CHARLOTTE

Charlotte City Council

Environment Committee

Meeting Summary for January 4, 2011

COMMITTEE AGENDA TOPICS

I. **Subject:** **FY2012-2013 Focus Area Plan for the Environment**

Action: None.

II. **Subject:** **Next Meeting**

Monday, January 24 at 3:45 p.m. in Room 280

COMMITTEE INFORMATION

Present: Edwin Peacock, Nancy Carter, Jason Burgess and Andy Dulin
Absent: David Howard
Time: 11:00 a.m. to 12:10

ATTACHMENTS

1. Agenda Package
2. Handout: Information on CATS Diesel vs. Hybrid Bus Fleet
3. 1/4 Environment Committee FAP Notes

DISCUSSION HIGHLIGHTS

Committee Discussion:

Committee Chair Edwin Peacock welcomed everyone to the meeting and asked those around the table to introduce themselves. He then turned the meeting over to Julie Burch.

I. FY 2012-2013 Focus Area Plan for the Environment

Ms. Burch advised today's meeting was a continuation of the discussion on the Focus Area Plan. As a reminder, this draft will be discussed at the Council Retreat as well as the other focus area plans. It will then be referred back to Committee for recommendation and adoption by Council in the spring.

As a follow-up to the December 8 discussion, Council member Dulin had a question related to CATS purchasing buses and diesel vs. hybrid. CATS' staff has distributed a written report on this topic [copy attached]. Staff is also prepared to address the Committee if you'd like additional information.

Peacock: This is on page two of the Focus Area Plan – the third target.

Dulin: My question has been answered.

Larry Kopf, CATS

CATS has goals to reduce emissions and improve air quality, reduce fuel consumption and maintenance costs, and lead by example by implementing "green" technologies. CATS maintains a fleet of 323 buses; seven of which are hybrid. There are six on order this year. The seven buses were acquired by TIGGER and CMAQ grants.

There are several things CATS does to try and control emissions along with idling including controlling vehicle speed; using battery power during maintenance; filters, ultra low sulfur diesel fuel; etc. For every tenth of a mile in improvement, $150,000 is saved in fuel costs.

The second page of the document has pictures showing the results in using different filters.

The benefit of hybrid vs. diesel is they are more efficient than our 12-year old diesel buses. Hybrids have 52% better fuel economy than the 12-year old vehicles and 35% better fuel economy than new diesel buses. Hybrids save $47,000 over the life of the bus.

The last chart relates to the incremental cost. Approximately 80% of the cost to purchase new buses comes from federal grants, 10% comes from the State and 10% from us. So,

our share of a hybrid is around $60,000 and for a diesel is $42,000. The fuel economy covers the local and State costs. We have limited capital dollars to work with, so we try to remove old buses only when we can purchase new ones with special grants.

[Carter Arrives]

Peacock: A new hybrid bus is $602,342 and a new diesel is $427,537 is the difference of $175,000 divisible by the $47,000/year savings in fuel cost?

Kopf: It is $47,000 over the life of the bus.

Peacock: And, what's the average lifetime?

Kopf: 12 years. And, if you look in the fourth column of the chart, the fuel savings cover the local share.

Peacock: Are those better carbon emissions?

Kopf: They do better than regular biodiesel. There have been studies done. But, they are generally conducted in a controlled environment.

Peacock: The 4.3 is that the average for the whole fleet? Is that a stretch number?

Kopf: It will take an effort for us to reach that goal, but it helps the environment and our budget.

Carter: When you use hybrids, do you go on corridors with heavy congestion?

Kopf: Five are used on the Airport route and the other two are all over the system. They are local, so they might come into the transit center as a #9 – Central and go out as a #11 – North Tryon. We think they are best utilized in stop and go traffic.

Peacock: Other questions?

Dulin: I appreciate the information. I understand the 4.3 goal for the entire fleet. I just wanted to know how many mpg for diesel and how many mpg for hybrid. That was my question. But, I do have another question now and that is will grants continue to be available?

Kopf: That is a tough question to answer, because we are not sure what the Feds will do. We are waiting on an act of Congress; however, we do know there is an emphasis now on not relying on foreign oil.

Dulin: How many companies make hybrid buses?

Kopf: There are two we do business with.

Dulin: Is there 10, maybe?

Kopf: Probably.

Dulin: DesignLine participates in a competitive bid, but can someone else beat their price?

Kopf: The contracts are approved by Council. We have a competitive process for the contracts.

Dulin: Thanks, this is interesting and nice information to have.

Burch: These are handled on a case-by-case basis as grants are available and we look at fuel savings and environmental benefit.

Dulin: The line to the Airport doesn't have a lot of stop and go. I haven't seen the numbers, but is it worth running? And, six more hybrids have been ordered? When will they be delivered?

Kopf: It is and they will be delivered in August/September.

Carter: I think there is stop and go at the Airport. And, this gives us a distinct opportunity to lobby in DC our Delegation to know how important Charlotte is focusing on clean energy. We can lead by example.

Peacock: I think we should work our way back through the Focus Area Plan, starting with Environment 4, then 3, then 2 and 1.

Burch: In the document you have today, everything in red is what has changed since the last conversation. Environment 4 is pretty much all red. Brad Richardson, Economic Development is with us today to discuss.

Richardson: We took the comments from the last two meetings about the desire to attract businesses that produce a product out of recycled materials. Recycling is important, job growth is important and we thought it was important to work on this on a regional basis. Attraction is handled by our partners at the Charlotte Chamber and Regional Partnership. The City is limited in attraction to tax assistance and regulatory permitting.

We have been working with the Regional Partnership on their Energy Capital Project and we have a Council member and key staff on the Advisory Board working to attract and grow the clean energy industry sector in Charlotte.

We also felt we needed a definition of clean energy. We thought the definition prepared by the Pew Charitable Trust was the best fit. It includes clean energy development; energy efficiency; environmentally-friendly production; conservation and pollution mitigation; and training and support. It does not include nuclear, which has been suggested before. But, we thought this would be a good start in developing a clean energy strategy.

Peacock: The Pew document is about a 75-page document. It is long but helpful; it helped answer the question I had about green jobs. Ms. Burch, could that document be emailed to the Committee?

Burch: Of course.

Peacock: Is the clean energy strategy complementary or separate?

Richardson: It would be customized to Charlotte; how we do business; it is part of the EECBG program. We would not be cuting and pasting, but developing our own.

Carter: I have a concern with the focus on clean energy that we become too narrowly focused or inflexible. I hope we will look at environmental businesses and be nimble.

Richardson: Part of why we liked the Pews definition, is we thought it was the most broad. If you read the report, they do a good job of explaining the industry and we thought they were satisfactorily broad.

Dulin: Why not nuclear?

Richardson: Pew didn't include nuclear, because it is not widely accepted as "clean" due to the spent fuel rods. As far as small businesses are concerned, it seems nuclear already gets attention. The Clean Energy Capital Project has a foundational element of growth and development.

Dulin: Or, solar. We have those folks here today.

Richardson: That is a primary source in the region.

Dulin: I'd like to include nuclear.

Peacock: I think at a macro level there is a lot of attention given to nuclear. If we are referencing small businesses, that is not a fuel a lot of them will use.

Richardson: Behind the scenes this dovetails with the Economic Development focus area plan.

Peacock: Good point. What about the second target?

Burch: The second measure/target incorporates the fresh food suggestion from Council member Carter. Garet Johnson, Planning is here to elaborate.

Johnson: We thought that alternative energy and fresh foods sort of dovetailed because there is no clarity around them in the zoning ordinances. We thought we could add definition particularly to the first one. So that when a small business comes in we have a good definition.

Dulin: We need to make sure we have a better definition, so we don't restrict businesses from coming.

Johnson: This should make it easier when it gets to you.

The second part is the access to local foods. So, we have discussed a fresh foods amendment. We have been working on that for several months. But, it includes fruits and vegetables and we need to look at more changes including farmer versus flea market. Where do they fit when there is meat, cheese and eggs or crafts? Where does that fit in? Now, it is in residential, but is it still appropriate?

Dulin: What about flowers? We can't exclude mums.

Johnson: I don't know all the details, but I suspect you can still sell flowers.

Dulin: There's also fish on ice, like shrimp.

Johnson: That's the purpose of a fresh food amendment and part of what we are working through.

Peacock: I would recommend that you break it out of this target. We have fresh "produce" versus fresh "food" and move that to the first initiative below community gardens as opposed to alternative energy.

Dulin: Where?

Peacock: Separate it out and insert it under the first initiative.

Burch: Fresh food versus produce?

Johnson: Fresh food is much broader.

Peacock: What is the goal? If there is a formal strategy under community gardens, why another target?

Johnson: To respond to the discussion about access to local foods. We were already working on a fresh produce text amendment and thought we could do more. It was responding to two ideas.

Peacock: A text amendment does what? Does it encourage or discourage?

Johnson: It makes it easier to understand where they might be appropriate. It makes it clearer where the districts are.

Carter: I think we should collaborate with the community because there is some health issues related to meat. The other text amendment leaves the door open. This serves an underserved area in our community. We need to make access to produce as easy as possible.

Burch: We will move fresh foods over.

Peacock: I just think it flows better. Mr. Phocas, you have been quiet.

Phocas: Ms. Burch and I have already discussed this a lot particularly number four. We want to keep this broad so we can fold things in and be nimble as Ms. Carter referenced.

Peacock: In number three, we talk about attracting private capital. Does this get to Mr. Ostema's suggestions?

Burch: The clean energy strategy is much broader; we didn't drill down in the Focus Area Plan to the financing/funding.

Peacock: Are we attracting private capital?

Richardson: I agree we need to give this some context. We would like an opportunity to meet with Mr. Ostema so we have a better idea what to recommend.

Peacock: As some background, he made a presentation to Economic Development.

Richardson: We have two mechanisms. One is the proposed clean energy bonds and the other is the feed-in tariff. Basically, closing the gap cost and paying for these types of things. We'd like to meet with them to get context from the knowledge experts.

Peacock: But, we don't want this too broad.

Burch: We have a number of tools to incorporate.

Peacock: So, there are no changes in number three?

Carter: Just one thing – we need a way to communicate what is going on in the City.

Burch: We have had a lot of conversation about communication and if you look under "Lead by Example" the last measure in red is placeholder to "develop and implement a plan to communicate the City's environmental successes…" Kim McMillan, Cass Bonfiglio and Gina Shell are here and have all been part of that conversation.

McMillan: We have proposed that the City departments start stepping up their communication, like the information you just received from CATS on hybrid buses. We think the tools that work best are in the web environment and we are bringing a renewed focus to the focus area webpages. We think that will be a good platform to report success. So, there will be a more concerted effort citywide and we think that will serve the community well. We will be bringing the focus area pages to you, so you will hear about these initiatives.

Carter: I think that is an admirable goal, but will there be a page for citizens to put up their projects, just a simple communication so they can also post what is going on.

McMillan: We are starting to do that with Power2. We have been collecting information from our partners. Our newsletter has grown up to 1,000 subscribers. We have had an opportunity to market the advantages of Power2, but plan to start the end of the month and expand this to the City.

Carter: Citizens can put things online?

McMillan: There is a place to share ideas, but there will be more events noted and networking opportunities for citizens to interact.

Carter: I think the environment is an important issue and we need to help develop a community feel.

Peacock: Is what is listed under the measure sufficient for you, or do you want to add your own? The first measure, second target is to increase exposure to Power2.

Carter: I think that is a better spot to facilitate interaction.

Peacock: Would you like to reword it to include two-way communication?
Carter: I know we've been talking about this for years, there should be something.

Burch: I think there was a past expectation of doing something and this is endorsing it. We can think about the wording.

Peacock: The other point is I see us setting goals, but we need to report back goals. We have a baseline, goal, show savings, etc. I see this in Envision Charlotte. There are overall broad successes, but we need to show how well Engineering and Property Management is articulating savings.

Phocas: Power2 lists all the Department of Energy Projects and we have an opportunity to report back on those. We will be putting the matrix out there.

Peacock: I think we need a dashboard of what's going on in areas like carpooling, biking, walking. It is important that the community knows what we do. People are impressed when they hear how much we are doing. We always get positive feedback.

Dulin: Back to page two, the mpgs are vehicles that are 12 years old. New diesel or new hybrids will be over the 4.3 goal. It is only 12 year old diesel vehicles that are under the 4.3 goal. So of the 370+ buses, what is the average age of the fleet? If 50% are five years and younger, you will go over the 4.3 goal.

Burgess: It says 6.5 years.

Dulin: You are going to be close either way. Should you bump the number up? Based on their own information the 4.3 is not hard.

Peacock: I know the numbers aren't thrown easily out, they have a point to set and then we'll see if they improve.

Feltman: We feel this is a stretch. We only approached 4.2, so we might not make 4.3.

Dulin: Most of the vehicles are only halfway through their life expectancy. If you are at 4.2, but have to get to 4.3 to save $150,000, I'm just making a point.

Peacock: This was repeated from last year. Was there any talk of moving it up?

Feltman: Actually, this is brand new. We switched from idling to mpg to more accurately reflect what we are trying to do.

Peacock: So, this is the first time? We'll find out then if you hit it or beat it. Let's move on to number two. Okay, no changes, then to number one.

Burch: You asked about a target in reference to responsibly managing natural resources, so in red we have a new target suggested by Engineering and Property Management.

Peacock: The 100% is confusing to me.

Hammock: We were focusing on City projects, like roads, runways, and police stations. The State mitigation program allows municipalities and private developers to pay into a bank. The City of Charlotte has its own bank to accept fees in lieu so we can keep the benefits local. We pay the State if we build in the State but that means the benefits are outside the City. We want to ensure efforts are done locally.

Carter: Wetlands too?

Hammock: There are very few wetlands we have encountered. It is overwhelmingly streams, but we can add wetlands no problem.

Peacock: Where are they?

Hammock: Along creeks.

Peacock: We need to make this for anyone to understand, I think it should be re-worded.

Hammock: What would you like us to add?

Peacock: I think you should reword this to what you just said, it gives it more clarification.

Hammock: We can add the bank and it stays locally.

Carter: So, we are investing locally.

Burch: We will still explore some wording related to the target with the Neighborhood Matching Grants and Power2.

Carter: Would it be possible to do something more like an outline? I get lost with all the measures and targets. But, I think you need to keep the color coding for when this presented to Council.

Burch: Well, all of the Focus Area Plans follow essentially the same format.

Peacock: You'll notice I did request the topic sentences all be capitalized. But, I like the idea of an outline with an A, B, C. That has always been my frustration trying to follow the measures and targets.

Burch: I would like to refer you all to page one, and the red reflects the conversation from last time.

Peacock: One suggestion would be for some alternative language because it says "initiatives include initiatives."

Burgess: What about included "are"?

Burch: And, don't use "green industry"?

Carter: It could be something else.

Peacock: I think that term is overused. We should find something more specific or don't use it all. We could reference the clean energy we discussed earlier.

Burch: That goes back to other Focus Area Plan, is that the terminology Economic Development used?

Richardson: We begin our review next week.

Burch: So, we may tweak it.

Peacock: Can you parrot our concerns?

Carter: I don't want to lose the flexibility by taking out green because that is a sustainable industry. I am concerned about being too narrow.

Peacock: Let's ask staff to come back with some adjectives. Is everyone okay with the mission statement?

Dulin: What is our goal for finishing this work?

Peacock: When do you need approval?

Burch: This will go out in the Retreat material book, which happens two days after your next meeting. The included draft doesn't have to be approved. Staff will label this as a placeholder. So, we don't have to discuss the Focus Area Plan at the January 24 meeting. We are ready to start the discussion on the Tree Canopy Goal and Investment Strategy. We will bring the Focus Area Plan back though so you can see it before print.

Peacock: I think we have spent sufficient time on this, I know we have the tree referral, are there any other items?

Burch: The Clean Energy Strategy is also in the queue, but it is not ready.

Peacock: The Restructuring Government Committee has the Environment Advisory Committee referral. Last year we had Keep Charlotte Beautiful and Keep Mecklenburg Beautiful possible merger discussion. They determined a merger wasn't possible, but their by-laws now include some initiatives where they collaborate.

Burch: It was the first time they had collaborated.

Peacock: I think the Environment Advisory Committee will be a good subject for discussion this year. I would also remind the Committee that on December 6, six of our environmental partners put together their thoughts on the Focus Area Plan and I would encourage all of you to re-read their thoughts as they had some specific ideas that might be helpful.

II. Next Meeting

Monday, January 24, 2011 at 3:45 p.m. in Room 280.

Meeting Adjourned

Environment Committee

Tuesday, January 4, 2011 at 11:00 a.m.
Charlotte-Mecklenburg Government Center
Rooms 270/271

Committee Members:	Edwin Peacock, Chair Nancy Carter, Vice Chair Jason Burgess Andy Dulin David Howard
Staff Resources:	Julie Burch

AGENDA

I. <u>FY 2012-2013 Focus Area Plan for the Environment</u>
Staff Resources: Julie Burch and members of Environment Cabinet

Discussion will continue on revisions to the Focus Area Plan. <u>Attached</u> is a new draft reflecting Committee member comments and ideas from the December 8 meeting, as well as the current adopted plan.

II. <u>Next Meeting</u>

Monday, January 24 at 3:45 p.m. in Room 280

Distribution:	Mayor/City Council Mac McCarley	Curt Walton, City Manager Stephanie Kelly	Leadership Team Environmental Cabinet

"Charlotte will become a national leader in environmental and energy 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 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 ~~sustainable industry, including~~ the clean energy industry, including the alternative energy sector.

As illustrated in the graphic below, the Environmental Focus Area is interrelated to all of City Council's other focus areas.

Specific initiatives in Economic Development and Transportation Focus Area Plans relate directly to Charlotte's environmental goals. The initiatives include initiatives for renewable energy and green industry, land-use planning, and increased use of transit and other transportation choices.

Blue = Changes prior to December 8
Red = Changes reflecting December 8 Committee Discussion

DRAFT

Environment

Safeguard the Environment

Environment 1

Focus Area Initiative: PROMOTE AND PARTICIPATE IN THE DEVELOPMENT OF A SUSTAINABLE COMMUNITY

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

FY12 Target: Explore hosting a sustainability expo/conference *and other educational opportunities* in conjunction with *and funded by* other partners.

FY12 Target: Increase the exposure of the Power2Charlotte, CurbIt recycling campaign, and other educational/outreach efforts in *coordination* with other partners.

FY12 Target: Implement the nine (9) Energy Efficiency and Conservation Block Grant projects that are catalyst projects or promote energy investments in revitalization areas, and the Neighborhood Energy Challenge.

FY12 Target: Collect baseline data on environmental variables in preparation for adding those variables to the biennial Quality of Life study.

FY12 Target: *Encourage the development of community gardens through Neighborhood Matching Grants program, and collaboration with other partners.*

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.

FY12 Target: Ninety-five percent (95%) of rezoning decisions consistent with adopted area plans and/or staff recommendations.

FY12 Target: Eighty percent (80%) of approved rezonings incorporate environmentally sensitive site design components (Implementation of GDP-Environment)

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

FY12 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.

FY12 Target: *Meet mitigation requirements through local rather than state-level restoration efforts 100% of the time when streams are negatively impacted by City projects*

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

FY12 Target: Achieve a 30% increase in tonnage of recycled materials over FY10 baseline data.

Blue = Changes prior to December 8

Red = Changes reflecting December 8 Committee Discussion

DRAFT

Environment 2

Focus Area Initiative: LEAD BY EXAMPLE BY PRACTICING ENVIRONMENTAL STEWARDSHIP IN CITY OPERATIONS AND FACILITIES

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

FY12 Target: Adopt a greenhouse gas action plan by June 2011 and begin implementation in FY2012

FY12 Target: Complete seven (7) of the Energy Efficiency and Conservation Block Grant projects designed to improve efficiency of City facilities.

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

FY12 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

FY12 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.

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

FY12 Target: Prepare annual report on the implementation of the Policy for Sustainable Facilities, reporting project decisions, common facility metrics, and recommended policy adjustments.

FY12 Target: Per Clean Water Act requirements, develop and begin implementing plans for stormwater best practices for priority field operations by June 2012.

FY12 Target: One-hundred percent (100%) compliance with National Pollutant Discharge Elimination System permit requirement for all five wastewater plants.

FY12 Target: *Divert 70% of materials from Charlotte Douglas Airport's waste stream via a new airport recycling center.*

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

FY12 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.

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

Blue = Changes prior to December 8

Red = Changes reflecting December 8 Committee Discussion

DRAFT

FY12 Target:	Implement the initial construction of a Combined Heat and Power project at McAlpine Wastewater Management Facility by June 2012.
FY12 Target:	Develop and implement a solar energy pilot project on CATS-owned bus canopies by June 2012.
FY12 Measure:	Develop and implement plan to communicate City's environmental successes and other instances of the City of Charlotte "leading by example" (placeholder for discussion)
FY12 Target:	TBD

Environment 3

Focus Area Initiative:	SEEK AND SUPPORT COLLABORATIVE AND REGIONAL SOLUTIONS TO ENVIRONMENTAL PROBLEMS
FY12 Measure:	Collaborate and participate in public and private sector partnership's environmental and visioning initiatives
FY12 Target:	Collaborate with City's Energy Partners and other agencies to leverage resources and enhance the impact of cooperative projects.
FY12 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
FY12 Measure:	Lead and support efforts to improve Charlotte and regional air quality by promoting long-term reduction in ozone causing emissions.
FY12 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.
FY12 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.
FY12 Measure:	Continue a leadership role in regional water resources planning
FY12 Target:	Utilities staff to continue participation in regional Water Management Group and be actively involved with committee work.
FY12 Target:	Actively support North Carolina's defense of the North Carolina vs. South Carolina water rights lawsuit to protect the interest of Utilities' customers.

Environment 4

Focus Area Initiative:	FACILITATE THE GROWTH OF THE CLEAN ENERGY INDUSTRY, INCLUDING THE ALTERNATIVE ENERGY SECTOR
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.* (placeholder for discussion)
FY12 Target:	*Develop a clean energy strategy by January, 2012 with a particular focus on assisting small businesses.* (placeholder for discussion)

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DRAFT

FY12 Measure:	*Improve the regulatory environment by* clarifying and enhancing City ordinances that facilitate environmentally and energy sustainable practices. (placeholder for discussion)
FY12 Target:	Initiate alternative energy and fresh foods text amendments to better define and provide guidance for environmental land uses by June 2012. (placeholder for discussion)
FY12 Measure:	Take a leadership role in changes to policy at the state and federal level
FY12 Target:	Support energy related legislation that would enhance and solidify Charlotte's emergence as an energy center in the United States.

Clean/sustainable energy includes clean energy development; energy efficiency; environmentally-friendly production; conservation and pollution mitigation; and training and support. *Source: "The Clean Energy Economy" by the Pew Charitable Trust, June 2009.*

FY2011 Strategic Focus Area Plan

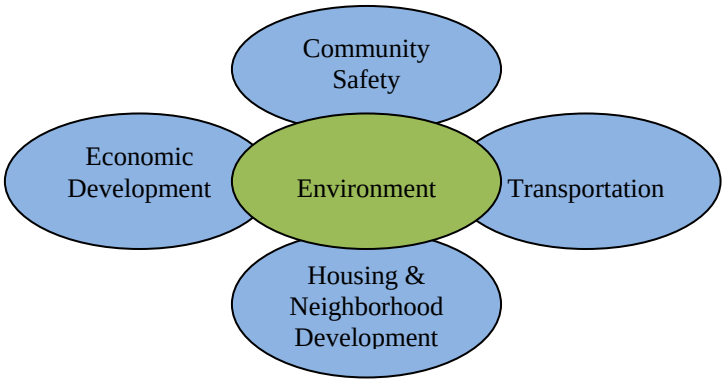
"Charlotte will become a national leader in environmental initiatives to preserve our natural resources while balancing growth with sound fiscal policy."

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

Charlotte's economic vitality presents challenges to maintaining a healthy environment. The City recognizes that conscientious environmental stewardship and concern for the public interest requires more than meeting mandates and minimum standards. By always being conscious of the need to meet regulatory compliance standards and the needs of future generations, the City will avoid costly remedial action. The City is committed to:

- *promoting environmental best practices and protecting our natural resources: the air we breathe, the water we drink, and the natural ecosystems we cherish, including the tree canopy;*
- *recognizing important interrelationships among air quality, water resources, land preservation, and energy and resource conservation;*
- *making sound land use decisions regarding our future growth and development supporting sustainability so as not to jeopardize our future generation of citizens;*
- *achieving our goals of becoming a national leader in the successful stewardship of our environment by maintaining a cooperative and open agenda with Mecklenburg County, our regional neighbors, and the business community; and*
- *leading by example and promoting sound, cost effective environmental and energy conservation practices in City operations.*

As illustrated in the graphic below, the Environmental Focus Area is interrelated to <u>all</u> of City Council's other focus areas.



Specific initiatives in Economic Development and Transportation Focus Area Plans relate directly to Charlotte's environmental goals including initiatives for renewable energy and green industry, and land-use planning and transportation choices.

Environment

Safeguard the Environment

ENV.1	Focus Area Initiative:	Support environmental sustainability by making wise decisions regarding growth and development, recognizing the interrelationships between air quality, water resources, land preservation, and energy and resource conservation
➢	FY11 Measure:	Percent of residential and office developments located within centers and corridors to continue implementing Centers, Corridors, and Wedges Growth Framework
	FY11 Target:	Minimum of 40% of new housing unit permits and 70% of new multi-family unit permits in the city located within the centers and corridors
	FY09 Target:	40% and 70% respectively
	FY09 Actual:	55.8% and 71.9% respectively
	FY11 Target:	Minimum of 75% of new office development square footage and 75% of new employment occurring in the centers and corridors
	FY09 Target:	75% and 75% respectively
	FY09 Actual:	97.6% and 91.4% respectively
➢	FY11 Measure:	Percent of rezoning decisions consistent with adopted plans and/or staff recommendation
	FY11 Target:	95% of rezoning decisions consistent with adopted plans and/or staff recommendation
	FY09 Target:	95% of rezoning decisions consistent with adopted plans
	FY09 Actual:	93.4% rezoning decisions consistent with adopted plans
➢	FY11 Measure:	Percent of rezoning decisions consistent with adopted environmentally sensitive site design policies
	FY11 Target:	80% of approved re-zonings incorporate environmentally sensitive site design components as per the General Development Policies-Environment
	FY09 Target:	N/A – new measure for FY10
➢	FY11 Measure:	Implement the General Development Policies Phase II - Environment
	FY11 Target:	Initiate strategies to address two additional General Development Policies—Environment and continue to focus on policies dealt with by previous Focus Area Plan targets
	FY09 Target:	Initiated strategies to address five of the 15 GDP-E by June 2009
	FY09 Actual:	Initiated strategies to address six additional GDP-E

Environment

ENV.2	Focus Area Initiative:	Lead and support efforts to improve Charlotte and regional air quality
	FY11 Measure:	Promote long-term reduction in ozone-causing emissions
	FY11 Target:	Implement projects in partnerships with business/management organizations to encourage increases in travel by alternative modes to/from/within two mixed-use activity centers by June 2011
	FY09 Target:	N/A – new measure for FY10
	FY11 Target:	Adopt and implement a revised Tree Ordinance that will help improve air quality through the preservation and growth of Charlotte's tree canopy
	FY09 Target:	Adopt revised Tree Ordinance by June 2008
	FY09 Actual:	Revised Tree Ordinance pending adoption
	FY11 Target:	Continue collaboration and participation with COG's CONNECT Regional Air Quality Work Team, the Regional Air Quality Board and Clean Air Works, Mecklenburg County Division of Air Quality and the State of North Carolina Division of Air Quality to develop and implement strategies to improve air quality
	FY09 Target:	N/A – new measure for FY10
	FY11 Target:	Implement the City's Energy Efficiency and Conservation Block Grant air quality projects

ENV.3	Focus Area Initiative:	Protect natural ecosystems and habitats, including the tree canopy
➢	FY11 Measure:	Maintain a significant and healthy tree canopy
	FY11 Target:	**Present Tree Appreciation Awards in June to developers and persons for exceptional tree preservation, tree planting, citizen contributions and other outstanding achievements that enhance Charlotte's tree canopy**
	FY11 Target:	**Adopt an overall tree canopy goal for Charlotte and measure the effectiveness of the newly revised tree ordinance meeting the goal**
➢	FY11 Measure:	Protect stream corridors, ponds, and wetlands through public acquisition of additional conservation easements and enhancing existing buffers
	FY11 Target:	Meet mitigation requirements through local rather than state-level restoration efforts 100% of the time when streams are negatively impacted by City projects
	FY09 Target:	N/A – new measure for FY10
➢	FY11 Measure:	Maintain permit compliance with treated wastewater
	FY11 Target:	100% compliance with National Pollutant Discharge Elimination System permit requirements for all five wastewater plants
	FY09 Target:	100% compliance
	FY09 Actual:	5 violations - 99.9% compliance

Environment

ENV.4	Focus Area Initiative:	Lead by example, adopting sound environmental practices in City facilities and operations
	FY11 Measure:	Implement strategies to reduce City fleet emissions to improve air quality
	FY11 Target:	Reduce the amount of harmful emissions from the CATS bus fleet by maintaining the 5% idling reduction from FY10 baseline data in CATS' fixed bus fleet, including emissions reduction equipment on the engines of all new fixed route buses, and procuring hybrid buses as funding allows
	FY09 Target:	Reduce idling by 5% from FY07 baseline data in Charlotte Area Transit System's fixed route bus fleet
	FY09 Actual:	Reduced idling from 35.15% to 30.30%
	FY11 Target:	Improve the efficiency of the overall City fleet by purchasing alternative fuel vehicles as funding allows and by seeking grant funding to outfit current vehicles with emissions reducing technology
	FY09 Target:	Increase percentages of City fleet using alternative fuel or emission efficient technologies
	FY09 Actual:	37 hybrids; 337 flex fuel vehicles (excludes CATS)
➢	FY11 Measure:	Incorporate environmentally responsible actions in the design, construction, and operations of City facilities and in other operating practices
	FY11 Target:	Implement adopted Policy for Sustainable City Facilities and conduct first year review of effectiveness
➢	FY11 Measure:	Reduce greenhouse gas emissions from City facilities and operations
	FY11 Target:	Establish the City's targets to reduce Greenhouse Gas Emissions for City facilities and operations
	FY11 Target:	Implement the City's Energy Efficiency and Conservation Block Grant projects for City facilities
	FY09 Target:	Develop Greenhouse Gas Emissions Inventory Action Plan by December 2008
	FY09 Actual:	Developed Greenhouse Gas Emissions Inventory Action Plan, as part of Energy Strategy
	FY11 Target:	Develop and implement a City-wide environmentally preferable purchasing policy by July 2010
	FY09 Target:	Develop pilot
	FY09 Actual:	Pilot program with Wake Forest and UNCC completed; assessing software and methodologies for cost/benefits analysis
	FY11 Target:	Increase recycling within City facilities
	FY09 Target:	N/A – new measure for FY10

Environment

- FY11 Measure: Operate a best-in-class wastewater treatment facilities that continually seek efficiencies and minimize environmental risk

  FY11 Target: Achieve ISO 14001:2004 certification for the for the McDowell Creek Wastewater Treatment Plant by December 2010

  FY09 Target: Receive certification

  FY09 Actual: Received Bio-solids ISO 14001:2004 certification

- **FY11 Measure:** Advance renewable energy projects, including biodiesel, methane**,** solar and **geothermal** initiatives

  FY11 Target: Complete a master plan of Utilities' properties viable technologies, including financing models and implementation steps, by December 2010

- **FY11 Measure: Develop and implement pilot project(s) for renewable energy**

  FY11 Target: Develop and implement a solar energy pilot project on airport-owned property by December 2010

Develop Collaborative Solutions

ENV.5 Focus Area Initiative: Collaborate with local and regional public and private partners and neighborhoods to enhance environmental quality and long-term sustainability

- FY11 Measure: Continue collaboration and actively participate in public and private sector partnership's environmental and visioning initiatives
- FY11 Target: Continue collaboration and participation with Centralina Council of Governments, Duke Energy, UNC-Charlotte, CPCC, CRVA Green Team, and other partners' current initiatives

  FY09 Target: Continue collaboration and participation with SEQL, Centralina Council of Governments, Regional Visioning Council and other partners' current initiatives

  FY09 Actual: Active in COG-sponsored Regional Growth and Regional Environment Cabinets; participated in CRVA Green Team, Coca-Cola "Recycle and Win," CPCC, Duke Energy and other partners' current initiatives.

  FY11 Target: Implement the City's Energy Efficiency and Conservation Block Grant projects for energy investments in revitalization areas, the neighborhood energy challenge, and catalyst projects

Environment

- FY11 Measure: Increase awareness of the environment as a priority for the community and the organization
  - FY11 Target: Continue implementing the internal and external communication plans, including the Pledge to Improve Our Environment and the Energy Efficiency and Conservation Block Grant public outreach and education campaign
  - FY09 Target: Continue implementing the internal communication strategy for the environment focus area
  - FY09 Actual: Developed and distributed pledge cards to improve our environment, dedicated employee CNet page to the Environmental Focus Area, featured environmental data in FYI and FYIcast, and Earth Day activities partner

- FY11 Measure: Continue a leadership role in regional water resources planning
  - FY11 Target: Actively support North Carolina's defense of the North Carolina versus South Carolina water rights lawsuit to protect the interest of Utilities' customers
  - FY09 Target: Lead the group with Utilities' staff as chair of the Water Management Group and be actively involved in committee work in 2008
  - FY09 Actual: Utilities' staff led the Water Management Group

- FY11 Measure: In support of State recycling goals, increase single family recycling participation to achieve a 20% increase in annual tonnage of recycled materials
  - **FY11 Target:** Implement single-stream recycling collection **and public education** program**s** by July 2010
  - FY09 Target: Implement single-stream recycling program by July 2010
  - FY09 Actual: N/A – (target is for single-stream - not yet implemented)

- FY11 Measure: Continue implementing the multi-family recycling education program
  - FY11 Target: Educate 20 non-participating multi-family property managers on the benefits of recycling by July 2010
  - FY09 Target: Educate 20 non-participating multi-family property managers on the benefits of recycling by July 2009
  - FY09 Actual: 46 managers trained (230% of target)

Information on CATS Diesel and Hybrid Bus Fleet

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The information below is provided in response to questions at the Council Environmental Committee meeting held in December.

Background

CATS has been developing a bus fleet composed primarily of clean-burning, fuel efficient diesel buses as well as a small quantity of hybrid-electric buses. The reasons are many-fold including the desire to:

- Reduce emissions and improve air quality
- Reduce fuel consumption and maintenance costs
- Lead by example in implementing "green" technologies that are being emphasized at the national level

CATS fleet of 323 buses is made up of the following types:

Regular Diesel (35' and 40')
297 buses
Average age – 6.5 years

Gold Rush Diesel
19 buses
Average age – 8 years

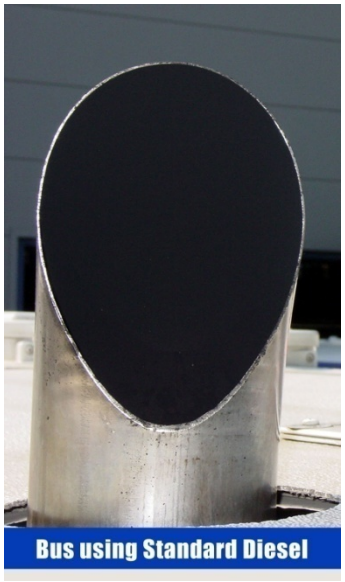
Hybrid Electric (40')
7 buses
Average age – 3 years

In past years, CATS has focused on reducing idling time of our vehicles in an effort to reduce emissions and to save on fuel costs. In FY09, CATS realized almost 120,000 gallons in fuel saved which improved fuel mpg by 6 percent. The reduction of idling time is just one of the tools available to CATS. Other CATS practices that contribute to reducing emissions and increasing fleet fuel mileage include:

- controlling vehicle speed through governor settings
- using battery power during maintenance procedures when practical
- including fuel particulate filters on all new diesel buses
- continued use of ultra low sulfur diesel fuel which has 95 percent less sulfur than conventional diesel fuel, and
- acquisition of fuel efficient, low emission vehicles, including hybrid buses

Operating and Environmental Benefits

The use of fuel particulate filters and ultra low sulfur diesel fuel has helped reduce the emissions from the bus smokestacks. The pictures below illustrate the difference.



Maximizing miles-per-gallon (mpg) from CATS fleet of transit buses has significant implications for bottom-line operational efficiencies and costs. Improving fuel mileage by as little as 0.1 mpg can produce significant benefits for CATS which provides almost 11 million miles of bus service per year. For CATS, each tenth of a mile improvement in MPG saves us about 65,000 gallons of fuel and about $150,000 in fuel costs annually, based on the current price of diesel fuel.

Fuel efficiency and emissions data based on actual transit agency experience are becoming more readily available. Previous information was primarily based on manufacturer's statements and specifications. An analysis of hybrid bus benefits can be measured against the bus that they are replacing, or against a new diesel bus of like model. The chart below indicates how a hybrid stacks up against diesel vehicles in terms of fuel economy.

Bus Type	MPG	Purchase Price
12-year old diesel bus	4.0	--
New diesel bus	4.5	$ 427,537
New hybrid bus	6.1	$ 602,342

Both a new hybrid bus and a new diesel bus are more fuel efficient than the 12-year old diesel bus they replace. Based on CATS' study of its vehicles purchased in 2009:

- Hybrid buses purchased that year achieved 52% better fuel economy than the 12-year old diesel buses they replaced.
- Hybrid buses also achieved 35% better fuel economy than the new diesel buses purchased that year. These results will likely change over time as the buses age.

- The fuel savings projected per hybrid is 2040 gallons annually. At $2.35 per gallon, the annual fuel savings is almost $4800. Over the twelve year life of the vehicle, the savings would be about $68,000. This accounts for inflation and assumes the fuel economy benefit stays constant over the life of the bus. To be conservative, another estimate was developed that assumed some loss of efficiency in hybrid operation in older buses. This more conservative estimate is that hybrids will realize a savings of $47,700 over the life of the vehicle.

CATS Bus Purchase Philosophy

CATS does not forecast significant growth in our bus services or fleet size for the foreseeable future. Consequently, our bus purchases will be focused on the replacement of older vehicles which have surpassed their useful lives (at least 12 years old). CATS will continue to purchase primarily conventional diesel buses, and will likely only pursue purchase of hybrid vehicles if it is financially prudent. There are often grant opportunities that provide funds for as much as 80 percent of the cost of hybrid vehicles, or help fund the incremental cost between a diesel and hybrid bus.

With a fleet of 323 vehicles, each with about a twelve year life, CATS routinely tries to replace about 25 - 30 buses (1/12th of the fleet) each year. CATS typically buys only regular diesel replacement buses. Opting for the more expensive hybrid buses would reduce the number of older buses that CATS would be able to remove from service.

CATS has existing contracts with established prices with two manufacturers - Gillig and Design Line. Gillig and Design Line offer both conventional diesel and hybrid buses. The hybrid bus costs approximately $175,000 more than the conventional diesel bus.

CATS pursues capital grant opportunities in our bus purchases. Approximately 80 percent of the dollars used to purchase new buses comes from federal grants. CATS (through the ½ cent transit tax) and NCDOT typically share the remaining 20 percent of the cost. Our 7 hybrid vehicles were purchased primarily with grants that emphasized environmental and air quality factors. The grants used were Congestion Mitigation Air Quality (CMAQ) grants.CATS was recently awarded a grant to purchase 6 new hybrid vehicles via the TIGGER (Transit Investments in Greenhouse Gas and Energy Reduction) program, which, if executed, would fund 80% of the cost of the vehicles.

PayBack Analysis

Bus Type	**Initial Cost**	**Federal Share (80%)**	**State Share (10%)**	**Local Share (10%)**	**Life Span Fuel Savings**
Hybrid	$602,342	$481,873	$60,234	$60,234	$47,700
Reg. Diesel	$427,537	$342,030	$42,754	$42,754	NA
Difference	$174,805	$139,843	$17,480	$17,480	$47,700

The payback analysis above is based on the conservative fuel savings estimate. It shows that the local and state incremental cost differential of a hybrid bus is covered by fuel savings.

1/4 Environment Committee FAP Notes

- Break out “fresh foods” into its own target. Move it to below Env. 1, with “encourage…community gardens”
- Consider rewording communication measure to reflect a “gather and share” approach.
- Consider rewording Env. 2 communication measure to include energy saving, etc. metrics, a dashboard.
- Include “when streams and wetlands are negatively impacted” in the meet mitigation requirements. Reword target for clarity, possibly with specific mention of the mitigation bank.
- Amend format to use something different than target/measure (possibly A.1, A.2), and keep the colors when the FAP is submitted to full Council for review
- “Included are initiatives for…” and replace term “green industry” with “renewable and clean energy industry” (align language with terms used in ED FAP) or “sustainable industry”