending on nature of work. Flex hours in force in summer with 4/10 workdays possible.

POINTS AVAILABLE: Five points

POTENTIAL FUTURE SUBMITTAL: Copy of policy

Develop an employee education program on policies/practices relating to the environment and energy conservation.

DESCRIPTION:

An employee education program may include the development and implementation of an Environmental Management System, employee training on energy efficiency, formalization of employee energy efficiency guidelines, information on policy and practice provided on an intranet and websites, induction training and employee events such as energy symposiums.

RESOURCES:

- N.C. Department of Environment and Natural Resources: www.eenorthcarolina.org

EXAMPLES:

- Southern Shores uses email broadcast news to provide environment and energy conservation education on weekly basis to employees and citizens.
- Durham: Sustainability manager developing an employee education program.
- Asheville: Conservation brand and logo developed for internal efforts and posters and stickers placed in all city buildings. Next phase will include employee challenges and conservation incentives.
- Lewisville provides educational information to staff during regular staff meetings.
- Wilmington's Energy Team has started education program on energy conservation to remind employees to turn off lights and turn down thermostats. Energy reduction contest among firehouses saved more than \$4,000 in energy costs over six months. Public Service Dept. provided compact fluorescent bulbs to replace incandescent bulbs in desk lamps. City manager held energy summit with executive leadership team to evaluate potential energy conservation measures and policies.

POINTS AVAILABLE: Five points

POTENTIAL FUTURE SUBMITTAL: Summary of topics covered in education program

Establish an advisory commission composed of local residents and business representatives to advise and assist the local governing board on policies and practices dealing with the environment and energy conservation.

DESCRIPTION:

Reaching environmental sustainability within our cities is a long-term process requiring policy change, behavioral change and a lot of public education. Thus, it has proven very important to ensure public participation from the beginning when working on sustainability issues. In smaller municipalities, citizens and local organizations can provide much-needed expertise or just an extra set of hands for projects. Citizens also provide a long-term consistency on these vital issues even when elected leadership may change.

Citizen sustainability committees can be tasked with a variety of jobs, including: research on new ideas, networking on education institutions, collecting feedback from the community on new ideas; offering a sense of community priorities; helping to prepare reports and much more. There are many ways to form a committee - (but not limited to) individual citizens, business leaders, elected officials, city employees and non-profit organizations. Groups can serve to help create new policy, to evaluate existing policy, or to offer vision that can then be implemented by other institutions.

Regardless of how it is formed, citizen sustainability committees help ensure that all work meets the needs and concerns of the public, and ensuring participation from the beginning of the process.

EXAMPLES:

- Some of cities/towns with advisory commissions: Hendersonville, Durham, Pinehurst, Asheville, Carrboro, Chapel Hill, Davidson, Kannapolis, Morrisville

POINTS AVAILABLE: Five points

POTENTIAL FUTURE SUBMITTAL: Copy of commission roster or charge/mission

Develop and implement an education program for the local community dealing with the environment and energy.

DESCRIPTION:

A public education program can be implemented using a range of mediums such as leaflets, websites, local media, or through public events. The program could include the provision of recycling, public transport, stormwater pollution, climate change, air quality and water conservation information.

Energy conservation education may encompass a range of measures, such as providing compact fluorescent light bulb (CFL) giveaways, residential and business education on energy efficiencies, heating, lighting, insulation, home renovation and green power advice.

EXAMPLES/LINKS:

- N.C. Department of Environment and Natural Resources: www.eenorthcarolina.org
- Durham’s sustainability manager has responsibility to educate community about Greenhouse Gas Reduction plan and other environmental issues.
- Kannapolis: Advisory Commission has sponsored classes on composting, biofuels, water sources and water conservation, and energy conservation. Earth Day event planned.

POINTS AVAILABLE: Five points

POTENTIAL FUTURE SUBMITTAL: Brief narrative describing program (1 paragraph)

Innovation and Special Accomplishments

DESCRIPTION:

Innovations/Special Accomplishments can be any actions related to sustainability. Below are a few examples.

- Purchase of reusable shopping bags to restrict use of plastic shopping bags. (Southern Shores)
- Free residential and commercial energy audits to any electricity customer. (Wake Forest)
- Use of engines in wastewater treatment operations that adjust their speed to the amount of work to be done. (Statesville)
- Regional greenhouse gas emissions inventory and local climate protection activities based on inventory. (Carrboro)
- Completed water audit to identify leaks, completed energy audits at all city buildings. (Newton)
- Offering free bus rides to all city residents on ozone action days. (Salisbury)
- Developing a cross-city, multi-use trail that links parks, schools, UNC–Wilmington and large mixed use development, developed and participate in regional awards program to recognize developers that incorporate green building, low impact development, habitat preservation and education in their commercial, residential and public development projects. (Wilmington)
- Achieving state waste reduction goals.
- Energy performance contracting, such as used by a number of cities.

POINTS AVAILABLE:

Five to Twenty, depending on the project. Please submit a one-paragraph description and a requested number of points. League staff committee will determine number of points awarded.

Would you be willing to share your knowledge and experiences?

Mentoring

DESCRIPTION:

Agreeing to serve as a mentor to other cities and towns interested in sustainability, energy conservation and “green” projects. Share descriptions of programs your city or town has implemented, copies of policies adopted, budgets, educational and other materials. Be available to answer questions by phone or email.

Appoint one person to be the mentor coordinator who would then either answer questions or direct the questions to the appropriate person. Also would ensure that materials are sent.

If you are willing to share your knowledge and experiences, please indicate on the Green Challenge Tally, which you will receive separately.

Sample Green Challenge Resolution

WHEREAS, the _____ wants to emphasize the benefits of energy conservation and conservation of other natural resources such as water;

WHEREAS, the _____ wants to demonstrate that conservation practices can be applied to the daily operations of municipal government and to infrastructure projects;

WHEREAS, the _____ seeks to find methods of service delivery and operations that conserve energy and resources, thus saving taxpayer dollars and protecting and preserving the environment;

WHEREAS, sound conservation practices can reduce government costs over the long-term;

WHEREAS, this government would lead by example to show the practicality and effectiveness of conservation practices;

WHEREAS, _____ seeks to encourage its citizens and its businesses to be stewards of the environment;

NOW THEREFORE, BE IT RESOLVED THAT THE _____ of _____ accepts the NCLM Green Challenge and pledges to work toward achieving the various levels of the challenge, indicating measures accomplished to save energy and other natural resources over the next three years.

Adopted by the _____ of the _____
this _____

Mayor's signature