Charlotte City Council

Environment Committee

Meeting Summary for March 19, 2012

COMMITTEE AGENDA TOPICS

I. **Subject:** **Review of Draft FY20103 Strategic Focus Area Plan for Environment**
Action: Review the Plan and make a recommendation to Council.

II. **Subject:** **Next Meeting**
Monday, April 16 at 3:30 p.m. in Room 280

COMMITTEE INFORMATION

Present: John Autry, Andy Dulin Claire Fallon, David Howard and Beth Pickering
Time: 3:00 p.m. to 3:25 p.m.

ATTACHMENTS

1. Agenda Package
2. Green Neighborhood Assessment Tool

DISCUSSION HIGHLIGHTS

Committee Discussion:

Committee Chair John Autry welcomed everyone to the meeting and asked those around the table to introduce themselves. He then turned the meeting over to Assistant City Manager Julie Burch.

I. Review of Draft FY2013 Strategic Focus Area Plan for Environment

Ms. Burch said we are back before you with a revised draft of the FY2013 Focus Area Plan. You gave us your comments at our last meeting and the Environment Cabinet, which is a group of City staff members who support the Environment Focus Area Plan, went back to work with the comments that you gave us. One of the comments was perhaps to bring it down from a 50,000 foot level to a 30,000 foot level so we attempted to do that, keeping in mind that we still want the Focus Area Plans, all of them, not just the Environment, to be aspirational and long-term, but we also have come back with some more specificity, particularly around land use and water, waste, trees, and air

quality. We got a bit more specific about leading by example and we have two or three targets related to that. The other initiatives relate to collaboration with partners and growth within the energy industry.

Also in your packet today is information on the Mid-Year Achievement Report for the current Focus Area Plan. You can tell by the number of pages that this year's Focus Area Plan was really much more detailed and much more of an action plan than it was a higher, more strategic view. Certainly, a very valid document and it definitely guided staff's action over this past year, but what we are trying to do with all of the Focus Area Plans is kind of bring them up from some of the more detailed actions, and those detailed actions are contained in individual department Strategic Operating Plans.

Autry: I absolutely appreciate the effort that staff took on to put a little more meat on the bones with this, understanding of course that it is not an action plan. It is a vision statement, an aspirational document. I think the changes make it a better communicating document also.

Ms. Burch said regarding one of the targets, John you and I met last week and talked about a particular one of those targets related to the Green Neighborhood Assessment Tool and Quality of Life Study, so I don't want to impede progress but staff is prepared to talk about that a little bit more if you would like to use this setting today to do that.

Mr. Autry said I would absolutely like to do that and with Mr. Warshauer here, I think that would be a great use of his time.

Ms. Fallon made a motion to approve the draft for the 2013 Strategic Focus Area Plan. Ms. Pickering seconded the motion and the vote was recorded as unanimous.

Burch: This will be on the April 9th City Council agenda along with the other Focus Area Plans.

Autry: One of the things Ms. Burch was alluding to was that the Quality of Life Study will have some new parameters and measurements in it this year that I think are taking us in an even better direction as we look forward to the release of that study.

Burch: One of the measures that you just adopted is to reduce impacts to air, water, waste, energy and trees through community engagement. That is a new target and you will see that a new measure and a new target are to determine baseline conditions using the Green Neighborhood Assessment Tool. We are very excited. This is part of the redesign of the City's Quality of Life Study. Most of you know we've done a Quality of Life Study for a number of years where we try to gauge progress being made in neighborhoods on a variety of indicators. The staff is engaged in a process now involving several partners where we are adding additional indicators, I think as many as 80. We would like to talk a little bit more about the environmental indicators that we are adding to the Quality of Life Study and once we get that information, in terms of baseline conditions throughout 400 or so neighborhoods, we will actually be able to begin

working with those neighborhoods to develop specific environmental goals. It will be a great way to engage the community. That is my shorthanded version of that and I'd like to turn it over to Tom Warshauer to talk a little more about that.

Tom Warshauer: We began this Qualify of Life Study in 1993 to take a look at neighborhoods in Charlotte to really understand what is going on in the neighborhoods and to let neighborhood people know what their opportunities are. In 1993 we started off with 73 urban neighborhoods and we expanded to the City as a whole. Now we are expanding it to the entire county and we are going up from 20 variables to 80 variables. Now it's nearly 450 neighborhoods with 80 variables. We are really changing in a monumental way this year with the way the document is accessed and the kind of data it covers. We've also expanded the dimensions that we've had from 5 dimensions to 8 dimensions looking at topics like character, engagement, economics, and environment is in there now. In environment, we have 17 different variables that we are looking at. Just on the geography piece we went to a finer level of detail, especially in our suburban areas where we are looking at closer to what your actual neighborhood does in the suburban areas. It is a great new tool and the important thing on that is how we are managing that data. It is not just going to tell you what is going on in your neighborhood on that variable, it is going to link you to resources back among our partners so if you are interested in that particular variable you can find out what is going on in that variable and how you can change it. If you are interested in biking you can get access and linkage to the bicycle plan. If it is sidewalks, you can take a look at what is happening with sidewalks. If you are interested in trash, it can tell you what is going on with trash collections, when your trash is collected, what you can put into the garbage collection and the recycling stream. In each one of the variables, whether it is economics, whether it is education, we are linking all the way through so you can take action if you are interested in that variable.

The information just passed out (copy attached) is to let you know that it is not just a matter of collecting it, it is analyzing it and it is giving you information on how you can affect change in that area. This handout shows all the 80 variables that we are looking at. You will see that we have been meeting a lot with the community and people that are interested in the environment to understand what is going on and what are the variables that we can collect information on and then begin to work with neighborhoods on affecting change. We have divided that into five categories: mobility indicators, the built environment, waste management, water resources and energy. I wanted to share with you that we were able to get … where we will be getting information from the neighborhood about energy consumption. That has been a monumental undertaking for us. The green neighborhood assessment tool is great and we can look at what different neighborhoods are using in terms of energy so that people can try to track that energy data at the neighborhood level and if there is a neighborhood who really want to reduce energy consumption they can see how that happens every two years on their energy reaching down either per capita or per household. We are really excited about that because we don't know of anyone else in the US that has access to that kind of information.

Dulin: This is great work. Just as a courtesy, we probably should mail some of this stuff

to Nancy Carter. She would really love it. What is our time schedule; this is an on-going current process?

Warshauer: Absolutely, so we are working with the University on data collection and with the County on creating the data. We want to have this rolled out by December to the public.

Dulin: Help us help you sell it to the community then. I don't know whether we have a fun-fact card maybe or I don't know how we get the information. A lot of people don't want to go through all of this, but there are people out there that would sit at a computer and go through it. I don't know how we get that word out to people.

Warshauer: We will be doing a series of community meetings with people to explain how to use the data. We are going to be doing a whole community outreach and there are lots of neighborhood activists that are anxious to have this information. We are also going to be doing some training with people. When we started this process we did a series of meetings at the community level and the variables they wanted to see. We will be going back to the community to help them understand how to use it.

Fallon: What is the purpose of knowing what neighborhood uses more electricity?

Warshauer: If you know what is going on in your neighborhood you can track if your neighborhood is declining or if it is increasing. It really gives people credit for the kinds of lifestyles that they are living. People that are on bus routes, if you've got a lot of transit you really get some credit for the energy savings that they have. When you take a look at some of the energy variables this map might be different from what you would normally expect in terms of quality of life in the communities that have dense living, lots of sidewalks.

Fallon: Also the variable would be new buildings going up and new homes and new apartment houses and you take that into consideration?

Warshauer: Right, you will be seeing in the housing variables new construction, where new construction is taking place, so that data will be covered in either economic or in housing.

Howard: Are you going to integrate this into layers on virtual Charlotte or this is going to become a separate one all by itself?

Warshauer: This will be separate all by its self.

Howard: Does it tell you what NSA is?

Warshauer: Eventually we want to bring all of it together and we are working with the County to see what is appropriate to what level and how we can get all of this integrated.

Howard: Even per NSA it will be able to give you the percentage of the tree canopy and recycling participation?

Warshauer: Absolutely. We want to have some of that information in then we will take a look at that data now to see how it works.
Howard: If you take that a step further into the future it could also be when you start targeting the resources for Duke Power has for their weatherization programs. What you want then is to target it to the older neighborhoods; you know it is an aging population. They are paying a lot more for energy than they should and that is where you want to go and try to help those neighborhoods.

Warshauer: Absolutely. When we take a look at our recycling, if you see that your neighborhood isn't doing well on recycling you might decide at some of your community meetings, you want to bring in someone to talk about recycling.

Howard: Two things come to mind - that would be a great way to go back to the feds and say look, this is the kind of money we need for competition to target the right neighborhoods and matching grant programs.

Fallon: Do you have a variable on trees on what is going to be taken down for billboards?

Warshauer: No, Ms. Fallon I do not. We have an overall tree canopy so you can see what is going on in your neighborhood, and if you really care about trees, you could bump that number.

Fallon: But how do we take into consideration the canopy that is going to be cut off and how do we do something about it?

Warshauer: You all will help us with some of that.

Dulin: Ms. Fallon, that is so new to everybody. That request came in from Adams last week while we were gone. We are planting trees and we've got a goal from this Committee last year and the Council voted on it to try to get ourselves to 50% tree canopy by 2050. It takes that long to bump that thing up.

Fallon: It also takes a long time for the tops of trees that are old to come back, if ever, if they are going to be cut constantly and you lose the tree canopy when you are sheering off the tops of them.

Howard: When will this come on?

Warshauer: December.

Dulin: Are you all working on this pretty much full time? How much staff time does it take to put something this thorough together?

Warshauer: John Howard is on full time. Then we have a contract with UNCC to manage the data component and the County is doing the web and we are not paying a dime for that. They were excited about it and decided that would be their contribution.

Autry: We are anticipating a great roll out and when the time comes please let us know so we can help spread the message and get the community behind it.

II. Next Meeting

Monday, April 16, 2011 at 3:00 p.m. in Room 280.

Meeting Adjourned at 3:25 p.m.

Environment Committee

Monday, March 19, 2012 at 3:00 p.m.
Charlotte-Mecklenburg Government Center
Room 280

Committee Members:	John Autry, Chair Claire Fallon, Vice Chair Beth Pickering Andy Dulin David Howard
Staff Resources:	Julie Burch

AGENDA

I. <u>Review of Draft FY2013 Strategic Focus Area Plan for Environment</u>
Staff Resources: Julie Burch and Environment Cabinet members

Staff has revised the draft FY2013 Focus Area Plan based on feedback from the February 20 Committee meeting. The Committee is asked to review the Plan and make a recommendation to Council.
<u>Attachments:</u> 1. Draft FY2013 Focus Area Plan
2. Mid-Year Achievements Reports for FY2012 Focus Area Plan

II. <u>Next Meeting: Monday, April 16 at 3:00 pm in Room 280</u>

Distribution:	Mayor/City Council Bob Hagemann Jennifer Frost	Curt Walton, City Manager Stephanie Kelly	Leadership Team Environmental Cabinet

FY2013 Strategic Focus Area Plan – *DRAFT*

"Charlotte will become a national leader in environmental sustainability, preserving our natural resources while balancing growth with sound fiscal policy."

The City of Charlotte recognizes that environmental stewardship is fundamentally important to quality of life and essential to maintaining a vibrant economy. Protecting our natural resources, promoting conservation, and improving the environment all enhance the City's mission to preserve the quality of life of its citizens.

Charlotte will become a national leader in environmental sustainability by:

- Promoting and participating in the development of an environmentally sustainable community;
- Leading by example by practicing environmental stewardship in City operations and facilities;
- Seeking and supporting collaborative and regional solutions to environmental problems;
- Facilitating the growth of the clean energy industry, including the alternative energy sector.

Specific initiatives in the Economic Development and Transportation Focus Area Plans (FAP) relate directly to Charlotte's environmental goals. The Economic Development FAP includes an initiative to grow and retain businesses in several industry sectors, including the energy/environmental sector. The Transportation FAP includes an initiative for enhancing multi-modal mobility, with measures such as reducing vehicle miles travelled and increasing access to public transit.

Focus Area Initiative	Measure	Prior Year Actual	Current Year Target
Promote and participate in the development of a sustainable community	Make land use decisions consistent with adopted plans and policies	95.2%	Make 95% rezoning decisions consistent with area plans and/or staff recommendations, which incorporate environmentally sensitive site design components
	Reduce residential waste	New Target in FY13	Increase the landfill diversion rate from 25% to 35% by 2015
	Maintain a significant and healthy tree canopy	New Target in FY13	Refine and implement strategies to achieve 50% tree canopy coverage by 2050

	Maintain a safe and adequate drinking water supply for the community	Achieved	Continue a leadership role in regional water resources planning by working with the Catawba-Wateree Management Group to complete Phase 2 of the Basin-wide water plan
	Continue the positive trend in community reductions of emissions that result in ozone	New Target in FY13	Realize reduced three-year average ozone readings at monitors used for air quality attainment purposes
	Reduce impacts to air, water, waste, energy and trees through community engagement	New Target in FY13	Determine baseline conditions using the Green Neighborhood Assessment Tool in order to establish community goals for environmental sustainability
Lead by example by practicing environmental stewardship in city operations and facilities	Reduce energy use	Achieved	Maintain energy use practices so that City facilities compare favorably with available benchmark information in the South Atlantic region
	Reduce stormwater pollution	New Target in FY13	Develop and implement plans for stormwater management practices
	Reduce air pollution emissions and improve fuel economy for the City's fleet	New Target in FY13	Continue to evaluate and field test alternative fuel vehicles for potential expansion in the fleet
Seek and support collaborative and regional solutions to environmental problems	Collaborate and participate in public and private sector partnerships to positively impact air quality, energy efficiency, water resources and reduction of waste	Achieved	Continue work with partners such as CONNECT Consortium, Envision Charlotte and public and private entities
	Leverage increased public/private partnership opportunities in support of the Democratic National Convention	New Target in FY13	Include legacy infrastructure in City's energy and environmental initiatives
Facilitate the growth of the clean energy industry, including the alternative energy sector	Work with partners through the Charlotte Regional Partnership's Energy Capital Project to attract and grow the clean energy industry sectors in Charlotte	New Target in FY13	Participate on the Industry Advisory Board to further goals of the City and New Energy Capital

CHARLOTTE

Environment Focus Area Plan
FY2012 Mid-Year Achievements Report

Safeguard the Environment

1. Promote and participate in the development of a sustainable community

A. FY12 Measure: Increase awareness of the environment as a priority for the community

1. Target: Explore hosting a sustainability expo/conference and other educational opportunities in conjunction with and funded by other partners.

   ✔ Mid-Year Status: The City hosted the National League of Cities Sustainability conference in Sept. 2011. Staff worked with Lowe's and CRVA to bring the US EPA Energy Star Partners annual conference to Charlotte in November 2011.

2. Target: Increase the exposure of the Power2Charlotte, CurbIt recycling campaign, and other educational/outreach efforts in coordination with other partners.

   ✔ Mid-Year Status: The Power2 Charlotte campaign continues to be implemented, providing public education and support of the city's 17 Energy Efficiency and Conservation (EECBG) Block Grant projects. Promotion of projects has taken place through media coverage, the Power2 newsletter, website, community events and advertising on CATS transit buses and the Lynx line.

3. Target: Implement the nine Energy Efficiency and Conservation Block Grant (EECBG) projects that are catalyst projects or promote energy investments in revitalization areas, and the Neighborhood Energy Challenge.

   ✔ Mid-Year Status: Nine catalyst projects are complete or on track to be completed:
   1. Residential Energy Efficiency Improvements
   2. Neighborhood Energy Challenge
   3. Commercial Building Retrofit Program
   4. Electric Vehicles & Charging Stations
   5. Complete Vehicular Way-finding and Parking Signage System
   6. I-485/Blue Line Parking Deck Re-Lighting
   7. Center City On-street Recycling
   8. Outreach & Education (Power 2 Charlotte)
   9. Energy and Sustainability Manager staff position

   The Neighborhood Energy Challenge and Commercial Building Retrofit programs received Sustainable Program awards from the Charlotte Business Journal and contributed to the City receiving an Honorable

Mention for Sustainable Cities through the US Chamber of Commerce.

4. Target: Collect baseline data on environmental variables in preparation for adding those variables to the biennial Quality of Life study.

✔ Mid-Year Status: Staff has completed the selection of 16 environmental variables for the Quality of Life report, including variables to measure water, waste, energy, transit, tree canopy and others. These variables tell the story of environmental quality and community impact on the environment in the 394 neighborhoods in Charlotte.

5. Target: Increase access to local foods by: initiating a fresh foods text amendment; encouraging the development of community gardens through Neighborhood Matching Grants program, and collaboration with other partners.

✔ Mid-Year Status: An additional public hearing for the fresh produce stand text amendment was held and a decision is expected in April. Planning and N&BS staff also encouraging the development of community gardens, which are eligible projects for Neighborhood Matching Grant funds.
Neighborhood & Business Services partnered with Sow Much Good, Mecklenburg County Cooperative Extension and Mecklenburg County Park & Recreation to present the Mecklenburg Food Day.

Through the Neighborhood Matching Grant program staff developed community gardens in the Madison Park, Winterfield and Revolution Park communities. Through Keep Charlotte Beautiful, staff has initiated a partnership with the Mecklenburg County Health Department and Field to Fork to develop gardens at CMS schools sites, where students and parents will harvest fresh fruits and vegetables and learn how to prepare them in collaboration with Fuel Pizza.

B. FY12 Measure: Make wise decisions regarding growth and development that are consistent with adopted plans and policies (including the GDP-Environment) and minimize negative environmental impacts of land use and development.

1. Target: 95% of rezoning decisions consistent with adopted area plans and/or staff recommendations

✔ Mid-Year Status: 95.2% of rezoning decisions are consistent with adopted area plans and/or staff recommendations

2. Target: 80% of approved rezonings incorporate environmentally sensitive site design components (Implementation of GDP-Environment)

✘ Mid-Year Status: In addition to meeting ordinance requirements, 41% of approved rezonings provided even greater environmental protection by incorporating additional environmentally sensitive site design components. This is a substantial achievement given that the economy has significantly affected the ability of many petitioners to invest in

additional mitigation measures beyond what is required.

C. FY12 Measure: Responsibly manage Charlotte's natural resources including the tree canopy, streams, ponds, and wetlands.

1. Target: Implement the City's Tree Canopy Investment Strategy and measure the effectiveness of the Tree Ordinance and the Tree Planting Programs in meeting the tree canopy goal.

✔ Mid-Year Status: To date, 7,902 trees have been planted covering 65.39 acres. Staff continues to administer the Tree Ordinance taking note of when and how Ordinance option provisions are implemented.

2. Target: Keep 100% of stream mitigation investments local by utilizing City's Stream Mitigation Bank, the first municipally-managed mitigation bank in the nation, rather than the state-managed bank, whenever public project remediation is required.

✔ Mid-Year Status: The City's Mitigation Bank has met 100% of the City's known stream mitigation needs locally to date in FY12.

D. FY12 Measure: In support of State of North Carolina and City recycling goals, increase single family and multi-family recycling participation.

1. Target: Achieve a 30% increase in tonnage of recycled materials over FY10 baseline data.

✔ Mid-Year Status: FY12 Residential Single-family and Multi-family recycling tonnage is projected to increase by 39% over the FY10 baseline data of 34,196 tons.

2. Lead by example by practicing environmental stewardship in City operations and facilities

A. FY12 Measure: Reduce greenhouse gas emissions from City facilities and operations.

1. Target: Adopt a greenhouse gas action plan by June 2011 and begin implementation in FY2012

✘ Mid-Year Status: Incomplete. As a necessary step, progress is well underway to install new tracking software to ensure credible and consistent measurement of energy consumption and GHG emissions for all City facilities. Once complete, staff will develop a draft action plan for further consideration.

2. Target: Complete seven of the Energy Efficiency and Conservation Block Grant projects designed to improve efficiency of City facilities.

✔ Mid-Year Status: Six projects are completed or are on track to be completed:
   1. Energy Efficient Computing
   2. Charlotte Housing Authority Retrofits
   3. Charlotte-Mecklenburg Utilities Administration building retrofits

4. Old City Hall retrofits
5. Discovery Place Solar Tree
6. CMGC Parking Deck Re-Lighting

The seventh proposed project to retrofit a few City facilities with Solar-thermal hot water heater systems was determined to be infeasible. The cost of retrofitting the buildings to make room for the equipment made the project extremely cost-prohibitive.

B. FY12 Measure: Demonstrate environmental sustainability in the management of the City's vehicle fleet.

1. Target: Achieve 4.3 mpg across CATS Bus Operations fleet vehicles, by continuing acquisition of and maximizing the use of fuel efficient and hybrid vehicles, maintaining and monitoring idling practices, continuing to control vehicle speed through governor settings, use of battery power for vehicle maintenance when feasible, and continued use of ultra low sulfur diesel fuel

   Mid-Year Status: Year To Date MPG is 4.1 however, the December MPG was 4.3.

2. Target: Improve the efficiency of the overall City fleet from 2011 levels by purchasing alternative fuel vehicles as funding allows in accordance with the fleet management policy, purchasing smaller vehicles that meet operational requirements, and by seeking grant funding to outfit current vehicles with emissions reducing technology.

   Mid-Year Status: In FY12, SWS replaced one sedan with the Chevy Volt Hybrid; in addition, Solid Waste Services has been awarded a U.S. Dept of Energy ARRA Grant to supplement the purchase of four compressed Natural Gas powered automated collection trucks that will replace four diesel fuel powered automated collection trucks .

   Current Business Support Services managed fleet vehicles:

	City	**County**
Flex Fuel	773	80
Hybrids	40	23
Electric	4	3
Total	**817**	**106**

C. FY12 Measure: Demonstrate environmental sustainability in the design, construction, and operation of City facilities.

1. Target: Prepare annual report on the implementation of the Policy for Sustainable Facilities, reporting project decisions, common facility metrics, and recommended policy adjustments

   Mid-Year Status: Staff is currently compiling data for the annual report on the Sustainable Facilities policy for publication in late April or early May.

2. Target: Per Clean Water Act requirements, develop and begin implementing plans

for storm water best practices for priority field operations by June 2012

✔ Mid-Year Status: Through a process of field observations and consultation with various employees and contractors, storm water protection best practices were developed for construction, water/wastewater system maintenance, landscape management, and street maintenance municipal operations. Incorporation of language into contracts and employee training is currently taking place.

3. Target: 100% compliance with National Pollutant Discharge Elimination System permit requirement for all five wastewater plants

✘ Mid-Year Status: The five wastewater treatment plants are at 99.3% compliance for the time frame of July 2011 through December 2012. There was one violation of Permit compliance during this period. Sugar Creek Waste Water Treatment Plant experienced a fecal coliform violation 7/5/2011 as a result of equipment problems at the final disinfection process. The wastewater was treated and did not cause any harm to the receiving stream.

4. Target: Divert 70% of materials from Charlotte Douglas Airport's waste stream via a new airport recycling center.

✔ Mid-Year Status: During FY 12, Council approved a management contract for the operation of the Airport Recycling Center and the purchase of equipment (balers, conveyors, composters) used in the ARC. The equipment has been delivered and is in the process of being installed. Staff anticipates meeting the 70% goal when the ARC is operational in April.

D. FY12 Measure: Implement environmentally-conscious practices in the acquisition and disposition of City resources.

1. Target: Conduct first year review of the effectiveness of Environmentally Preferable Purchasing Policy by December 2012 and collect baseline info so that specific improvement target may be set in the future.

✔ Mid-Year Status: Procurement Services Division is working with 3 identified vendors to establish baseline information for analysis. First quarter reports show green spending increased with Office Depot from 23.6% in FY11 to 39.5% in FY12. For the same period, green expenditures with SunBelt increased from 51% to 59% and Zep green expenditures remain stable at approximately 28% of the City's total spending with the vendor.

E. FY12 Measure: Identify and advance renewable energy projects leveraging City resources.

1. Target: Implement the initial construction of a Combined Heat and Power project at McAlpine Wastewater Management Facility by June 2012.

✔ Mid-Year Status: Staff continues to have discussions with Duke Energy on what they will pay for the power and renewable energy credits. In parallel, staff has evaluated various financing options for completing this project. Staff has developed an RFQ for an energy services contractor to construct, operate and

maintain the CHP system.

2. Target: Develop and implement a solar energy pilot project on CATS-owned bus canopies by June 2012.

✔ Mid-Year Status: A decision has been made to advance this project as a "scaled" version of the original application submittal. Seven bids were received and documents provided by the apparent low bidder are currently being evaluated.

F. FY12 Measure: Increase awareness of the environment as a priority for the City.

1. Target: Communicate the City's environmental successes and the other ways the City is leading by example.

✔ Mid-Year Status: A primary vehicle for telling the City's story of its environmental successes and accomplishment is done through the Environment Focus Area Plan page on the City of Charlotte web site.
The web page also provides links and other resources that tie the Environment Focus area to City departmental operations, City policies and community partnerships. A quarterly accomplishments document is now a regular feature.

3. Seek and support collaborative and regional solutions to environmental problems

A. FY12 Measure: Collaborate and participate in public and private sector partnership's environment and visioning initiatives.

1. Target: Collaborate with City's Energy Partners and other agencies to leverage resources and enhance the impact of cooperative projects.

✔ Mid-Year Status: Staff worked with Charlotte Center City Partners, Mecklenburg County, Bank of America, Goodwill, Proshred, CATS and Lincoln Harris to host an America Recycles Day event in November on Trade and Tryon.
Staff worked with Duke Energy to secure energy use data from Duke to be used in the Quality of Life Study; exploring with Duke the possibility of a smart street light project; working with Duke on the EcoPartnership program.
Staff worked with Duke Energy, Bank of America, Wells Fargo and Centralina Council Of Governments to explore opportunities to bring Electric Vehicles to Charlotte area.
Staff worked with Siemens and PNG to explore possibility of compressed natural gas infrastructure for City vehicles.

2. Target: Identify opportunities to participate in/pursue the development of a coordinated sustainability plan for the community with Charlotte Center City Partners and other partners

✔ Mid-Year Status: Staff has an active role in Envision Charlotte, including City representation on Board and participation of Charlotte-Mecklenburg Government Center and Old City Hall in Smart Energy Now, a program to measure energy

consumption in Uptown commercial buildings. In June 2011, the Council adopted a resolution endorsing the Sustainable Communities Planning initiative for the bi-state region led by the Centralina Council of Governments.

B. FY12 Measure: Lead and support efforts to improve Charlotte and regional air quality by promoting long-term reduction in ozone causing emissions.

1. Target: Implement projects and partnerships with business/management organizations to increase travel by alternative modes to/from/within two mixed-use activity centers by June 2012.

   Mid-Year Status: This target has been partially met. The City relied on two focus groups consisting of University City employees and SouthPark employees to determine the opinions of commuters about the travel modes available in those areas. In addition the City completed a planning-level study that defined and assessed transportation projects that would improve non-motorized travel options within the SouthPark employment center. Several projects have been implemented, and others will move forward as projects funded through the City's Sidewalk Program and/or Bicycle Program. The City will continue to work in both employment centers to support and improve travel options, as funding becomes available.

2. Target: Continue collaboration and participation with COG's CONNECT Regional Air Quality Work Team, the Regional Air Quality Board and Clean Air Works, the Mecklenburg County Division of Air Quality and the State of NC Division of Air Quality to implement strategies to improve air quality.

   Mid-Year Status: The region has unofficially met the 1997 ozone air quality standard as of the end of 2010. CDOT provided supporting data to NCDAQ for the new State Implementation Plan (SIP), which shows how the region would continue to meet the 1997 ozone air quality standard. CDOT continued to collaborate and participate with COG's CONNECT Regional Air Quality Work Team on an as-needed basis. The Work Team's activities are expected to increase with the implementation of the new (2008) ozone standard this year. CATS' participation with Clean Air Works is consistent with efforts to seek out businesses to participate in the ETC program and efforts to get the public to use alternative forms of transportation for commute and other trips.

C. FY12 Measure: Continue a leadership role in regional water resources planning

1. Target: Utilities staff to continue participation in regional Water Management Group and be actively involved with committee work.

   Mid-Year Status: Presentation of current work made to the National League of Cities in September 2011. Presentation made to the Bi-State Catawba-Wateree Advisory Commission in October 2011. Consultant is continuing to work on Basin-wide Water plan.

4. Facilitate the growth of the clean energy industry, including the alternative energy sector

A. FY12 Measure: Work with partners through the Charlotte Regional Partnership's Energy Capital Project to attract and grow the clean energy industry sectors in Charlotte

1. Target: Develop a clean energy strategy by January, 2012 with a particular focus on assisting small businesses.

   Mid-Year Status: Effort has been delayed. Expected delivery date is June. Economic Development is working with City Manager's Office and Mayor's Office to define the City's role in energy as it relates to the overall effort to brand Charlotte as an "Energy Capital", currently under the direction of the Charlotte Regional Partnership. The path forward begins with the release of a McKinsey report in April on the effectiveness of the Energy Capital effort, and will be followed by meetings with the Mayor and community energy leaders. The City's strategy will likely focus on broad community job creation strategies, as well as how to lead by example through energy efficiency projects and programs made possible by the Energy Efficiency Block Grant.

B. FY12 Measure: Improve the regulatory environment by clarifying and enhancing City ordinances that facilitate environmentally and energy sustainable practices.

1. Target: Initiate alternative energy text amendments to better define and provide guidance for environmental land uses by June 2012.

   Mid-Year Status: Staff hired a consultant to provide background research information for text amendment and recommendations. Staff also attended training sessions focused on alternative energy regulations enacted by many other jurisdictions. Staff began designing a stakeholder process and identifying potential stakeholders. The stakeholder process has not been scheduled yet as managers are in the process of identifying a new project manager due to a recent staff departure. However, staff expects to focus on both wind and solar alternative energy.

C. FY12 Measure: Take a leadership role in changes to policy at the state and federal level

1. Target: Support energy related legislation that would enhance and solidify Charlotte's emergence as an energy center

   Mid-Year Status: Opportunities are pursued as identified

CITY OF CHARLOTTE

Quality of Life History

1993
- 73 neighborhoods
- 20 variables

1997
- Increased to 28 variables

2000
- Included 173 neighborhoods (NSAs)

2010
- Added trend analysis

2012 Quality of Life Study
- 450 Neighborhood Profile Area (NPAs)
- 8 Dimensions, 80+ Variables
- Web based format

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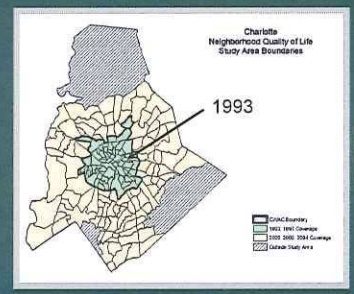
Quality of Life Study Boundary



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Quality of Life Dimensions

Existing Dimensions
- Profile
- Social
- Crime
- Physical
- Economic

2012 Dimensions
- Community Character
- Community Engagement
- Community Economics
- Community Health
- Community Safety
- Education
- Environment
- Housing

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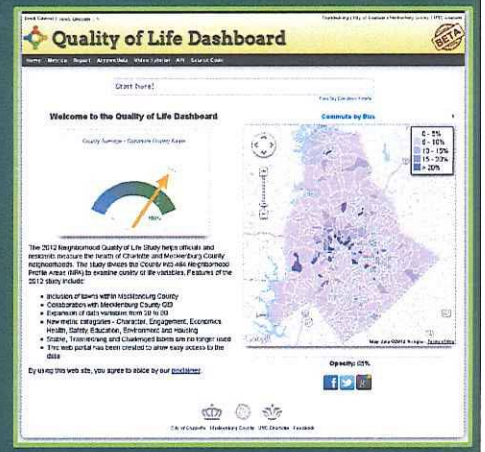
Quality of Life Website

Dashboard Features
- Collaborative effort between City and County
- Allows expansion of measurable data
- Links data with area resources for problem solving



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Green Neighborhood Assessment Tool

Collaborative Process

- Evaluated 76 Total Variables
- Worked with City Departments & Community Partners- Selected 17 variables that are relevant, measurable and actionable at NPA scale.
- Partners include:

Duke Energy	Piedmont Natural Gas	UNCC
Mecklenburg County	Town of Cornelius	Town of Huntersville
Town of Davidson	Town of Pineville	Town of Matthews
CDOT	City Storm Water Services	City Solid Waste
CMU	Planning	CATS

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Green Neighborhood Assessment Tool

Five (5) Data Categories

- Mobility Indicators
- Built Environment
- Waste Management
- Water Resources
- Energy

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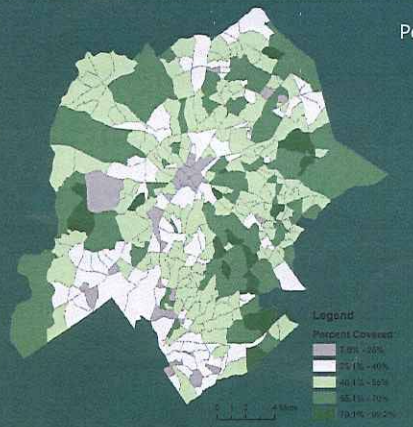
Green Neighborhood Assessment Tool



Percentage of Tree Canopy

- **What:**
  Percentage of total area covered by tree canopy. Includes residential and non residential areas.
- **Why:**
  Reflects the amount of tree cover within an NPA and establishes a baseline for achieving the City of Charlotte's Tree Canopy Goal of 50% in 2050.
- **Evaluation Metric (Target):**
  50% Tree Cover by 2050
- **Community Resources:**
  Neighborhood Matching Grants
  Mecklenburg Co. Annual Tree Sapling Sale
  Tree Ordinance
  Tree Management Program
  Crown Tree Awards Nomination
  Charlotte Tree Advisory Commission
  Keep Charlotte Beautiful

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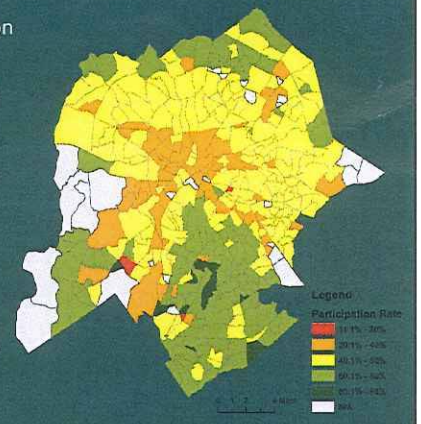
Green Neighborhood Assessment Tool

Residential Recycling Participation

- **What:**
  Percentage of eligible residences within the NPA who participate in the City sponsored residential recycling program.
- **Why:**
  This information could help to identify areas where resident education programs are needed or routes could be adjusted.
- **Evaluation Metric (Target):**
  Increase Participation
- **Community Resources:**
  Organic Yard Waste Drop Off Locations
  Free Composting Classes (county service)
  Free Multi-Family Recycling Program
  Recycling Guide and Recycling Center Locations
  Recycling Fundraiser Programs
  Electronics Recycling Centers



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	MOBILITY INDICATORS						
	VARIABLE NAME	VARIABLE DESCRIPTION	WHY IS IT IMPORTANT	DATA SOURCE	TECHNICAL NOTES	RESOURCES	EVALUATION METRIC (TARGET)
1	**Commuters Driving Alone**	Number of participants 16 years or older who commute to work by driving alone.	Transportation alternatives offer mobility options for residents of all ages and income levels and can help bridge the spatial divide between people and jobs, services, and training opportunities.	U.S. Census – American Community Survey	Data derived from the American Community Survey and only measures moc of transit from home to work.	**CATS i-phone app** (bus routes, schedules, etc) http://charmeck.org/city/charlotte/cats/Bus/Pages/mobileapp.aspx **Transit schedules** http://charmeck.org/city/charlotte/cats/Pages/default.aspxCATS**Carpooling program** connects riders with similar commutes http://charmeck.org/city/charlotte/cats/commuting/Carpool/Pages/default.aspx **Employee Transportation Coordinator (ETC) Program-** helps employers coordinate alternative transit options, discounts are available http://charmeck.org/city/charlotte/cats/commuting/ETC/Pages/companies%20in%20ETC.aspx **Cycling information** including a guide, review of applicable laws, great tips and other information abike.charmeck.org **Charlotte Bicycle Mentor Program -** http://groups.google.com/group/bikementor **Parking Information** including locations, rates & policies http://charmeck.org/city/charlotte/Transportation/Parking/Pages/Park%20It.aspx	
2	**Length of Commute**	Number of commuters 16 years of age or older whose length of commute is within the prescribed interval of time in minutes. Prescribed intervals are less than 10 minutes, 10-19 minutes, 20-29 minutes, 30-39 minutes, 40-59 minutes, 60-89 minutes and greater than 90 minutes. The average length of commute for Mecklenburg County is 20-29 minutes.	Lengthy commutes contribute to increased fossil fuel consumption and congestion. Significant use of fossil fuels increases costs and contributes to diminished air quality	U.S. Census – American Community Survey	Data derived from the American Community Survey and only measures length of commute from home to work (one way). Data is reported in increments of less than 10 minutes, 10-19 minutes, 20-29 minutes, 30-39 minutes, 40-59 minutes, 60-89 minutes and greater than 90 minutes. The average length of commute for Mecklenburg County is 20-29 minutes.	**NCDOT Traffic Cameras** http://www.ncdot.org/traffictravel/ **Automobile Maintenance Tips** http://www.aaa.com/aaa/sem/sem.htm?redirectto=http://www.aaa.com/?area=JoinSEM2&skin=JoinSEM **Get Directions** http://maps.google.com/maps?hq=http://maps.google.com/help/maps/directions/driving/mapleft.kml&f=d&dirflg=d&utm_campaign=en&utm_medium=van&utm_source=en-van-na-us-gns-d **Parking Information including locations, rates & policies** http://charmeck.org/city/charlotte/Transportation/Parking/Pages/Park%20It.aspx	
3	**Average Number of Daily Transit Boardings**	The average number of daily users boarding public transit within Neighborhood Profile Area. Includes bus and light-rail users.	Determines a baseline for evaluating the number of residents utilizing public transit for weekday trips. This baseline can be used to determine whether ridership is increasing or decreasing over time.	Base data comes from the Charlotte Area Transit System (CATS)	Derived by averaging the total number of boardings occurring at all stops within the NPA over the course of the current year divided by the number of days in a year.	**CATS I phone app** (bus routes, schedules, etc) http://charmeck.org/city/charlotte/cats/Bus/Pages/mobileapp.aspx **Transit schedules** http://charmeck.org/city/charlotte/cats/Pages/default.aspx	
4	**Percentage of Bicycle Master Plan Implemented**	Percentage of bicycle infrastructure improvements that have been installed versus the total number of planned bicycle infrastructure improvements per the adopted Charlotte Bicycle Master Plan. Improvements may include bicycle lanes, signed routes, paved shoulders and/or bike racks.	In September 2008 The City of Charlotte adopted the Charlotte Bicycle Master Plan. The plan recognizes that cycling has positive transportation, environmental, economic and health benefits and provides a framework for installation of bicycle infrastructure (bicycle lanes, signed routes, paved shoulders and/or bike racks) within the city limits.	CDOT-Steven Castongia	Unmarked off-street and unpaved bicycle paths are not included. Data does not take into account any physical obstructions that would prevent or impair an individual's ability to access the location or amenity. The quality of the bike lane is not assessed.	**Cycling Improvements**-Learn what cycling improvements are planned for your neighborhood at bike.charmeck.org **Neighborhood Matching Grants** funds eligible neighborhood improvements http://charmeck.org/city/charlotte/nbs/communitycommerce/Pages/NMG.aspx	
5	**Percentage of Paved Streets with Sidewalks**	Percentage of paved streets that have sidewalks on at least one side of the street. Sidewalks not adjacent to public streets and unpaved walking trails are not included. The quality of the sidewalk is also no assessed.	Adequate sidewalk systems encourage pedestrian connectivity which provides mobility options for residents of all ages and incomes. Identifies NPA's where additional sidewalks may be needed.	CDOT-Steven Castongia	Calculated by dividing the length of paved street with sidewalk on at least one side divided by the total length of paved streets. Sidewalks not adjacent to public streets and unpaved walking trails are not included. Data does not take into account any physical obstructions that would prevent or impair an individual's ability to access the location or amenity. The quality of the sidewalk is also not assessed.	**Request a Sidewalk** for your street-http://charmeck.org/city/charlotte/Transportation/PedBike/Pages/sidewalkrequest.aspx, **Request Sidewalk Repairs**-http://charmeck.org/city/charlotte/Transportation/CDOTrequests/Pages/SidewalkRepairRequest.aspx **Sidewalk Projects Currently Underway** - http://charmeck.org/city/charlotte/epm/Projects/Sidewalk/Pages/home.aspx **NC Pedestrian Laws-** http://charmeck.org/city/charlotte/Transportation/PedBike/Pages/North%20Carolina%20Pedestrian%20Laws.aspx	
6	**Street Connectivity Index**	Ratio of links to nodes within the street network	The City of Charlotte requires internal and external street connectivity by ordinance. Connectivity facilitates vehicular, bicycle and pedestrian transportation options.	CDOT -Steven Castongia	Represents the total number of street links (roadways or pathways) divided by the number of nodes (cul-de-sac or endpoint). Data does not take into account bicycle lanes, sidewalks, trails or other transportation modes which may increase or decrease connectivity options within the NPA.	Connectivity means street or subdivision design which provides for public access by interconnecting streets, bikepaths, and walkways within a development and with adjoining developments. Connectivity facilitates vehicular, bicycle, and pedestrian transportation. Connectivity is required per the**Subdivision Ordinance**, view the subdivision ordinance here: http://library.municode.com/HTML/19970/level3/PTIICOOR_CH20SU_ARTIINGE.html	
	BUILT ENVIRONMENT INDICATORS						
7	**Total Impervious Surface**	Percentage of impervious surface coverage in relation to total area of the NPA. Does not take into account whether the NPA is urban, suburban or rural.	Impervious surface is a standard profile variable that allows the City to evaluate the amount of increase or decrease over time. This profile should be evaluated in conjunction with the "density score" of an NPA.	Mecklenburg County Land Use & Environmental Services	The total acres classified as "impervious surface" using digital orthophotos provided by Mecklenburg County LUESA divided by the total acreage in the NPA.	**Current Storm water Projects-** http://charmeck.org/stormwater/Projects/Pages/ActiveSWProjects.aspx **Flooding Preparedness and Safety Information-** http://charmeck.org/stormwater/DrainageandFlooding/Pages/FloodPreparedness.aspx **Storm Water Basic Information -** http://charmeck.org/stormwater/basics/Pages/default.aspx **Children's tutorial and storm water games** http://ww.charmeck.org/stormwater/stormy/index.html#	
8	**Number of Structures in Floodplain**	Number of structures within the floodplain along FEMA regulatec streams. Does not include areas subject to flooding that are not regulated by FEMA.	Defines the number of structures likely to experience flooding over tim and can assist in prioritizing what areas may be beneficial for participation in FEMA sponsored buyout programs.	Storm Water Services	The total number of structures that fall partially or completely within the FEMA designated floodplain. Does not include areas subject to flooding that are not regulated by FEMA.	**See if your home or business is located in a FEMA Floodplain** http://polaris.mecklenburgcountync.gov/website/redesign/viewer.htm Learn about **Mecklenburg County's Floodplain buyout program** http://charmeck.org/stormwater/DrainageandFlooding/Pages/FloodplainBuyout(Acquisition)Program.asp **Who Needs Flood Insurance, includes flood insurance information** http://charmeck.org/stormwater/DrainageandFlooding/Pages/FloodInsurance.aspx **Current Storm water Projects-** http://charmeck.org/stormwater/Projects/Pages/ActiveSWProjects.aspx **Flooding Preparedness and Safety Information-** http://charmeck.org/stormwater/DrainageandFlooding/Pages/FloodPreparedness.aspx **Storm Water Basic Information -** http://charmeck.org/stormwater/basics/Pages/default.aspx **Children's tutorial and storm water games** http://ww.charmeck.org/stormwater/stormy/index.html#	
9	**Percentage of Tree Canopy**	Percentage of total area covered by tree canopy. Includes residential and non residential areas.	Reflects the amount of tree cover within an NPA and establishes a baseline for achieving the City of Charlotte's Tree Canopy Goal of 50% in 2050.	Mecklenburg County Land Use & Environmental Services	Tree canopy coverage will be calculated using aerial photography. Commercial, industrial, residential, institutional and open space areas will be included in the percentage.	**Neighborhood Matching Grants** funds eligible neighborhood improvements http://charmeck.org/city/charlotte/nbs/communitycommerce/Pages/NMG.aspx **Mecklenburg County Annual Tree Sapling Sale** http://www.charmeck.org/mecklenburg/county/WaterandLandResources/Conservation/Pages/Tree%20Seedling%20Sale.aspx **Tree Ordinance** http://www.charmeck.org/city/charlotte/epm/Services/LandDevelopment/trees/Pages/City%20of%20Charlotte%20Tree%20Ordinance%20and%20Guidelines.aspx **Tree Management Program-** http://charmeck.org/city/charlotte/epm/Services/Landscaping/Pages/Tree%20Management.aspx **Crown Tree Awards Nomination-** http://charmeck.org/city/charlotte/epm/Services/LandDevelopment/trees/Pages/CrownTreeAwardNomination.aspx **Charlotte Tree Advisory Commission-** http://charmeck.org/city/charlotte/epm/Services/LandDevelopment/trees/TreeCommission/Pages/default.aspx **Keep Charlotte Beautiful Neighborhood Beautification Application-**http://charmeck.org/city/charlotte/nbs/kcb/Pages/home2.aspx	50% by 2050
	WASTE MANAGEMENT INDICATORS						

10	**Total Waste Generation**	Neighborhood's total waste generation per capita including solid waste and recycling waste.	Profile variable that reflects the total waste generation per NPA including recycled and non-recycled solid waste.	Charlotte Solid Waste Services	Charlotte Solid Waste Services (CSWS) collects these data. UNC Charlotte and CSWS staff have begun conversations regarding the best methodology for representing this variable.	**Organic Yard Waste Drop Off Locations:** http://charmeck.org/mecklenburg/county/SolidWaste/homecomposting/Pages/YardWasteFacilities.aspx **Free Composting Classes** (county service) - Contact: Nadine Ford 704.432.1970 **Free Recycling to Multi-family residencies** of 30 or more units at the request of property ownership (For information contact Mavis Gant: 432-3537) **Recycling Guide and Recycling Center Locations-** http://charmeck.org/mecklenburg/county/SolidWaste/RecyclingDropOffCenters/Pages/default.aspx ; **FREE presentation about recycling** contact Erica Robinson 704.432.4225 **Recycling Fundraiser Programs -** http://charmeck.org/mecklenburg/county/SolidWaste/SchoolandKidsRecycleCorner/Pages/RecyclingFundraiserPrograms.aspx	
11	**Number of Homes Participating in the Residential Recycling Program**	Percentage of eligible residences within the NPA who participate in the City sponsored residential recycling program.	This information could help to identify areas where resident education programs are needed or routes could be adjusted.	Charlotte Solid Waste Services	Determined by data from sensors affixed to residential roll out bins. Recycling participation is determined by dividing the number of collections in a month by the total possible collections for the month aggregated for each NPA. Only includes data for single family residential units (attached and detached) and multi-family residences with less than 25 units and any additional legacy multi-family dwellings. Does not include information from all apartment complexes.	**Organic Yard Waste Drop Off Locations:** http://charmeck.org/mecklenburg/county/SolidWaste/homecomposting/Pages/YardWasteFacilities.aspx ; **Free Composting Classes** (county service) - Contact: Nadine Ford 704.432.1970 **Free Recycling to Multi-family residencies** of 30 or more units at the request of property ownership (For information contact Mavis Gant: 432-3537) **Recycling Guide and Recycling Center Locations** http://charmeck.org/mecklenburg/county/SolidWaste/RecyclingDropOffCenters/Pages/default.aspx ; **FREE presentation about recycling** contact Erica Robinson 704.432.4225 **Recycling Fundraiser Programs -** http://charmeck.org/mecklenburg/county/SolidWaste/SchoolandKidsRecycleCorner/Pages/RecyclingFundraiserPrograms.aspx **Electronics Recycling Centers-** http://charmeck.org/mecklenburg/county/SolidWaste/BusinessRecycling/Pages/ElectronicsRecyclers.aspx	
12	**Tonnage of Recycled Waste**	Tonnage of residential recycled waste per capita. Does not include recycled waste for multi-family or non-residential structures.	Reflects the amount of recycled waste per capita. This information provides a baseline for evaluating percent change and the effectiveness of available programs to increase recycling.	Charlotte Solid Waste Services	Tonnage of recycled waste per capita, estimated from collections per route divided by number of persons per capita as determined by the most recent decennial census. Does not include recycled waste for multi-family or non-residential structures.	**Organic Yard Waste Drop Off Locations:** http://charmeck.org/mecklenburg/county/SolidWaste/homecomposting/Pages/YardWasteFacilities.aspx ; **Free Composting Classes** (county service) - Contact: Nadine Ford 704.432.1970 **Free Recycling to Multi-family residencies** of 30 or more units at the request of property ownership (For information contact Mavis Gant: 432-3537) **Recycling Guide and Recycling Center Locations** http://charmeck.org/mecklenburg/county/SolidWaste/RecyclingDropOffCenters/Pages/default.aspx ; **FREE presentation about recycling** contact Erica Robinson 704.432.4225 **Recycling Fundraiser Programs -** http://charmeck.org/mecklenburg/county/SolidWaste/SchoolandKidsRecycleCorner/Pages/RecyclingFundraiserPrograms.aspx **Electronics Recycling Centers-** http://charmeck.org/mecklenburg/county/SolidWaste/BusinessRecycling/Pages/ElectronicsRecyclers.aspx	
13	**Tonnage of Solid Waste (non-recycled)**	Tonnage of residential solid waste per capita	Reflects the amount of recycled waste per capita. This information provides a baseline for evaluating percent change and the effectiveness of available waste reduction programs.	Charlotte Solid Waste Services	Methodology is still under development. Tonnage of solid waste per capita estimated from collections per route divided by number of persons per capita as determined by the most recent decennial census. Does not include recycled waste for multi-family or non-residential structures.	**Organic Yard Waste Drop-Off Locations** http://charmeck.org/mecklenburg/county/SolidWaste/homecomposting/Pages/YardWasteFacilities.aspx Schedule or register for**free composting classes** contact Nadine Ford 704.432.1970 **Recycling Guide and Recycling Center Locations** http://charmeck.org/mecklenburg/county/SolidWaste/RecyclingDropOffCenters/Pages/default.aspx **FREE presentation about recycling-** contact Erica Robinson 704.432.4225 **Recycling Fundraiser Programs -** http://charmeck.org/mecklenburg/county/SolidWaste/SchoolandKidsRecycleCorner/Pages/RecyclingFundraiserPrograms.aspx **Electronics Recycling Centers-** http://charmeck.org/mecklenburg/county/SolidWaste/BusinessRecycling/Pages/ElectronicsRecyclers.aspx	
	WATER RESOURCE INDICATORS						
14	**Water Consumption**	Average annual residential water consumption per capita, includes single-family and irrigation meters	Reflects amount of water being consumed per capita within the NPA. This information could help in identifying areas where resident education programs could be beneficial.	Charlotte-Mecklenburg Utilities	The number of residential accounts and their total CCF were summarized for each NPA. The total CCF was divided by the number of accounts to obtain the average residential CCFs. Does not include multi-family structures utilizing a single meter, homes on well water or non-residential structures.	**Smart Irrigation Program-**http://charmeck.org/city/charlotte/Utilities/WaterSmart/Pages/LiquidAssets-SmartIrrigationProgram.aspx ; **5 ways to save money on your water bill** http://charmeck.org/citv/charlotte/Utilities/CustomerService/Pages/SaveOnWaterBill.aspx **Water Smart Landscaping Guide** http://charmeck.org/city/charlotte/Utilities/WaterSmart/Documents/WaterSmartLandscapingTipsforwebsite.pdf **Home Water Use Audit** http://charmeck.org/city/charlotte/Utilities/WaterSmart/Documents/CMUD83204WaterUseAudit2008.pdf **Indoor Water Conservation Tips**- http://charmeck.org/city/charlotte/Utilities/WaterSmart/Pages/Indoor%20Water%20Conservation.aspx **Free Water Efficient Shower Heads**- Contact Maeneen Klein at 704-336-7600 or mklein@ci.charlotte.nc.us	
15	**Adopt-a-Stream Participation**	Percentage of existing streams within the NPA that are maintained by Adopt-a-Stream Program. Only includes NPA's that contain eligible streams.	Provides baseline information regarding neighborhood interest & willingness to participate in programs with positive environmental impacts. Identifies neighborhoods where increased program education may be needed.	Storm water Services http://mapserver.mecklenburgcountync.gov/adoptastream/	The length of stream banks maintained by the adopt-a-stream program divided by the total length of stream banks in each NPA. Does not include shoreline along the Catawba river. For areas where a stream forms the NPA boundary, the linear feet of adopted area will be equally attributed to both NPA's.	**Adopt-a-Stream Program** http://www.charmeck.org/stormwater/VolunteerGetInvolved/Pages/Adopt-A-StreamProgram.aspx **Map of Eligible & Adopted Streams -** http://mapserver.mecklenburgcountync.gov/adoptastream/	
	ENERGY INDICATORS						
16	**Residential Electricity Consumption**	Average annual electricity consumption in kilowatts per NPA.	Provides baseline information to determine the average electricity use for households within the NPA. Data can been used to target educational programs, weatherization services, grant funds or other initiatives to reduce energy use in areas that exhibit higher usage. Reducing electricity use saves money and lowers the demand for additional power plants to be constructed which may lead to increased air pollution and degradation of resources.	Duke Energy	Data includes information aggregated at the zip code + 4 scale of geography. Data is not included for cases where the zip code +4 sample is fewer than 5 customers. Specific customer information, such as names, addresses, and account numbers will not be disclosed or included. Data represents the average energy use in kilowatts for the 12-month period beginning January 1 2011 and ending December 31, 2011.	**US Department of Energy (DOE) Home Energy Assessments and DIY tips:** http://www.energysavers.gov/your_home/energy_audits/index.cfm/mytopic=11160 **Duke Energy Youtility Program** provides tips for saving energy: http://www.duke-energy.com/youtility/ **Do Your Part Home Checklist**: http://doyourpart.com/green-living/book/room-by-room-checklist/ **Home Energy Advisor:** https://www.energystar.gov/index.cfm?fuseaction=home_energy_advisor.showGetInput **ENERGY STAR Home Improvement Information:** http://www.energystar.gov/index.cfm?c=home_improvement.hm_improvement_index Tips to **reduce your energy usage and save money** http://www.duke-energy.com/north-carolina/savings.asp **Charlotte's Energy Efficiency Strategy** - Power2charlotte.com	
17	**Residential Natural Gas Consumption**	Average annual natural gas consumption in therms per NPA.	Provides baseline information to determine the average natural gas use for households within the NPA. Data can been used to target educational programs, weatherization services, grant funds or other initiatives to reduce natural gas use in areas that exhibit higher usage. Reducing natural gas use saves money and decreases the need for additional wells and pipelines which may contribute to degradation of resources.	Piedmont Natural Gas	Data includes information aggregated at the zip code + 4 scale of geography. Data is not included for cases where the zip code +4 sample is fewer than 5 customers. Specific customer information, such as names, addresses, and account numbers will not be disclosed or included. Data represents the average energy use in kilowatts for the 12-month period beginning January 1 2011 and ending December 31, 2011.		