Energy Advisory Committee

Washington Metropolitan Council of Governments
777 North Capitol Street, NE, Washington, DC

November 15, 2012 DRAFT Meeting Highlights
Held at COG Headquarters

Attendance:
Olayinka Kolawole, DDOE – Chair
Nick Passarelli, DC Water
Salil Kharkar, DC Water
Bill Eger, Alexandria
Thomas Smith, Prince William County
Michael Russell, RUSS Consulting Group
Emil King, DDOE
Luisa Robles, Greenbelt (teleconference)
Najib Salehi, Loudoun (teleconference)

Staff
Julia Allman
Karl Berger
Steve Bieber
Leah Boggs
Jeff King
Lana Sindler
Tanya Spano

Call to Order (Olayinka Kolawole)

- The meeting was called to order at 10:05 a.m.

Approval of October 18, 2012 Meeting Summary

- The meeting summary was approved.

Blue Plains Energy Projects (Salil Kharkar, DC Water)

- Mr. Karkar provided an overview of energy projects underway at Blue Plains wastewater treatment plan.
- Blue Plains had a continuous base energy use of 33 MW, which has been brought down to 25 MW through capital improvements and operating changes. One constraint on the plant is that all available land has been filled, and thus the only direction they may build is up—this impacts the energy needed to run water pumps throughout the plant.
- The plant is completing a biosolids CHP system, which provides the electricity and heat needed to produce biogas, and produces Class A biosolids that may be resold as fertilizer. The focus of the project was paying for itself through energy production. When completed, it will produce a 10MW net power output.

- The plant is implementing a new nitrogen removal process, called ENRF, which helps save energy over traditional denitrification processes.
- Additionally, the plant monitors energy use in real-time through a central control room. Data from sub-meters is used to compare recorded energy use to the electricity bill, ensuring accuracy. Blue Plains would like to participate in PJM's Demand Response program, but are prevented from doing so by emissions regulations.
- Blue Plains is continuing to assess opportunities for integrating wind and/or hydropower into plant operations.

Discussion:

- Will the energy projects have an impact on jobs in the District?
    - The project is creating hundreds of construction jobs, currently. Initial analysis shows need for 21 additional long-term staff. Blue Plains currently has 120 maintenance and operations staff.
- Are you working with Pepco on metering accuracy issues?
    - Yes. It shows the need for continuous review of utility data. Otherwise, inaccuracies are not captured until the end of the year.
- Can you continue running CHP without electricity service from Pepco, in the case of a storm?
    - We are looking at two options. The first is to power through a complete outage, keeping the turbines running in island mode. We are also installing a 1.5MW generator to re-start the CHP system in case the system goes down and we have to "black start." The system can be back online in 30 minutes.

Prince William Landfill Pilot Project (Thomas Smith, Prince William County)

- Mr. Smith discussed the energy pilot project being undertaken and Prince William County Landfill.
- Prince William County recognizes the waste management hierarchy of reduction, reuse, recycling, resource recovery, incineration, and landfilling. The recycling rate is about 36% currently, and residents generate approximately 6 pounds of waste per day.
- The landfill is a major source of methane gas, which is created by anaerobic digestion. Landfill gas is about 55% methane, and can be used as a fuel source.
- The landfill has an existing energy recovery facility with 1.9 MW in energy production capacity. The landfill gas is used at the fleet building, a nearby animal shelter, and at a police facility, and additional opportunities for selling the gas or generating electricity with it are being pursued.
- The energy pilot project is a "renewable energy park" concept. The RFP called for innovative ways of using a 100-acre site, including solar, wind, and other renewable energy technologies.
- Additionally, the County is pursuing other ways to convert waste to energy. The demonstration phase will use 50 to 200 tons of waste per day, and the focus is on new technology and alternative fuels, not just electricity or incineration. The County is currently reviewing RFP responses, and have received proposals for syn gas production, fuel pellets, and transportation fuels.

Discussion –

- What are the challenges in waste-to-energy for vehicles?
    - Cost is a major issue. The cleanup process to get the fuel to a sufficient quality is expensive, and low natural gas prices inhibit us from using it. It is technically feasible, but not necessarily economically viable.

- What is the capacity of the site, and to what percentage is it filled?
    - The site is 1000 acres, and is about 30% filled. It is a large site with a long lifespan.
- What are the challenges in energy production at landfill sites?
    - The main challenge is that you have the gas, but have limited markets and constraints on deliverability. There are not many locations nearby. However, we are looking at the potential for data centers that may be located in the County. It is a good match from an energy perspective because of the continuous baseload need and continuous production of landfill gas.
- Are you pursuing siloxane removal?
    - We have removal technology in our heaters, and engines can run up to a certain amount. We monitor to make sure it doesn't reach high levels.

Fuel Stabilizer Technology (Michael Russell, RUSS Consulting Group)

- Mr. Russell presented on fuel stabilizer technology that reduces fuel use, greenhouse gas emissions, and overall air quality emissions.
- The fuel stabilizer is the only product available that reduces emissions directly from fuel, before they are created. It is installed close to combustion chamber/boiler. When fuel goes through, molecules are positioned in a stabilized rather than unorganized manner, which allows for more complete combustion of the fuel.
- The technology has no moving parts, so there is nothing to wear out or replace, and it has a 50 year life expectancy. It can be used on any type of fuel, including petroleum, diesel, propane, biofuel, pulverized coal, etc. there are different-sized units available for various fuel line sizes, to accommodate a motorcycle up to a cruise ship.

Discussion:

- Can this technology b used on automobiles?
    - Yes, it can produce fuel efficiency of over 40 mpg in an average vehicle.
- How long has the technology been available?
    - Since the mid '90s, however it was not well marketed initially. We are now working to get it recognized.
- Where are you based?
    - My home office in is in Ashburn, with a main office in New York City.
- Is there any flow restriction?
    - No, it will match any fuel line.
- Have you been awarded a patent?
    - It is currently pending.
- Have you had any contact with power plants?
    - We completed one project with Duke Energy in Wyoming. The market is so vast in terms of application of this technology; we are initially focusing on certain industries, such as the aircraft industry. We have not pursued a big focus on utilities yet.
- Are there any potential DOD applications?
    - We are starting with aircraft – small testing on temporary generators for airplanes.

Virginia Natural Gas Vehicle Contract Update (Leah Boggs, MWCOG)

- Virginia has offered a contract to advance alternative fuel vehicle infrastructure, maintenance and training. Out of 14 contract proposals received, two were awarded for natural gas and propane services.
- Virginia's Department of Mines, Minerals, and Energy (DMME) is in charge of the contract. They have been working with NVRC to do briefings around the state on how the contract can be used for local government fleets. NVRC hosted two meetings, in July and November.
- DMME Contractors will meet with COG's Chief Purchasing Officers Committee (CPOC) on November 29 to see if it can be extended to COG's contract rider.
- No fueling sites in NOVA have been established yet, but the contractors are looking at potential sites now – may include Dulles, MWAA, Navy Exchange, an additional site in Arlington, and perhaps one more.

Legislative Update (Julia Allman, MWCOG)

- We are currently tracking 3 bills in the DC Council.
    - The Community Renewables Energy Act (B19-0715) has been referred to a working group to address issues related to FERC compliance and PSC regulations. It will likely be considered in 2013.
    - The Energy Innovation and Savings act (B19-0749) recently passed the Council in a 11-0 vote. The bill will exempt Electric Vehicle charging stations from PSC regulation, among other provisions.
    - The Sustainable DC Act (B19-0756), which is the legislative component of the Mayor's Sustainable DC initiative, has not seen any movement as of this meeting, however we are monitoring its progress.
- Additionally, CEEPC's legislative advocacy subcommittee is formulating recommendations for the COG Board to adopt a policy position on Energy Security and Productivity.

Roundtable –

- Leah Boggs: CPOC meeting will be held on the 29th. There will be an EV Intiative meeting on 27th , which will focus on developing a business case for EVs and promoting EVs in the region. The group will receive updates from the Richmond area EV initiative and Maryland initiative.
- Tanya Spano. We are currently working with wastewater and drinking water facilities, looking at energy water nexus and critical infrastructure. We are planning a workshop on disaster preparedness , asking What if Sandy had hit us? Exploring other options for powering – state of water and electrical infrastructure
- Jeff King:
    - COG and EPA have been organizing a regional collaborative procurement for solar, which includes 40 MW of potential sites. The first round will likely include WMATA, Montgomery County, Greenbelt, and some local universities. The RFP is solution-neutral, meaning proposals may allow PPAs or other financial/operation instruments.
    - The draft 2013 Climate Action Workplan will be presented to CEEPC on the 28th , and comments will be accepted through December 14.
    - COG continues to pursue opportunities for collaboration with DOD. We are currently discussing whether there is any potential to collaborate between Prince William County and Quantico, and what role COG might have.

Adjournment

- The next meeting will be held on December 13.