CHARLOTTE

Charlotte City Council

# Environment Committee

Meeting Summary for October 15, 2012

## COMMITTEE AGENDA TOPICS

**I.** **Subject:** **Update on City Environmental and Energy Projects**
Action: None

**II.** **Subject:** **Next Meeting**
Monday, November 19, 2012 at 3:00 p.m. in Room 280

## COMMITTEE INFORMATION

Present: John Autry, Claire Fallon, David Howard and Beth Pickering
Time: 3:00 p.m. to 3:50 p.m.

## ATTACHMENTS

1. Agenda Package
2. Environment Updates

## DISCUSSION HIGHLIGHTS

**Committee Discussion:**

Committee Chair John Autry welcomed everyone to the meeting and asked those around the table to introduce themselves. He stated that there are no decisions to be made today and then he turned it over to Rob Phocas to update the Committee on environmental projects.

**I. Update on City Environmental and Energy Projects**

Rob Phocas stated that he would start the presentation off, but some other folks from other departments will also come up and talk about their topics. He then began reading through and reviewing the "Environmental Updates" presentation (copy attached). Mr. Phocas began by discussing the work on developing an internal Environmental Operations Plan. He then discussed the Feasibility Study for a Community Sustainability Plan. Mr. Phocas then

introduced Mark Wiekbe from the Airport.

Mr. Wiekbe discussed the Airport's recycling center that was started in June 2012. He gave a quick history recap for how the center came about. He stated they have invested a little over a million dollars in conveyors, compactors, etc. The center is run and operated by a third party, Go Green, Reduce and Reuse. He also talked about the vessel digester that is installed in the recycling center. That is where food product, waste and contaminated paper goes in and starts composting in a cooking type of operation. The material that comes out is what they feed to the worms.

(Council member Howard arrived)

Mr. Wiekbe said the worms eat the material and then they cast out and the casting turns to compost. He stated they are capturing about 70% of waste. Council member Fallon questioned what happens to the Styrofoam. Mr. Wiekbe replied that they haven't found a good thing to do with the Styrofoam yet and their goal is to get the tenants to start using a more compostable material.

Council member Pickering praised the Airport for their work on this and told them how impressive it is.

Mr. Phocas then introduced Chris Bauer from CATS. Mr. Bauer discussed the CATS South Tryon Bus Maintenance Facility's solar photovoltaic system (PVS). He gave a quick recap of its history and talked about the TIGGER 2 grant that funded most of the project. He stated this is a 260 kilowatt system, estimated to generate 362,000 kilowatt hours per year which translates to about $30,000 per year savings in energy costs. Another thing the project includes is an inverter which is a big ticket item on solar projects that can handle the full coverage. He stated that they have been searching for more grant opportunities and haven't been successful yet, but they can double the capacity of the system by adding panels to the northern half (currently the southern half is the only one covered).

Howard: There are a lot of other flat surfaces in that facility. Is there a reason why you quit putting them on the roofs?

Bauer: No, all of the free roof that you see are great candidates for solar if there was the money.

Autry: What is the investment at this point?

Bauer: About $1.1 million.

Fallon: Have you done anything about gas conversion?

Bauer: For the buses?

Fallon: Yes.

Phocas: We are in the process of working with UNCC to do a study to look at alternative fuel for our lighter vehicles. It includes natural gas and of diesel and diesel hybrid and propane. We should have that study back, at least the final draft, by the end of this month.

Howard: Is it possible to have done this with Duke Energy bearing the cost of that capital investment or the panels? Is there another way to do this other than us buying the panels?

Bauer: We own the system in this case and that was just part of the way the grant worked out. This is investment in transit infrastructure from the FTA. In this project we are actually net metering our energy so we are spinning our meter backward. Duke is not buying it from us, we are just essentially rolling the meter backwards and that was a decision made at the time based on what energy was being bought and sold for dollars and cents.

Howard: Is that the way it works, that if we were to sell it back to Duke would they help us with the capital costs of doing the panels?

Phocas: Duke had a rooftop program where they would actually rent your space and they would install and operate the panels. Actually, we do have one of our facilities where Duke has done that and they paused the program because so much solar was coming on line from other programs that they just didn't need to continue the program. There was that opportunity, but not right now.

Mr. Phocas then introduced Nicole Storey to discuss the Commercial Building Retrofit Program and the Neighborhood Energy Challenge. She stated that both programs were overseen by Neighborhood and Business Services. They are currently under contract for 22 total projects that includes commercial projects, community and non-residential and on the residential side, apartment communities. Thus far in the project they have obligated $998,000 in grant funding and through that investment they can leverage private sector dollars of $7.33 million so it has been an incredible response from the private industry and interest in those programs, interest in retrofitting those structures to be more energy efficient and really interested in helping Charlotte lead the way in being a leader in sustainability in the region. They have contracted through those funds to retrofit 1,300 apartments and a little over 540,000 square feet of non-residential space. During the last program we paired with our Façade Improvement project to include apartment communities as well.

Autry: Are those market apartments affordable?

Storey: They are. They tend to be non-subsidized affordable housing.

Ms Storey went on to discuss the Mechanical Contractors, Inc. project shown in the presentation. She also discussed the Neighborhood Energy Challenge and described the different projects in that challenge.

Autry: What is in an efficiency kit that you distributed?

Storey: We had some parameters that defined kits for the neighborhoods and they could take

with them some latitude but wanted to make sure they were easily installed. So ,we had faucet aerators, the foam to fill cracks, weather stripping that goes around doors and windows, water efficient shower heads that we got from CMUD, and some LED light bulbs. Just a number of things, a furnace whistle that tells you when it's time to change your furnace filter.

Fallon: What about the clocks on the sprinkler system?

Storey: That is an excellent idea. One important thing to note about this program is that some of the things that were funded through this are eligible for funding under the Neighborhood Matching Grant Program, which is an existing program. That is something we could look at. Something to think about is we don't have funding to continue these programs at a local level.

Fallon: Maybe a grant of some sort.

Gullet: If I may just follow up, remember this year CMUD did start an incentives program for people that put the smart meter on their irrigation systems so we have made it a lot more affordable with the incentives.

Phocas: The one thing I will add is that the Affordability Up-Fit program has been extremely successful. Some of that money was for the extension of this program but in recognition of how successful it has been, that group had some additional funds and reached out to us and said we have the capacity and we want to give you an additional $200,000.

Mr. Phocas said that in conclusion, these are all great projects that we have going on to demonstrate how we lead by example in developing and implementing environmental projects and programs. This demonstrates how we are working across departments to institute this work and looking for opportunities to be innovative and creative. We are facilitating the growth of implementing clean energy sector by sector specifically with solar, bringing solar to city operations through either grants or other funding mechanisms that is creating jobs in the area. We are reducing our energy use which is lowering our greenhouse gas emissions and is also lowering out utility bills. We are looking for opportunities to share all these outcomes, not only with the Charlotte community, but with national audiences.

Council member Autry thanked everyone for the information and thanked everyone for coming. He reminded the Committee that there next meeting is on Monday, November 19 at 3:00 p.m. in Room 280

Meeting Adjourned at 3:50 p.m.

# Environment Committee

Monday, October 15, 2012 at 3:00 p.m.
Charlotte-Mecklenburg Government Center
Room 280

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

## AGENDA

**I. <u>Update on City Environmental and Energy Projects</u>**

Staff Resource: Rob Phocas, Energy and Sustainability Manager

Staff will provide updates on several City projects which are planned, underway or recently implemented that will have a positive impact on the environment. This is for Committee information; no action is requested.

**II. <u>Next meeting: Monday, November 19, 3:00 p.m.</u>**

Agenda: Feasibility of a City-County community sustainability plan

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

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ENVIRONMENT

# Environmental Updates

Environment Committee
October 15, 2012

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## Environment Focus Area Plan

- "Charlotte will become a national leader in environmental and energy sustainability, preserving our natural resources while balancing growth with sound fiscal policy."
  - 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; and
  - Facilitating the growth of the clean energy industry, including the alternative energy sector.

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## AGENDA

- **Internal Environmental Operations Plan – *Rob Phocas***
- **Feasibility of a Community Sustainability Plan – *Rob Phocas***
- **Airport Recycling Center – *Mark Wiebke***
- **CATS' New Solar Array – *Chris Bauer***
- **Commercial Building Retrofit Program & Neighborhood Energy Challenge – *Nicole Storey***

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## Internal Environmental Operations Plan

- Opportunity to organize **internal** environmental projects and plan for future;
- Worked with subgroup of Environment Cabinet;
- Environment Cabinet Review;
- Reviewed Other City Plans & Meck County;
- Effort to complement Meck County's Plan;
- Developed a framework to organize and govern internal environmental operations.

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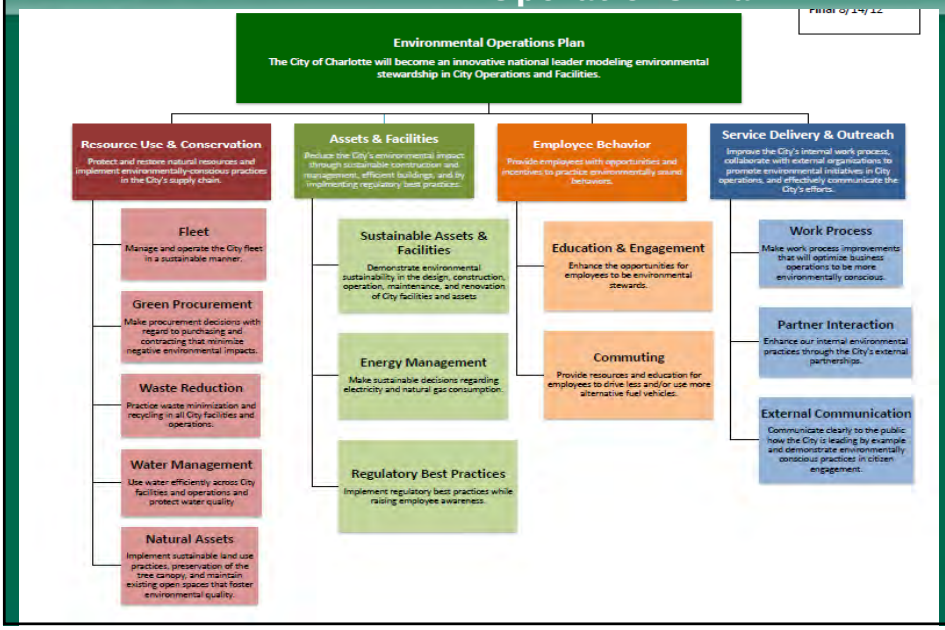
## Internal Environmental Operations Plan

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## Feasibility Study of Community Sustainability Plan

- Starting in June, Environment Committee and staff discussed process to research a CSP
- Retained consultant to provide assessment of feasibility of undertaking CSP: ICMA;
- Objectives:
  - determine desire for developing CSP;
  - identify and describe possible needs and major drivers;
  - present best practices from other cities; and
  - provide an estimate of necessary resources to develop and implement.

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## Feasibility Study of CSP

- As part of assessment, ICMA interviewing key City/County staff, community stakeholders, including representatives from public, private and non-profit sectors;
- ICMA surveying other city plans;
- Webinar with other cities to allow for disccusion.

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## Feasibility Study of CSP

- ICMA report due November 1st;
- City and County staff will prepare recommendations for both elected bodies
- Staff presentation to Environment Committee on November 19th.

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## CHARLOTTE DOUGLAS INTERNATIONAL AIRPORT

Connecting the Carolinas to the World

## Airport Recycling Center Update

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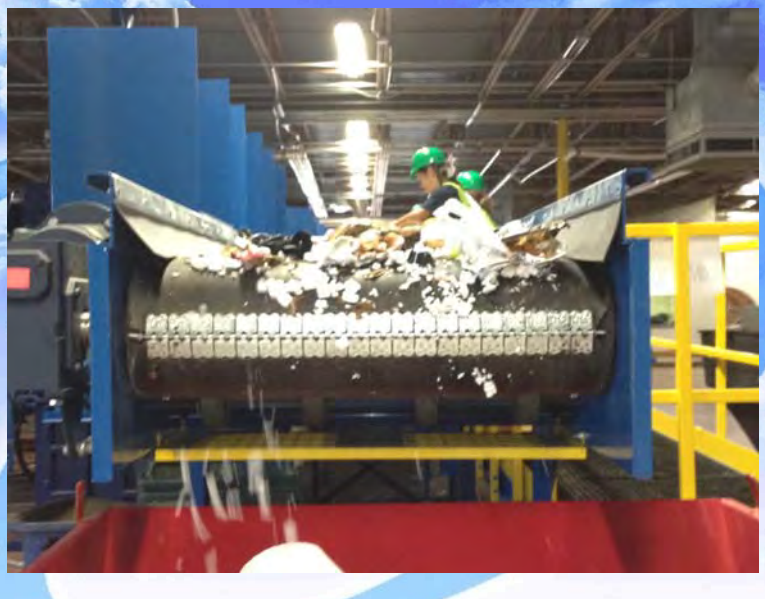

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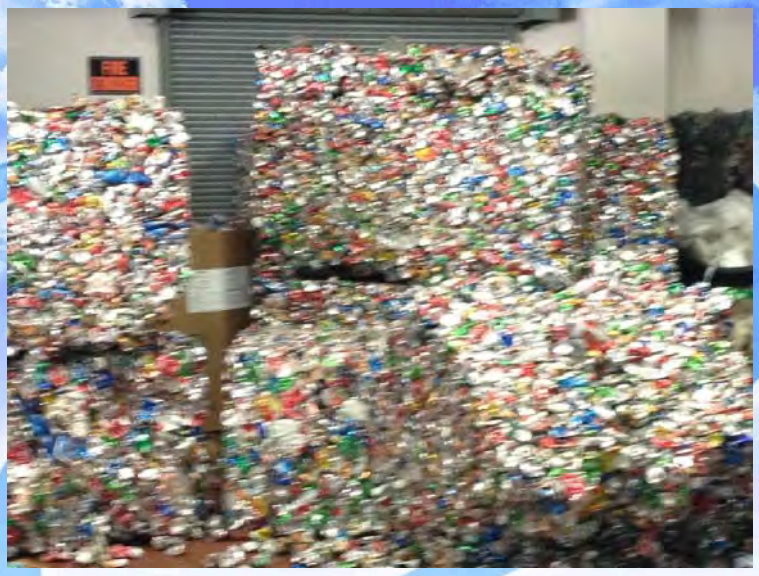

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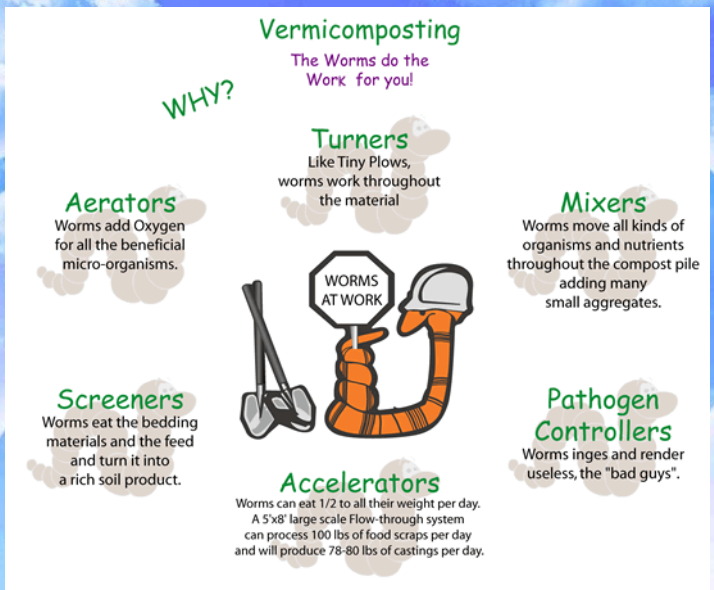

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# CATS South Tryon Bus Maintenance Facility
# Solar Photovoltaic System (PVS) Installation

**Chris Bauer**
**CATS Development**

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## CATS S. Tryon Solar PVS Installation

**Project History**

- UNCC Lee College of Engineering partnership project (2009-10)
  - Feasibility Study
- Funding – FTA Transit Investments for Greenhouse Gas and Energy Reduction (TIGGER 2) Grant
  - Applied for $2 million w/ a 10% local match
  - Received a 50% 'scaled' project amount of $1 million

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## CATS S. Tryon Solar PVS Installation

9 - 80' x 80' bus awnings ~1.3 acres of surface area

**Funded/Underway** (anticipated completion October 2012):

- 126 solar panels to be installed on southern 1/2 of each of the 9 bus awnings; total = 1134 panels
- Panels are specified at 230w each, totaling a 260 kw system
- Estimated to generate 362,000 kwh/year
- Approximately $30,000/year savings in energy costs

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## CATS S. Tryon Solar PVS Installation

**Current project also includes**:

- Inverter sized to handle full coverage of bus awnings
- Panel racking, combiner boxes, and conduit to handle full coverage of awnings
- Drop-down electricity capabilities for future electric bus charging stations
- Monitoring software

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## CATS S. Tryon Solar PVS Installation

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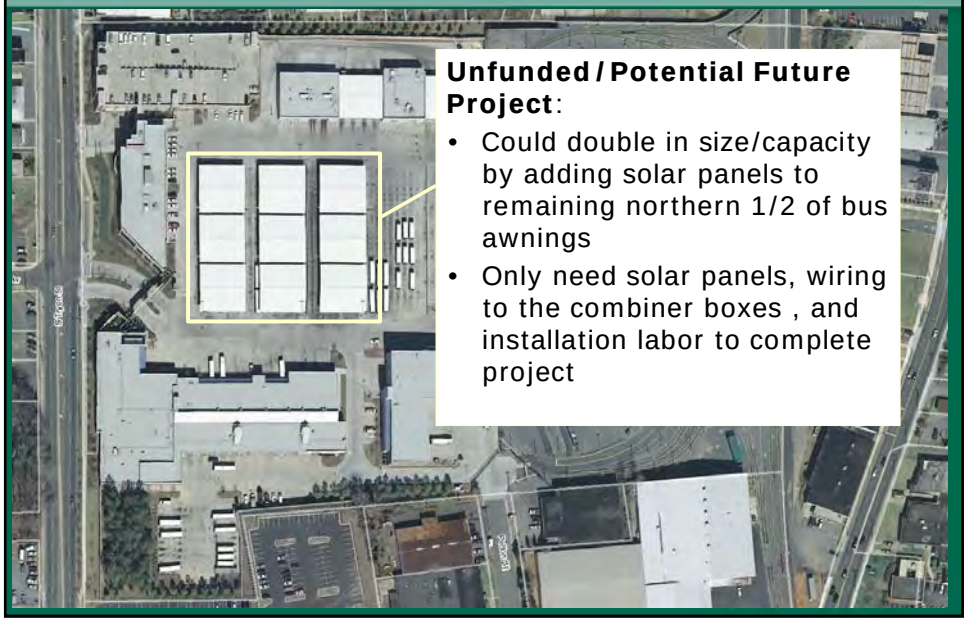
## CATS S. Tryon Solar PVS Installation



**Unfunded / Potential Future Project**:

- Could double in size/capacity by adding solar panels to remaining northern 1/2 of bus awnings
- Only need solar panels, wiring to the combiner boxes , and installation labor to complete project

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Commercial Building Retrofit Program & Neighborhood Energy Challenge

Nicole Storey
Neighborhood and Business Services

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## Commercial Building Retrofit Program

- Overseen by NBS.
- Eleven (11) Commercial Buildings, eleven (11) Multi-Family projects currently funded.
- Large-Scale projects- Solar Arrays, Lighting, Energy Efficient Windows and Door replacement, New HVAC systems, etc.
- Obligated **$998k** in grant funds and leveraged **$7.33 Million** in private investment.
- Contracted to retrofit 1,300 apartments and 540,000 $ft^2$ of commercial building space.
- Paired with Façade Improvement Grant Oct 2012. Eight (8) current applications, potential for 287 additional apartments and 219,500 $ft^2$ commercial building space.

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## Mechanical Contractors Inc.

- Grant provided $44,388, $346,705 total project cost
- 50 kW rooftop solar array
- 12 solartubes for lighting in warehouse
- Upgraded HVAC system, solar viewing platform, heat inverter & energy monitoring
- MCI added a business line marketing energy efficiency services as a result

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## Neighborhood Energy Challenge

Overseen by NBS.

- Eighteen (18) neighborhoods were awarded grants ranging from $5,300 to $80,000 via competitive RFP process.
- Program allocated $695k in grant funds and accomplished energy audits, home energy retrofits or distribution of efficiency kits to more than 1,380 homes.
- Leveraged estimated 7,000 volunteer hours from residents, a $145,950 value.

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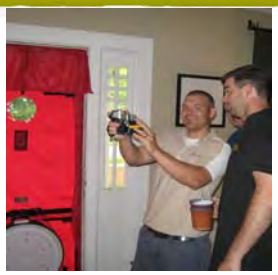
Plaza Midwood Neighborhood Association

- $20,000 provided for NEC
- Neighborhood Events included:
  - BikeFest Event
  - Home Energy Audits
  - Energy Educational Series
  - LED Christmas Balls
  - Efficient Product Distribution
  - Energy Challenge Website



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## Environment Focus Area Plan

- Conclusion:
  - Staff is leading by example in developing and implementing environmental projects/programs;
  - Working across departments to institute projects and programs;
  - Looking for opportunities to be innovative and creative;
  - Collaborating with all sectors of the community;
  - Facilitating the growth of the clean energy sector in Charlotte Region;
  - Reducing energy use which lowers greenhouse gas emissions and utility bills;
  - Sharing outcomes with Charlotte and National audiences.

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