Expert Task Force on Integrated Energy Management, District Energy, Microgrids, and Combined Heat Power (CHP) in the Metropolitan Washington Region (updated Dec 14, 2010)

Interests and Needs

Initial Proposal Included:

- Model RFP for microgrids
- Report on suitable sites for CHP and microgrid development
- Revisions to COG's procurement regulations/protocol to facilitate inclusion of emerging technologies
- Recommendations for inclusion in air quality and climate plans
- Assessment of CHP/microgrid potential and associated air and GHG emission benefits

Feedback from Initial Meetings:

Overall Approach

- Identify range of interests and select priorities.
- Develop project framework and work to farm out components to build it out.

Assistance with Procurement

- Develop Compendium of Best Practices for Procurement of Advanced Integrated Clean Energy Systems.
- COG staff distributes rough outline of Loudoun County/Moorefield Station Project RFP. Team assists COG identify appropriate contacts for obtaining Technical Specifications for RFPs/Model RFPs for similar projects. Team provides suggestions for approaches to improve/modify the document for use by the County.
- COG staff conducts research to assist in the development of technical specifications/model RFP.
- Develop a model RFP for preparing a community energy master plan.
- Development of Potential Bidders List.

Technical Assistance and Education

- Training of Local Elected Officials, Planners, Developers
    - Workshops on District Energy/Microgrid/CHP
    - Identification and sharing of relevant case studies from existing installations.
    - Possible Domestic Tour of District Energy/CHP/Microgrid Sites
    - Possible International Tour of District Energy/CHP/Microgrid Sites (need funding and Process/Criteria for Selecting participants)
- COG staff to provide information to local staff on how to access support of the Mid Atlantic RAC to obtain feasibility study support for specific projects.
- COG staff to develop basic information on proposed projects in the metropolitan Washington region to share with DOE/EPA/RAC/IDEA. Team to prepare initial feasibility study for select set of projects. Three pre-feasibility studies on three good candidates in

this region. Would be good to have 3 very different examples (eg: one residential, one commercial / university / one CHP with renewable, one with waste heat etc).
- CHP/DE/microgrid clearinghouse. Identify all useful resources, make them available to COG members + organize workshop with IDEA, vendors etc

Regional Recommendation/Identification/Removal of Barriers

- Identify list of state and local policy actions to facilitate expansion of clean energy systems.
- Propose regional recommendations on how to encourage the development of these technologies, including regulatory/ institutional barriers to be removed.
- Assistance indentifying specific zoning laws that are barriers to implementation and recommendations for potential resolution.
- COG staff works with procurement officials and COG attorney to identify potential solutions to barriers associated with procurement rules.
- COG staff works with team to identify potential barriers associated with public utility laws and PUCs.

Assessment of Potential Emissions/Air Quality Benefits Possible Air Quality Impact of District Energy/Microgrid/CHP systems in the Mid Atlantic or Metropolitan Washington region.

- Develop a range of targets for the region and analyze what combinations of integrated energy systems can be implemented help the region meet the goals.
- Identify Most Likely Options for District Energy/Microgrid/CHP systems in the Mid Atlantic. Team works with COG staff to identify range of district energy/CHP/microgrid solutions in the Metropolitan Washington region. The list of solutions could then be evaluated for relative air and GHG impacts using existing studies or through new analysis.

Other Interests

- Criteria for Identifying and Evaluating Potential Sites for Development Options for Establishing Managing Authority for District Energy Systems Linkage to EV and Smart Grid Initiatives

List of Supporting Experts and Stakeholders

Academic, Government, and Other Experts

- Jim Freihaut, Mid Atlantic Clean Energy Regional Application Center (RAC)
- Joe Orlando, Penn State University
- Pat Dunne, George Mason University Center for Infrastructure Protection
- Michael Ebert, George Mason University Center for Infrastructure Protection
- Stephen Hsu, George Washington University
- James Momoh, Howard University
- Neeharika Naik-Dhungel and Gary McNeil, U.S. EPA Combined Heat and Power Partnership Program

- Merrill Smith, US Department of Energy Microgrid Expert
- Robert Westby, US Department of Energy, National Renewable Energy Laboratory
- Rob Thornton, International District Energy Association

State and Local Staff
Eric Coffman, Energy Manager, Montgomery County
Steve Findley, Maryland National Capitol Park and Planning Commission
Rich Dooley, Arlington County Community Energy Planning Program Manager
John Morrill, Arlington County Energy Manager
Luke Wisniewski and Renee Fizer, Maryland Department of the Environment
Dan Barry, District Department of the Environment
Kambiz Agazi, Fairfax County, Environmental Programs
Susan Hafeli, Fairfax County, Energy Programs
Erica Bannerman, City of Alexandria
Nandini Mouli, Maryland Energy Administration

COG Staff
Jeff King, Principal Planner, Air Quality, Climate, and Energy
Joan Rohlfs, Director of Environmental Resources
Anne Mariani, Environmental Planner, Climate and Energy
Jeannine Altavilla, Environmental Planner, Climate and Energy
Leah Boggs, Environmental Planner, Energy/Alt Fuel Vehicles/Green Buildings

Links

Mid Atlantic RAC
http://www.maceac.psu.edu/about.htm

IDEA
http://www.districtenergy.org/

EPA CHP programs, clean air State Implementation Plans (SIP) Original 2004 guidance:
http://www.epa.gov/ttncaaa1/t1/memoranda/ereseerem_gd.pdf

Current approaches for "output-based" emissions regulations, which is the mechanism for crediting emissions improvements from CHP and District Energy approaches:
http://www.epa.gov/chp/state-policy/output.html

CHP Emissions Calculator
http://www.epa.gov/chp/basic/calculator.html

Technology Verification Reports
http://www.epa.gov/nrmrl/std/etv/vt-ggt.html#advanceenergy

U.S. DOE Distributed Energy Information
http://www1.eere.energy.gov/industry/distributedenergy/

Integrated Assessment of the Energy Savings and Emissions-Reduction Potential of CHP
http://www1.eere.energy.gov/industry/distributedenergy/pdfs/chp_integrated_assessment.pdf

Others
http://www.districtenergy.org/now-s-the-time/#now<http://www.districtenergy.org/now-s-the-time/%23now>
http://vimeo.com/15127651
http://www.districtenergy.org/briefings-other-useful-references

Workgroup Website
http://www.mwcog.org/committee/committee/default.asp?COMMITTEE_ID=265

Workgroup Sharepoint File Sharing Site
http://ncrportal.mwcog.org/sites/surveys/microgrid/